

8-7-96



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Eagle Lake Resource Area
2950 Riverside Drive
Susanville, California 96130

August 7, 1996

In Reply
Refer to: 4120
(CA-026)

Dear Reader:

Enclosed is my Proposed Decision and Finding of No Significant Impact and supporting Environmental Assessment for the "Twin Peaks Allotment 1996 Projects."

You have been mailed this document because either:

- 1) you are a grazing permittee in the Twin Peaks allotment; or,
- 2) you are California or Nevada state employee that has responsibility for managing lands and/or resources within the Twin Peaks allotment; or,
- 3) in the past you have expressed interest in BLM's management of the Twin Peaks allotment.

It was sent to you by certified mail to establish your date of receipt. 43 CFR 4120.3-1(f) states: "Proposed range improvement projects shall be reviewed in accordance with the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4371 et seq.). The decision document following the environmental analysis shall be considered the proposed decision under subpart 4160 of this part." Accordingly, protest and appeal rights are stated within the proposed decision. This is a new requirement that came about with the implementation of the revised BLM grazing regulations in August, 1995.

I would like to take this opportunity to refresh our public coordination process. To that end, I have included at the end of this letter a form for you to use to indicate that your interest in the management of the Twin Peaks allotment continues. The new grazing regulations define an "Interested public" as "an individual, group or organization that has submitted a written request to the authorized officer to be provided an opportunity to be involved in the decisionmaking process for the management of livestock grazing on specific grazing allotments or has submitted

written comments to the authorized officer regarding the management of livestock grazing on a specific allotment."


Grazing permittees and state agencies with land and/or resource management responsibilities are by regulation included in the coordination, consultation and cooperation process for the management of specific allotments, and may disregard the following.

However, if you in the category listed in (3), above, and if you have continued interest in the management of the Twin Peaks allotment, please take a few moments to complete and return the form below. If you wish to continue to be involved as an interested public, please indicate that on the form and return it to BLM, Eagle Lake Resource Area, 2950 Riverside Drive, Susanville, CA, 96130, Attention: Ken Visser. If you do not respond within 45 days from receipt of this mailing, you will be deleted from our current list of Twin Peaks allotment interested public.

I hope you understand that this is not meant to deny anyone the opportunity for participation. It is intended merely to update our existing list, and to delete those who have moved or changed circumstance or for whatever reason are no longer interested in the specific management of the Twin Peaks allotment.

Thank you for your cooperation in this matter and for your interest in public lands management.

Sincerely


Linda D. Hansen
Area Manager

Date _____

Dear Eagle Lake Area Manager:

I hereby request that I be provided an opportunity to be involved in the decisionmaking process for the management of livestock grazing on the TWIN PEAKS ALLOTMENT.

I recognize that by making this request I will be considered an "Interested public" for this allotment and will periodically receive materials pertinent to it and otherwise be given the opportunity to consult, communicate and coordinate with BLM as well as others involved in the management of resources on this allotment.

SIGNATURE _____

ADDRESS _____

PRINTED NAME _____

ORGANIZATION _____

PHONE NUMBER _____

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
EAGLE LAKE RESOURCE AREA

a twin peak pro

Green disk

**TWIN PEAKS ALLOTMENT 1996 PROJECTS
Environmental Assessment
EA-CA-026-95-07**

**PROPOSED DECISION
and
FINDING OF NO SIGNIFICANT IMPACT**

Proposed Decision

Based on the analysis found in above-cited Environmental Assessment (EA), which is attached, the professional judgement of my staff, and my professional judgement, my proposed decision is:

- ▶ **The following projects *shall not* be constructed as currently proposed by the Proposed Action and Alternative One: Horn Springs Meadow Exclosures, Painter Fence, and Red Rock II Spring Re-development and Exclosure. The selected action for these projects is the No Action alternative.**

Reasons: The EA identified that construction of Horn Springs Meadow Exclosures and Painter Fence could result in disturbance of potentially significant cultural sites. Pending detailed examination and analysis of the sites (which may or may not occur in the future depending upon BLM work force priorities), these projects, as proposed, are dropped from further consideration. An examination of Red Rock II in the summer of 1996 found that grazing use at this site was negligible from 1995 through June, 1996, and that some vegetation recovery is occurring. As long as vegetation recovery continues to occur, the intention of the proposed action is being acceptably met and the project as proposed is not justified at this time.

- ▶ **The following projects *shall* be constructed and grazing management implemented, as proposed and stipulated *in the Proposed Action* of EA-CA-026-95-07: Chimney Drift Fences, West Parsnip Drift Fence, East Upper Smoke Creek Fence, Sheep Trail II Exclosure, Washtub Spring Exclosure, Three Springs Exclosure, Two Springs Exclosure, and Wild Horse Spring Exclosure.**

Reasons: The EA identified and analyzed both positive and negative effects of building and maintaining these projects as proposed. When compared with the No Action alternative, the projects as described in the Proposed Action will provide positive environmental effects. These include enhancement and protection of WSA supplemental values that would not be achieved under the No Action alternative, specifically the appearance of naturalness of soils and vegetation in riparian areas within the affected WSA's, benefits to wildlife habitat and benefits to ecosystem processes and functions associated with riparian areas. The Proposed Action also will cause some negative environmental effects. These include a reduction of the aspect of naturalness associated with the existence of additional structures in the affected WSA's, temporary ground disturbance, temporary displacement of resident wildlife, the potential for temporarily disorienting wild horses seeking water, and the need for pronghorn and deer to negotiate fences to access these water sources. Because of the continued presence of adjacent off-site water availability, these projects are not expected to materially change current degrees and frequencies of livestock grazing use on upland areas in the Twin Peaks allotment, with the exception of the Chimney Area. The change in degrees and frequencies of livestock use on vegetation in the Chimney Area is desirable and will not substantially affect the perception of "naturalness" in the Twin Peaks WSA.

After considering the existing wilderness characteristics of the affected WSA's, BLM believes that the benefits of resource protection and the enhancement of naturalness that will result from building and maintaining these projects outweigh the detraction of naturalness that will occur due to their construction, presence and maintenance. This resource protection and enhancement is preferable to the degree of preservation of existing wilderness characteristics that now occurs under the No Action alternative. Cumulative positive impacts of the construction, existence and maintenance of these projects outweigh the cumulative negative impacts of the proposal and are preferable to the impacts which would continue to occur under the No Action alternative. The presence of these projects in the affected WSA's, considered together with other structures already in existence or approved for construction by this proposed decision, will not constrain Congress's decision on whether to designate the affected WSA's as wilderness.

- ▶ **The Morgan Spring Enclosure *shall* be constructed and grazing management of the enclosures implemented, as proposed and stipulated in *Alternative One* of EA-CA-026-95-07.**

Reasons: The EA identified and analyzed both positive and negative effects of implementing this project as proposed and under Alternative One. When

compared with the No Action alternative, both the Proposed Action and Alternative One will provide positive environmental effects including a greater measure of resource protection of WSA supplemental values, particularly the appearance of soil and vegetation naturalness of this riparian area, benefits to wildlife habitat, and benefits to ecosystem processes and functions associated with this riparian area. The Proposed Action and Alternative One also will result in some negative environmental effects. These include a reduction of naturalness associated with the existence of another structure in the Skedaddle WSA, temporary ground disturbance, temporary displacement of resident wildlife, the potential for temporarily disorienting wild horses seeking water, the need for pronghorn and deer to negotiate a fence to access this water source, and short-term¹ elimination of the grazing permittee Espil Sheep Company's usual practice of watering of sheep in this riparian area. Because of the continued presence of adjacent off-site water availability, the presence of the Morgan Spring Exclosure is not expected to materially change current degrees and frequencies of livestock grazing use on the upland areas in the vicinity of Morgan Spring.

The Proposed Action fence alignment would include a more extensive "upland buffer zone" to relieve livestock pressure on the southeast corner of the exclosure. It also would make a barrier to OHV use of an existing way and therefore could possibly result in an increase in the chance of vandalism of the fence and the possible creation of a "turn-around area" in this area of the Skedaddle WSA. When compared with the Proposed Action, Alternative One, which differs from the Proposed Action in that the fence alignment is changed slightly, will provide for easier ingress and egress for wild horses, wildlife and livestock to the private spring/reservoir immediately north of the exclosure and not be a barrier to OHV use of an existing way. Although not providing as large of an "upland buffer zone," the Alternative One alignment has less potential for negative impact than does the Proposed Action fence alignment.

After considering the existing wilderness characteristics of the Skedaddle WSA, I have determined that the benefits of resource protection and the enhancement of naturalness that will result from building and maintaining this project outweighs the detraction of naturalness that will occur due to its construction, presence and maintenance. This resource protection and enhancement is preferable to the degree of preservation of existing wilderness characteristics that now occurs under the no action alternative. Cumulative positive impacts of the construction, existence and maintenance of this project outweighs the cumulative negative impacts of the proposal

¹ "Short-term" meaning a period of time of unspecified duration depending on the successful riparian recovery of the area, and likely less than 10 years.

and are preferable to the impacts which would continue to occur under the no action alternative. The presence of this project in the Skedaddle WSA, considered together with other structures already in existence or approved for construction by this proposed decision, will not constrain Congress's decision on whether to designate the Skedaddle WSA as wilderness.

- ▶ **The Jenkins Trough Spring Redevelopment and Enclosure, and the Sheep Trail I Spring Development *shall* be constructed and maintained, and grazing management of the enclosures implemented, as proposed and stipulated in *Alternative One* of EA-CA-026-95-07. Further, of the two options for trough design presented in alternative one, the use of the "Powder River" type trough painted with a desert camouflage pattern trough design is selected over the concrete faced with natural rock trough design.**

Reasons: The EA identified and analyzed both positive and negative effects of implementing these projects as proposed and under Alternative One. When the compared with the No Action alternative, the projects as described under the Proposed Action and Alternative One will provide positive environmental effects including a greater measure of resource protection of WSA supplemental values, particularly the naturalness of riparian areas within the Dry Valley Rim WSA, benefits to wildlife habitat and benefits to ecosystem processes and functions associated with riparian areas. The Proposed Action and Alternative One also will result in some negative environmental effects. These include some reduction of the aspect of naturalness associated with the existence of additional structures in the Dry Valley Rim WSA, temporary ground disturbance, temporary displacement of resident wildlife, the potential for temporarily disorienting wild horses seeking water, the need for pronghorn and deer to negotiate fences to access these water sources, and short-term elimination of the grazing permittee Espil Sheep Company's usual practice of watering sheep in this riparian area. Because of the continued presence of adjacent off-site water availability, the projects as proposed are not expected to materially change current degrees and frequencies of livestock grazing use on upland areas.

The EA compared the proposed metal trough design with two designs intended to reduce the negative impact to naturalness associated with the proposed trough design: concrete troughs faced with local rock, or, metal trough(s) painted a desert camouflage pattern. Based on the EA analysis, I have chosen the option of a metal trough painted with a desert camouflage pattern. The camouflaged metal troughs, although less durable and having a somewhat less natural appearance than a concrete trough faced with rock, cost less and are easier to maintain and/or remove (if the need arises), and their installation causes less ground disturbance than the concrete trough option.

After considering the existing wilderness characteristics of the Dry Valley Rim WSA, BLM believes that the benefits of resource protection and the enhancement of naturalness that will result from building and maintaining these projects outweigh the detracting of naturalness that will occur due to their construction, presence and maintenance. This resource protection and enhancement is preferable to the degree of preservation of existing wilderness characteristics that now occurs under the No Action alternative. Cumulative positive impacts of the construction, existence and maintenance of these projects outweigh the cumulative negative impacts of the proposal and are preferable to the impacts which would continue to occur under the No Action alternative. The presence of these projects in the Dry Valley Rim WSA, considered together with other structures already in existence or approved for construction by this proposed decision, will not constrain Congress's decision on whether to designate the Dry Valley Rim WSA as wilderness.

Finding of No Significant Impact (FONSI)

Based upon the analysis of the potential environmental impacts contained in the EA, I have determined that the impacts of the selected actions are not expected to be significant, that the selected actions do not constitute a major federal action with significant impacts to the human environment, and that an environmental impact statement is not required.

Appeal Information

Any applicant, permittee, lessee or other interested public may protest this proposed decision under 43 CFR Sec. 4160.2, in person or in writing to the authorized officer: Linda D. Hansen, Eagle Lake Area Manager, 2950 Riverside Drive, Susanville, California, 96130. The protest, if any, must occur within 15 days after receipt of this decision. The protest, if filed, should clearly and concisely state the reason(s) as to why this proposed decision is in error.

In the absence of a protest, this proposed decision will become my final decision without further notice.

Any applicant, permittee, lessee or other person whose interest is adversely affected by the final decision may file an appeal and petition for stay of the decision pending final determination on appeal. The appeal and petition for stay must be filed in the office of the authorized officer as noted above, within 30 days following receipt of the final decision, or 30 days after the date the proposed decision becomes final.

The appeal shall state the reasons, clearly and concisely, why the appellant thinks

the final decision is in error.

Should you appeal and wish to file a motion for stay, the motion shall show sufficient justification for the stay based on the following standards:

- (1) The relative harm to the parties if the stay is granted or denied;
- (2) The likelihood of the appellant's success on the merits;
- (3) The likelihood of immediate and irreparable harm if the stay is not granted; and,
- (4) Whether the public interest favors granting the stay.

Consult the Code of Federal Regulations for further information regarding protests of proposed decisions of the Authorized Officer and for appeals of final decisions of the Authorized Officer for the purposes of a hearing before an Administrative Law Judge.


Linda D. Hansen
Manager, Eagle Lake Resource Area

Date Aug 5, 1996

Attachment: Environmental Assessment EA-CA-026-95-07, Twin Peaks
Allotment 1996 Projects

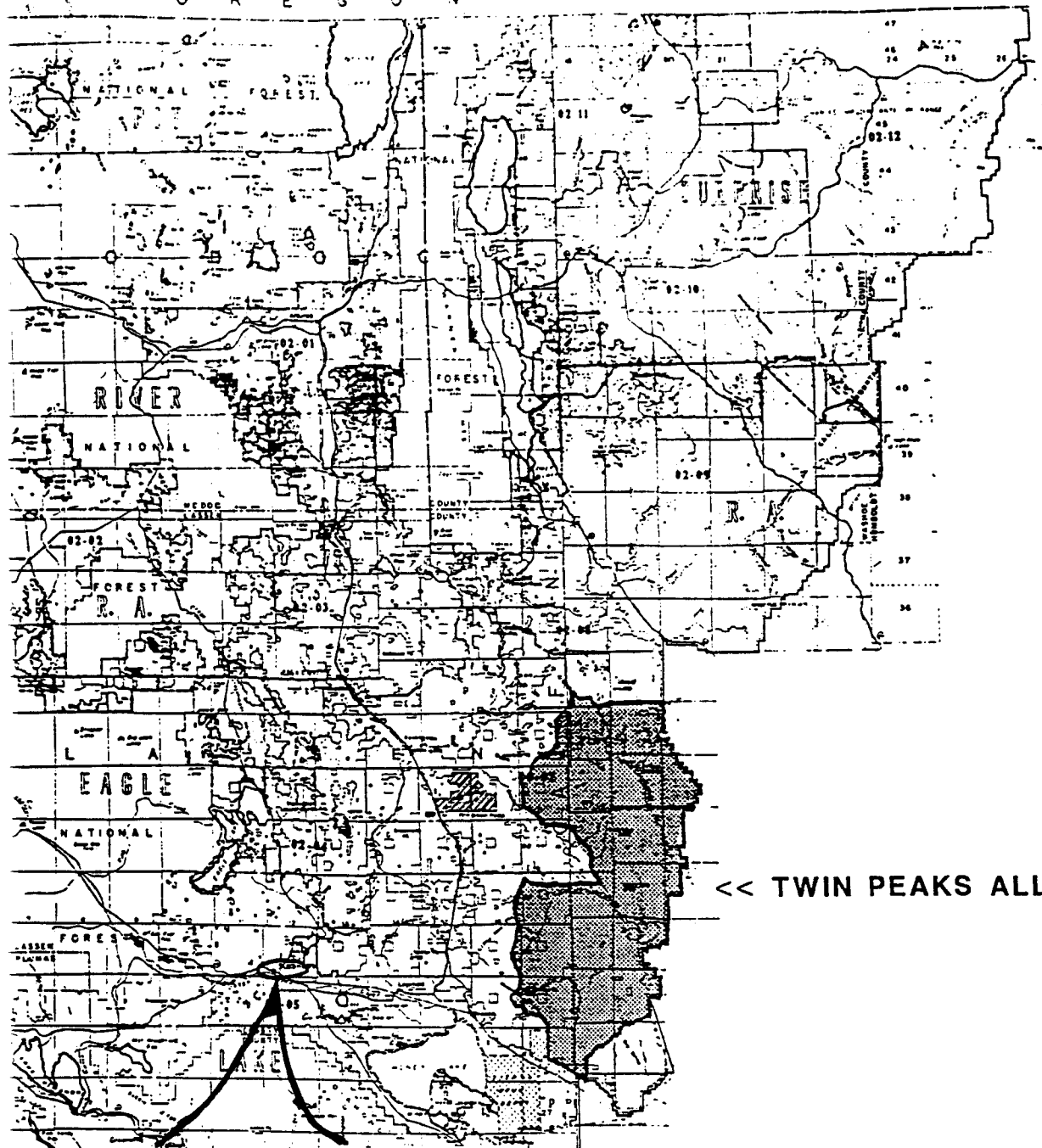
ENVIRONMENTAL
ASSESSMENT
EA-CA-026-95-07

TWIN PEAKS
ALLOTMENT
1996 PROJECTS

AUGUST 2, 1996

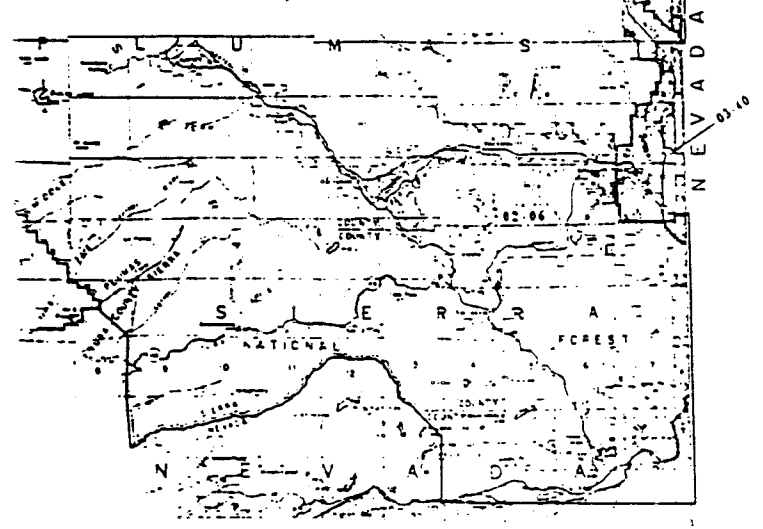
United States Department of the Interior
Bureau of Land Management
Eagle Lake Resource Area
Susanville, California

O R E G O N



<< TWIN PEAKS ALLOTMENT

SUSANVILLE, CALIFORNIA



United States Department of Interior, Bureau of Land Management
Eagle Lake Resource Area
Environmental Assessment CA-026-95-07

TWIN PEAKS ALLOTMENT 1996 PROJECTS

TABLE OF CONTENTS

<u>SECTION</u>		<u>PAGE</u>
1.0	PURPOSE OF AND NEED FOR ACTION	1
1.1	Project Proposal Overview	1
1.2	Purpose of Action	1
1.3	Need For Action	2
1.4	Relevant Issues	3
1.5	Conformance with Existing Planning	4
2.0	DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES	6
2.1	Project Proposal Development	6
2.2	Proposed Action - Construct All Projects and Minor Grazing Management Modification	9
2.3	Alternative One - Alternative Trough Design on Spring Developments and Alternative Fence Route on Morgan Spring Exclosure	19
2.4	No Action Alternative	19
2.5	Alternatives Considered but Dismissed from Detailed Analysis	19
3.0	ENVIRONMENT AFFECTED BY THE PROPOSED ACTION AND ALTERNATIVES	22
3.1	Critical Elements of the Environment to Consider	22
3.2	General Environmental Overview	22
3.3	Wilderness Values Overview	24
3.4	Project Sites Affected Environment	24
4.0	ENVIRONMENTAL CONSEQUENCES	41
4.1	Environmental Consequences of the Proposed Action	41
4.2	Environmental Consequences of Alternative One	56
4.3	Environmental Consequences of the No Action Alternative	59
5.0	CONSULTATION	61
	<u>LITERATURE CITED</u>	62
	<u>LIST OF TABLES</u>	
Table 2.1:	Summary of Differences between 02/95 Proposal and Current Proposal	7
Table 2.2e:	Projects in Wilderness Study Areas	12
Table 2.2f:	Soil and Vegetation Disturbance Expected Due to Proposed Action	18
Table 4.1b:	Acres Excluded Under Proposed Action	42
Table 4.1e1:	Acres of Cumulative Ground Disturbance, and, Acres Protected or Where Improved Livestock Management Enabled in Affected WSA's Under the Proposed Action	52
Table 4.1e2i:	Authorized Projects by Kind on Public Lands in the Twin Peaks Allotment	54

SECTION

PAGE

Table 4.1e2ii: Existing and Proposed Projects on Lands in WSA status in Twin Peaks Allotment	55
Table 4.2a: Relative Impacts of Proposed Trough Design, Alternative Trough Design and No Action	58

LIST OF APPENDICES

- A. Map - Twin Peaks Allotment Project Proposals - Twin Peaks WSA
- B. Map - Twin Peaks Allotment Project Proposals - Dry Valley Rim WSA
- C. Map - Twin Peaks Allotment Project Proposals - Five Springs WSA
- D. Map - Twin Peaks Allotment Project Proposals - Skedaddle WSA
- E. Map - Twin Peaks Allotment Project Proposal - Painter Fence
- F. Report - "Synopsis of Comments Received in Response to BLM's February, 1995 Request for Comments on 1995 and 1996 Project Proposals in the Twin Peaks Allotment" - June 15, 1995
- G. Report - "Documentation of Twin Peaks Allotment Project Tour of July 19-21, 1995" - August 30, 1995

United States Department of Interior, Bureau of Land Management
Eagle Lake Resource Area
Environmental Assessment CA-026-95-07

TWIN PEAKS ALLOTMENT 1996 PROJECTS

1. PURPOSE OF AND NEED FOR ACTION

1.1 Project Proposal Overview

Eagle Lake Resource Area BLM proposes to build exclosures around 12 springs or spring complexes and one stream reach, re-develop two of these springs, develop one other currently undeveloped spring; and, to build six fences in the 409,000-acre Twin Peaks livestock grazing allotment, located in NE California and NW Nevada. Minor grazing management modification is included in the proposal, but no increase in livestock numbers would occur. Other significant uses in the area managed for livestock grazing (Twin Peaks allotment) include wildlife habitat, wild horse and burro range and wilderness values. About 75 percent of the subject area is now in wilderness study area status. Project construction is proposed to occur in 1996 and cost between \$60,000 to \$90,000¹. These projects would be funded almost entirely by BLM's 8100 (Range Improvements) fund².

1.2 Purpose of Action

BLM's land use plan for this area (Cal-Neva Management Framework Plan (CNMFP), 1982) lists certain objectives regarding wilderness, soils, watershed, and wildlife habitat. These objectives include:

- To protect and preserve wilderness resources within the planning unit. (Wilderness Objective W-1, CNMFP)
- BLM activities will be designed and conducted to avoid direct and indirect negative impacts to flood plains and wetlands including:
 1. Design or modify actions so as to minimize harm to life, property, and natural values.
 2. Minimize destruction, loss, or degradation of wetlands.
 3. Restore and preserve natural and beneficial flood plain values.
 4. Preserve and enhance natural and beneficial wetland values.

(Soil and Watershed Objective No. 5, CNMFP)

¹ This is a range of costs based on BLM's experience with past contracts of this nature.

² The source of these funds is the range improvement fee, which is part of the grazing fee for grazing on public lands authorized by the Taylor Grazing Act of 1934, as amended, and by the Federal Land Policy Management Act of 1976.

- To Maintain or enhance soil, within its potential as a growing medium for range plants, to provide for the sustained yield of desirable range plants. (Soil and Watershed Objective No. 6, CNMFP)
- To provide good quality habitat for the upland game bird, rabbit and hare species in the Cal-Neva Planning Unit and determine the habitat condition for proposed introductions of exotic game bird species. (Wildlife Objective No. WL-4, CNMFP)
- To provide good quality forage and maintain or enhance other habitat needs for the objective numbers of mule deer in the Cal-Neva Planning Unit. (Wildlife Objective No. WL-9, CNMFP)
- Maintain or enhance the sage grouse habitat in the Cal-Neva Planning Unit with special emphasis placed on breeding complexes, meadows and wintering areas. (Wildlife Objective WL-11, CNMFP)

The purpose of the proposal is to protect resources by allowing riparian areas within the allotment to be relieved of detrimental grazing pressure in order to contribute more tangibly towards achieving these objectives.

1.3 **Need For Action**

The timing and duration of current permitted livestock grazing use in combination with grazing pressure from wild horses and burros is affecting riparian vegetation composition and structure in a manner that prevents some riparian areas within the allotment from producing kinds and/or amounts of vegetation that would further the attainment of the above-stated CNMFP objectives.

BLM estimates that less than one percent of the land base of the Twin Peaks allotment is occupied by riparian areas. There are an estimated 81 springs and 57 intermittent and perennial miles of streamside riparian area on public lands in the Twin Peaks allotment. These areas, due to their association with water in an arid environment, receive grazing use in great disproportion to their area however, and are critical to wildlife.

Cattle, horses and other animals prefer to graze in riparian areas because they have drinking water and green forage most of the year (even when the forage in other areas is dried up and therefore less nutritious). Streamside riparian areas are cooler than adjacent uplands, provide shade if woody vegetation is present and are flatter. Both they and spring-associated riparian areas provide water and, when the plants are not dormant, a continually growing source of green forage. For these reasons, livestock tend to stay in riparian areas, particularly after the weather turns hot, unless they are forced elsewhere or are prevented from using them.

BLM information shows that many riparian areas in the Twin Peaks allotment are grazed heavily annually. When riparian areas are grazed heavily, the riparian wildlife habitat changes. Wildlife that need riparian plants in their diet may not get enough when the area is grazed heavily. Closely cropped riparian areas lack vegetation structure needed by wildlife for predator and/or thermal cover. Closely cropped riparian areas lack vegetation standing in or

overhanging the water. Native aquatic wildlife, fish and invertebrates that require seasonal aquatic conditions that depend upon shade to moderate water temperature extremes do not have those conditions when this vegetation is seasonally cropped to close levels. This favors some animals in their "struggle for survival" over others, can reduce biodiversity and detracts from naturalness.

Over a period of years, continuous close cropping of riparian vegetation in the spring, summer and fall allows plants that are adapted to heavy grazing a reproductive competitive advantage. These plants often are shallow-rooted and do not anchor soils adequately to resist erosion. Over time, repeated cropping without providing the vegetation an opportunity for significant "regrowth" before it goes dormant for the season, or continuous spring/summer/fall cropping and trampling of riparian areas removes or reduces the vigor of vegetation needed to anchor streambank and springbank soils, provide wildlife food and cover, regulate stream water temperatures, and filter sediment.³

BLM monitoring information (livestock use pattern maps) shows that current livestock use and wild horse and burro grazing results in the great majority of the upland areas of the allotment being grazed slightly to lightly. Still, some areas in the allotment are heavily grazed and some of these are riparian areas. The project proposal addresses heavy use of priority riparian areas in the allotment.

1.4 Relevant Issues

Existing facilities for controlling the distribution and movement of livestock are relatively scarce on the Twin Peaks allotment. John Espil Sheep Company, Inc. (Espil), holds the BLM grazing permit for 95% of the permitted use on the Twin Peaks allotment⁴. They have stated that they do not believe that their livestock are contributing significantly to heavy vegetation utilization and trampling within many of the riparian areas occurring within the Twin Peaks allotment. They have indicated their belief that the management goals of the Land Use Plan and AMP have been and continue to be met under present management of the allotment.

Some of the interested public suggest that BLM should make the permittees herd their cattle more closely to force them out of the riparian areas before they are grazed heavily. They say that BLM should not build fence because it costs too much money and the fences can fall down if they are not kept in good shape. Sometimes fences interfere with deer, pronghorn and horses being able to move around, especially during heavy snow on the ground. They are concerned that these animals will spend too much energy trying to get by the fences and if they get too hungry, tired and cold (especially in the winter), they might die an unnatural death. Some take the position that BLM should not build fence for livestock management in this area because it might be managed as a wilderness someday. They felt that even if a

³ The multiple values of riparian areas are thoroughly discussed in scientific literature. A concise description of the ecosystem functions of riparian areas is found in: *What Are Riparian Ecosystems And Why Are We Worried About Them?* Hawkins, C.P. 1994. Riparian Resources - A Symposium on the Disturbances, Management, Economics, and Conflicts Associated with Riparian Ecosystems. Natural Resources and Environmental Issues. Volume I. Utah State University. College of Natural Resources. Logan.

⁴ Espil Sheep Company currently is permitted 12, 760 Animal Unit Months (AUM's) and Laver Ranches 670 AUM's on the Twin Peaks allotment.

fence could help keep the riparian areas from being heavily grazed, BLM should not build it. They think that BLM should reduce the number of livestock and/or the time and/or season that the livestock could be in the allotment and in that manner ensure that riparian areas are not repeatedly heavily grazed by livestock.

The permittees, on the other hand, have stated that forcing their livestock from *all* the riparian areas on the allotment is not fiscally or physically possible for them. Pursuant to a grazing agreement developed in 1992, the permittees have increased their herding efforts for the purposes of riparian recovery on the south fork of Parsnip Wash and the north fork of Buffalo Creek. Because riparian areas are scattered throughout the allotment, moving cattle from each one is not economically feasible for them.

Ensuring economic viability of ranchers that have grazing permits on BLM lands is not a Land Use Plan goal. However, BLM's "organic act", the Federal Land Policy and Management Act of 1976 (FLPMA) states, among many things, that "the public lands [will] be managed in a manner that will protect the quality of ... ecological and environmental values...; that will provide food and habitat for fish and wildlife and domestic animals;" and "the public lands be managed in a manner which recognizes the Nation's need for domestic sources of ... food ... from the public lands." It is clear that Congress intends that BLM be mindful of social, economic and environmental factors when making management choices.

BLM interim management policy for lands under wilderness review states "... preservation of wilderness values within a WSA is paramount and should be the primary consideration when evaluating any proposed action or use that may conflict with or be adverse to those wilderness values." This policy also re-iterates that "Grazing ... that existed on the date of approval of FLPMA (October 21, 1976) may continue on lands under wilderness review in the same manner and degree as on that date, even if this use impairs wilderness suitability."

The decision to be made by the BLM at this time is whether to construct all, some or none of the projects. A decision to not construct any of them would mean that BLM would need to propose, conduct NEPA-required analysis of and implement other actions to meet the objective of protecting wilderness values at risk due to improper grazing of riparian areas by livestock, and in some cases, wild horses and burros.

1.5 Conformance with Existing Planning

BLM's land use plan for this area, the Cal-Neva Management Framework Plan (1982), provides the BLM with general management direction for the Cal-Neva area. It states that BLM should:

- ▶ Manage WSA's (wilderness study areas) in a manner that does not degrade their wilderness characteristics.
- ▶ Implement grazing systems in the Cal-Neva [Unit]. If the meadows do not respond properly consider all variables and fence as a last resort.
- ▶ Develop livestock grazing systems which provide periodic rest to assure an improvement in range condition and trend and provide for the improvement of and/or

protection of riparian vegetation.

- ▶ Develop [an] intensive grazing system in the [Twin Peaks] allotment. Develop [the] system to give particular consideration toward improving and maintaining riparian, wetland, and meadow habitat to enhance and protect wildlife and watershed values.
- ▶ Establish moderate use limitations of 40 to 60 percent use during the grazing season.
- ▶ Establish grazing systems to provide periodic rest from livestock grazing on all allotments in the Cal-Neva [Unit].
- ▶ Implement management systems which provide one year's rest from grazing during the growing season for every year grazed during the growing season.

This is what it says about water projects and spring developments:

- ▶ All water projects or projects which could influence the beneficial uses of water will conform to BLM Best Management Practices [which is actually a *process* described in BLM's 208 Water Quality Report (1979)].
- ▶ Spring developments generally will be fenced to prevent trampling of the immediate area.

This is what it says about fences and wildlife and wild horses and burros:

- ▶ Construction of fences in wildlife use areas will meet BLM specifications to permit the movement of identified wildlife.
- ▶ At the end of the grazing season, gates will be left open to allow passage by wild horses and burros.

This is what it says about threatened and endangered plants and cultural resources:

- ▶ Do threatened and endangered plant inventories in conjunction with other projects.
- ▶ When developing projects take into consideration cultural values and take steps to provide protection for these values while providing water, etc. for livestock.

We have not found anything in the CNMFP that conflicts with the proposal. We have determined that the proposal conforms with this plan. FLPMA does not require that we accomplish these objectives, simultaneously, on the same land area. This becomes pertinent when actions proposed to accomplish one objective appear to conflict with policies that guide achievement of other objectives.

BLM does not have an activity plan that tells how to manage the Wilderness Study Areas. What BLM does have is a manual handbook titled "Interim Management Policy for Lands Under Wilderness Review" (IMP). It was last updated in July, 1995. The purpose of the policy is to guide BLM staff in the specific decisions that arise in the management of lands under

wilderness review. Because the proposal would occur on lands under wilderness review, the guidance found in the policy is pertinent and applicable to the proposal. A primary reason for this analysis is to determine, in light of existing uses, use impacts, resources and values in these WSA's, if the project proposal is the best alternative for enhancing wilderness values.

BLM's grazing management activity plan for the Twin Peaks allotment is the Twin Peaks Allotment Management Plan (AMP). The AMP was written in 1985 and focuses primarily on cattle management, although both sheep and cattle are permitted to graze the allotment. The grazing management portion of this plan provides for deferment from grazing by cattle until the beginning of July for about half of the allotment, annually. The area grazed first in one year is deferred from grazing until July of the next year. After July, cattle can graze anywhere within the allotment. It also requires that the permittees do not turn cattle in to certain areas before certain dates, to allow for spring plant growth to develop. In 1992, the AMP was supplemented to address in more detail grazing management of some riparian areas as well as use of aspen stands, areas where bitterbrush is more prevalent and sage grouse strutting grounds. There is nothing in this plan that disagrees with the proposal. This proposal would refine the AMP-described grazing management in the "Chimney area" of the allotment.

BLM's activity plan for wild horse and burro management for the area in the Twin Peaks allotment is the Twin Peaks Herd Management Area Plan (HMAP) which was last revised in 1989. The Twin Peaks *Herd Management Area* is the same area as the Cal-Neva Planning Unit (not the same area as the Twin Peaks allotment). There is nothing in this plan that disagrees with the proposal.

The proposed action described in Section 2 of this environmental assessment (EA) will become the Best Management Practices for these projects. The alternatives will not be different than the proposed action in terms of protecting water quality.

BLM's activity plan that describes management for the aquatic habitat of "Upper" Smoke Creek is the "Upper Smoke Creek Aquatic Habitat Management Plan" (1983). ("Upper" refers to that portion of Smoke Creek which is upstream from the Smoke Creek Reservoir. Although not identified as such on published maps, this portion of Smoke Creek be is referred to as such in this report and other BLM documents.) The actions proposed in this EA pertaining to Upper Smoke Creek conform with the activities and objectives found in the aquatic habitat plan.

All of these plans and the WSA management policy can be found at the Eagle Lake Resource Area office in Susanville, California.

2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Project Proposal Development

In February, 1995, BLM requested comments on the proposal from the permittees and the allotment's interested public. Several letters were received commenting about the projects.

BLM invited the permittee's and interested public (88 people, agencies and organizations) on

field tour to look at many of the project sites in August, 1995. Brent Espil, Bob Schweigert, range consultant, and George Berrier of the American Mustang and Burro Association attended. A wilderness specialist from BLM's Nevada State Office, Steve Smith, reviewed the proposals, visited some of the project sites and provided comments. Eagle Lake Resource Area staff reviewed the proposal and provided comments about specific things such as wildlife, threatened and endangered plants and cultural resources.

BLM completed riparian functional assessment (RFA) on some of the springs proposed for fencing and/or development during the summer of 1995. Results of the assessment were used to develop the proposal. BLM's RFA team is made up of a range management specialist, wildlife biologist, hydrologist and botanist.

As a result of this consultation and coordination, some of the project designs were changed. Table 2.1, below, shows the main differences between what we proposed in February, 1995, and what is being examined in this EA:

February, 1995			Current Proposal			Comment
Priority	Name	Description	Priority	Name	Description	
1	Chimney Drift Fences	3 Segments wire fence to control stock movement	1	Same as 2/95	Same	In "Twin Peaks" Wilderness Study Area (WSA). Consists of three separate fences in the same general area.
2	Morgan Spring Exclosure	Wire fence exclosure around riparian area fed by spring	2	Same	Same	In "Skedaddle" WSA.
3	Bullfrog Fence	Fence for stock control	Dropped			
4	W. Parsnip Fence	Drift fence to control stock movement	3	Same	Same	In "Twin Peaks" WSA. One fence.
5	Painter Fences	Two segments wire fence to control stock movement	4	Same	Construct one segment fence to control stock movement. Remove 2 segments fence.	East segment dropped following talks with permittee. Alignment changed on west segment. One Fence to be constructed. Fence to be removed illegally encloses public lands near Painter Ranch.
6	E. Fork Springs and Pipeline	Develop spring, exclose it and riparian area, pipe water to trough.	Dropped			Project dropped in favor of livestock management enabled by Chimney Drift Fences.

TABLE 2.1: Summary of Differences between 2/95 Proposal and Current Proposal

February, 1995			Current Proposal			Comment
Priority	Name	Description	Priority	Name	Description	
7	E. Upper Smoke Ck. Fence	Fence to complete an enclosure around E. Upper Smoke Ck.	5	Same	Same	In "Twin Peaks" WSA. One fence.
8	Red Rock Springs I and II Redevelopment	Re-develop springs and enlarge enclosures	6	Red Rock II Spring Redevelopment	Re-develop this spring and enlarge enclosure.	Red Rock I was dropped following RFA team field exam. Team concluded that Red Rock I would not benefit from exclusion. In "Dry Valley Rim" WSA.
9	Jenkins Trough Exclosure	Wire fence to control livestock use of associated riparian area	7	Jenkins Trough Spg. Redevelopment and Exclosure	Re-develop this spring and enlarge the enclosure.	Field exam by RFA field team determined that the spring development hardware needed replacement. In "Dry Valley Rim" WSA.
10	Horn Springs Meadow Exclosure	Wire fence to control livestock use of public lands portion of Horn Springs Meadow	8	Horn Springs Exclosures	In addition to 2/95 proposal, construct an enclosure around public land spring immediately east of Horn Springs (which is private).	Field exam by RFA field team determined that a public land spring northeast of the meadow should be excluded also. In "Twin Peaks" WSA.
11	Sagehen Spring Redevelopment	Enlarge existing wire trough exclosure and pipe water from spring into adjacent uplands	Dropped			Dropped in favor of livestock management enabled by Chimney and W. Fork Parsnip Fences.
12	Washtub Spring Development	Develop spring. Exclude associated riparian area and pipe water to exterior trough.	9	Washtub Spring Exclosure	Exclude associated riparian area with fence. Do not develop spring.	In "Five Springs" WSA. RFA team concluded that spring development would not be desirable.
13	Seep 13 and Two Springs Exclosures	Wire fence around water source and associated riparian areas.	10	Three Springs Exclosure	Same	Split into two projects to keep it straight. See next project also. Project name changed to Three Springs. In "Five Springs" WSA.
			11	Two Springs Exclosure	Same	These are two springs immediately adjacent to the private Five Springs. In "Five Springs" WSA.

TABLE 2.1: Summary of Differences between 2/95 Proposal and Current Proposal

February, 1995			Current Proposal			Comment
Priority	Name	Description	Priority	Name	Description	
14	East Bull Springs	Develop springs, wire fence around associated riparian.	12	Sheep Trail Spring I	Develop spring and fence associated riparian area.	Split into two projects to keep things straight. See next project also. Project name changed to Sheep Trial I to agree with maps of area. In "Dry Valley Rim" WSA.
			13	Sheep Trail Spring II	Do not develop spring. Construct riparian enclosure only.	It should be clear that what we called East Bull Springs already had the Sheep Trail names. In "Dry Valley Rim" WSA.
15	Indian Spring	Develop trough, pipe to trough and existing reservoir.	Dropped			May be postponed for another year. Still needs field assessment.
--	Not considered in 2/95 letter.		14	Wild Horse Spring Enclosure	Re-construct and enlarge enclosure originally built in 1955.	Trough replaced in 1989. Permittees agreed in 1984 to assume maintenance of enclosure once it was reconstructed. In "Skedaddle" WSA.

2.2 **Proposed Action - Construct All Projects and Minor Grazing Management Modification**

a. Standard Procedures

BLM has standard procedures for building things on public lands. All of these tasks have been or will be done, for each project, before we build that project:

- we visit the area and look for evidence of wildlife to see what might be helped or hurt by building the project. We also look at the soils and vegetation to get an idea of how our project might affect them. We also check what we or others already know about the wildlife and wildlife habitat in the area.
- we look at the area and place ribbon, wooden lathes and/or steel posts to show where we would like the project to go.
- we visit and look closely at the area to see if we have any special status plants present that might be disturbed by our activities. If we do, we either avoid them or change our design or route so we don't disturb them. We also check information (habitat characteristics) about where these types of plants already occur, and see if the job site has any of these qualities, so we can stay on the look out for them.
- we visit and look closely at the area to see if we have any cultural artifacts or evidence of habitation by Native Americans and early pioneers that will be

disturbed by our activities. If we do, we either avoid them or change our project design or route so we don't disturb them.

For projects proposed in wilderness study areas, we also:

- examine our proposal to determine its effects on wilderness characteristics that were present in the WSA's at the time of the wilderness inventory.
- conform with the IMP policy when conducting our field work.

b. Project Construction Conditions

If we propose to build things in a WSA, we also have special project conditions that we apply in order to minimize our impacts in that WSA. Most of the projects we propose to build in Twin Peaks allotment would be built in a WSA. Therefore, we would follow, or, if we hire someone to build them, we ensure that they follow (by including it in the construction contract), these special conditions:

- Where there are no roads, only one vehicle, typically a 4-wheel drive pick-up, will be allowed, one way, one time, along the fence line, and only to deliver fence materials. Day-to-day access from the closest point on the nearest road or way will be by horse or on foot.
- If soils on the project route or site are wet enough that they would be rutted by driving on them, then no driving is allowed.
- If driving along the project route or to the project site is not feasible because there is no access route or it is too rough, then BLM will deliver the materials by helicopter.
- Green fence posts will be used. (This helps the fence blend into the background).
- Chopping or trampling brush along the fence route will be done only if the brush prevents the fence from being built properly and only by hand tools.
- Fences may be constructed only in summer or fall when the soil is dry.
- Pipeline burial would occur by means of a John Deere 450 backhoe digging a foot-wide trench about 3 feet deep, laying the pipe, refilling the trench with the excavated materials, and tamping the dirt and rock. The backhoe would be transported by trailer by road to the closest access point and then be "walked" cross-country to the job site.
- Maintenance of constructed projects would be ensured by BLM. Fence maintenance would consist of fence post and wire replacement and/or repair and/or tightening, as necessary. Fence maintenance is the labor and material needed annually to keep an existing fence in a condition adequate to serve the

purpose for which it was intended. The BLM minimum inspection cycle for maintenance need for fences is 5 years. Access to and transport of materials needed for fence maintenance in the WSA's would be by horseback or on foot. Maintenance of spring developments and troughs would consist of periodically removing silt from the water collection area and troughs, cleaning silt and debris out of the pipeline, replacing damaged sections of pipe as needed, re-leveling the troughs and reattaching wildlife escape ramps as needed, repairing bullet holes in the trough as needed, replacing or repairing float valves as needed, and other general maintenance needed to ensure the utility of the development.

c. Project Specifications

All fence built would use the following materials in some combination: 5.5 foot all green steel fence posts; treated wood brace and corner posts; 12.5-gauge barbed and barbless wire; steel staples and clips; wire mesh for rock crib fence braces, if needed; natural rock for rock crib fence braces, if needed. Sometimes we cannot tell if we need to use rock jack fence braces until the fence is actually being built. Our choice depends on how rocky it is below the brace location.

All fence would be built to the following specifications : four-strand wire fence with the top three strands barbed and the bottom strand barbless, spaced from the ground 18", 22", 28" and 40"; steel posts set on 16.5' centers; wood or brace panels or rock cribs set every 1/4 mile and at each corner, end point or gate.⁵

The design of the three springs proposed for development would include: a below ground collection box (which is a perforated culvert 3 feet in diameter placed on end on a gravel bed, or, a perforated pipe 4 to 6 inches in diameter, 6 to 12 feet long, buried 1 to 3 feet deep); offsetting the water collection area from the major spring flow area to intercept the minimum amount of water needed at the trough⁶; a 1 1/4 to 2 inch polyethylene pipe connected to the water collection box or area buried 1 to three feet deep, depending on soil characteristics, extending down slope 150 to 300 feet from the collection box; and, a dark green metal "powder river" type trough, connected to the polyethylene pipe, equipped with a small animal escape ramp and overflow rain, and anchored to a treated wood or concrete platform. Each trough will be placed on a gravel bed or on a rocky area.

d. Project Timing

BLM proposes to build these projects in federal fiscal year 1996. The earliest construction would start in July, 1996, and the construction contract likely will carry over into 1997. We would hire professional fence builders to build most of the fence, but have our own employees develop the springs, which includes spring site excavation, headbox or water collection area installation, pipeline burial and trough connections.

⁵ Post and wire spacing and type affects how well the fences can be negotiated by large animals. These specifications are designed to be negotiated by pronghorn and mule deer, while still being an effective barrier to livestock.

⁶ Although we collect water to fill a trough for drinking, we strive to intercept the minimum amount that fills the trough while not interfering with subsurface water flow that supports the associated riparian area vegetation.

e. Project Descriptions

Descriptions of each proposed project follow. All projects are subject to the above-listed standard procedures, construction conditions and project specifications. In this section they are organized by the WSA within which they occur, except for Painter Fence, which is not within a WSA and is described last. Refer to Appendices A through E for maps showing project locations. Table 2.2(e) - Projects in Wilderness Study Areas, below, shows which projects are proposed in which WSA's:

Table 2.2(e) - Projects in Wilderness Study Areas			
Twin Peaks WSA	Dry Valley Rim WSA	Five Springs WSA	Skedaddle WSA
Chimney Drift Fences	Red Rock II Spring Redev.	Washtub Spring Enclosure	Morgan Spring Enclosure
West Parsnip Drift Fence	Jenkins Trough Spg. Redevelopment & Excl.	Two Springs Enclosure	Wild Horse Spring Enclosure
E. Upper Smoke Ck. Fce.	Sheep Trail Spring I Dev. & Enclosure	Three Springs Enclosure	
Horn Springs Enclosures	Sheep Trail II Enclosure		

1. Descriptions - Projects Proposed in the Twin Peaks WSAi. Chimney Drift FencesA. Proposed Construction

Build three segments of fence (I, II and III) located T. 32 N., R. 18 E. near confluence of Chimney Creek, E. Fork of Smoke Creek and Wilcox Canyon. Segment I is about 6362 feet long. Segment II is about 11,132 feet long. Segment III is about 4167 feet long. All are connecting natural topographic barriers. Access to Segments I by vehicle is possible via a road that comes to within ¾-mile of the southern terminus of the fence and from there overland by vehicle to the fence route. Access to the majority of segments II and III is possible by the Mixie Flat road. Fence materials would be placed by BLM along the route by helicopter. Following construction, the fences would be flagged temporarily with ribbon flagging to alert wild horses and burros to their presence.

B. Grazing Management Following Construction

Construction of this project would stop most livestock drift into the Chimney Creek, East Fork of Smoke Creek and the lower end of Wilcox Canyon riparian areas. The fences are open-ended and it is expected that wild horses and burros can negotiate topography that poses a barrier to most livestock.

Grazing use that occurs under the system outlined in the Twin Peaks AMP would continue. It is part of the proposal that, following project construction, grazing use would be authorized in this area (Chimney, East Fork, lower Wilcox) as follows:

The area enclosed by these fences and topographic barriers would be grazed in April and/or May, every other year, for approximately six weeks, with 200 to 400 cow/calf pairs. The "on-date" into the area, within the April-May "window", would be coordinated between BLM, the permittees and any interested publics who express interest in assisting in making this "on-the-ground" decision, and would be determined following a field assessment that considers the amount of forage production, and soil firmness.

It is expected that in most years, vegetation growth and soil firmness will not hinder use as described above. In dry springs, however, upland forage growth, which in this area is primarily cheatgrass, may not produce enough forage to permit the maximum numbers of cattle and/or the maximum period-of-use to be grazed while remaining within the general utilization objective (as described in the AMP) of no greater than 40-60 percent use. In those years, cattle grazing use in this area will be adjusted to take this into account. Conversely, in wet springs, the area may produce enough forage to allow greater than the above-described use to be made while remaining within the 40-60 percent utilization objective. In those years, cattle grazing use in this area will be adjusted to take this into account.

The gates to Segment I would be opened by the permittees in mid-October every year that cattle graze the North Pasture of the allotment and livestock would be allowed to enter the area on their own and graze until gathered and herded to late fall/winter range ranges on the benches and flats east of Chimney Rock and Burro Mountain and in Dry Valley and in the vicinity of Lower Smoke Creek Ranch. Cattle are expected to roam into the area in mid-to-late Autumn from the Horn Springs, Al Shinn Canyon and Blacks Mountain area in groups of 2 to 50. They would be periodically gathered from the area by the permittees from mid-October through mid-December when it is expected that all except unaccounted for strays would then be grazing in the late fall/winter ranges. BLM would periodically check the area and coordinate cattle movements with the permittees. Coordination would occur with the objective to ensure grazing is managed to leave adequate amounts of residual vegetation in both the riparian and upland areas for watershed protection in anticipation of spring run-off.

All gates on all fence segments would be opened by the permittees no later than December 15 every year to allow wild horses and burros to get through them.

ii. West Parsnip Drift Fence

A. Proposed Construction

Build 1152 feet of fence connecting two rock escarpments on opposite sides of the uppermost reach of Parsnip Creek drainage located T. 33 N., R. 18 E. Section 23. Access to the project would be via existing road that runs right by the project site.

B. Grazing Management Following Construction

The Twin Peaks AMP as addended requires that, in those years that cattle begin the grazing season's use in the north pasture, livestock not be turned out into Parsnip and South Fork of

Parsnip Wash. It further requires that the permittees drive their livestock out of the drainages and make diligent efforts to keep them out, if, after April 30, 40 percent utilization on riparian-associated plants is reached. This management would continue. The problem is that after the permittees drive their livestock out of these drainages into Mixie Flat and the Painter Flat area, livestock return on their own volition. The "diligent effort" clause in the AMP addendum anticipated this return and committed the permittees to increased herding efforts in this drainage. The fence as proposed would cut off the cattle's main route of return to these drainages and make the permittees' diligent efforts to remove them more effective in keeping the cattle out. This project, in combination with the "Parsnip Buffalo Fence" constructed near the mouth of Parsnip Wash Drainage in 1995, would provide a significant barrier to livestock entering an approximate 4000-acre area associated with these drainages.

iii. East Upper Smoke Creek Fence

Build 10,260 feet of fence on plateau adjacent to and east of upper Smoke Creek located T. 33 N., R. 17 E. Sections 31 and 32 and T. 32 N., R. 17 E. Section 5. Access would be via the Shinn Ranch Road and comes to within 1/2-mile of both the north end and of the south end of the proposed route. Fence materials would be placed along the route by BLM by helicopter.

This fence, in combination with existing topographic barriers and previously constructed projects dating back to the mid-1980's, would complete a large enclosure around the publically-owned portion of Upper Smoke Creek.

iv. Horn Springs Meadow Enclosures

Build two enclosures near Horn Springs located T. 33 N., R. 17 E., Section 18 NE1/4NE1/4. The first would enclose the portion of the spring-associated riparian area that is on public land. It would be an irregularly shaped polygon shaped roughly like a dogleg and enclose about 76 acres. Its longest axis is around 5000 feet and at its widest axis is around 2200 feet. The second would enclose an unnamed spring on public land immediately east of the privately-owned Horn Spring. It would enclose about 14 acres and be roughly square shaped, averaging 580 feet on a side. Total fence length (both enclosures) is about 14,846 feet. Access by vehicle is possible via a jeep road which defines a portion of the western boundary of the Twin Peaks WSA.

v. Grazing Management of Enclosures

The area within the above-listed enclosures would be excluded from cattle and sheep grazing unless specifically allowed by BLM. Exclusion would continue pending the collaborative development and approval of a written site-specific prescriptive grazing strategy for the area within the enclosure. The development of a site-specific grazing strategy would occur after BLM has determined that general criteria for establishing protected wetland riparian area readiness for prescribed grazing have been met, unless site specific readiness criteria for an enclosure are subsequently developed, in which case the specific criteria would govern.

2. Descriptions - Projects Proposed in the Dry Valley Rim WSA

i. Red Rock II Spring Redevelopment and Enclosure

Build a 170' x 930' (distances averaged) roughly rectangular enclosure enclosing about four acres around Red Rock II Spring and associated riparian area located T. 30 N., R. 18 E., Section 10. Move existing "Powder River" type trough about 300 feet northeast (in uplands) and connect to developed spring source with buried pipe. Total fence length is about 2210 feet. Vehicle access would be via an existing way which passes within 3/4-mile of the project site, and from that closest point, by foot or horseback.

ii. Jenkins Trough Spring Redevelopment and Enclosure

Build a 280' x 2279' (distances averaged) roughly rectangular enclosure enclosing about 24 acres around Jenkins Trough Spring and associated riparian area located T. 31 N., R. 18 E. Section 32 NE1/4. Move two existing "Powder River" type troughs about 300 feet north (in uplands) and connect to developed spring source with buried pipe. Total fence length is about 6200 feet. Access would be on foot or by horseback from the closest existing way which is about 1 1/4 miles from the project site. Fence materials would be placed along the fence route by BLM by helicopter.

iii. Sheep Trail Spring I Development and Enclosure

Build a roughly square-shaped enclosure around the spring and associated riparian area located T. 30 N., R. 17 E. Section 2, SW1/4. This enclosure would average about 260 feet on a side and enclose about one acre. Total fence length is about 1046 feet. The spring would be developed and piped about 500 feet down drainage into a "Powder River" style trough. Vehicle access is possible via a jeep trail which leads to the spring.

iv. Sheep Trail II Enclosure

Build a roughly kite-shaped enclosure around the spring and associated riparian area located T. 30 N., R. 17 E., Section 11 NW1/4. Enclosure dimensions would be about 200 feet by 400 feet and it would enclose about 2 acres. Total fence length is about 1235 feet. Vehicle access is possible via a jeep trail which leads to the spring.

v. Grazing Management of Enclosures

The area within the above-listed enclosures would be excluded from grazing by cattle and sheep. Exclusion would continue pending the collaborative development and approval of a written site-specific prescriptive grazing strategy for the area within the enclosure. The development of a site-specific grazing strategy would occur after BLM has determined that general criteria for establishing protected wetland riparian area readiness for prescribed grazing have been met, unless site specific readiness criteria for an enclosure are subsequently developed, in which case the specific criteria would govern.

3. Descriptions - Projects Proposed in the Five Springs WSA

i. Washtub Spring Exclosure

Build an exclosure roughly the shape of a "home plate" around Washtub Spring located T. 31 N., R. 17 E., Section 31, NE $\frac{1}{4}$ SE $\frac{1}{4}$. The exclosure would be average about 225 feet on a side and exclude about 2 acres. Total fence length is about 1135 feet. Access by vehicle is possible along the Smoke Creek road which passes within 1 mile of the project site. From there, access would be by foot or horseback. Fence materials would be placed along the fence route by BLM by helicopter.

ii. Three Springs Exclosure

Build a roughly rectangular-shaped exclosure around the riparian area occurring on public lands located T. 31 N., R. 16 E., Section 24. This riparian area is associated with the privately-owned Three Springs. The exclosure would average around 300 feet wide and be about 4400 feet long and enclose about 54 acres. Total fence length is about 9633 feet. Access by vehicle is possible via the road which defines a portion of the southern boundary of the Five Springs WSA and passes within about $\frac{1}{2}$ -mile of the southern end of the proposed exclosure.

iii. Two Springs Exclosure

Build an exclosure roughly in the shape of a "home plate" around two springs and their associated riparian area located T. 31 N., R. 16 E., Section 23, NW $\frac{1}{4}$ NE $\frac{1}{4}$. These springs are immediately adjacent to the privately-owned Five Springs. The exclosure would average about 395 feet on a side and enclose about 5 acres. Total fence length is about 1971 feet. Access to the project site is possible via an existing way which enables one to drive right next to the spring site.

iv. Grazing Management of Exclosures

The area within the above-listed exclosures would be excluded from grazing by cattle and sheep. Exclusion would continue pending the collaborative development and approval of a written site-specific prescriptive grazing strategy for the area within the exclosure. The development of a site-specific grazing strategy would occur after BLM has determined that general criteria for establishing protected wetland riparian area readiness for prescribed grazing have been met, unless site specific readiness criteria for an exclosure are subsequently developed, in which case the specific criteria would govern.

4. Descriptions - Projects Proposed within the Skedaddle WSA

i. Morgan Spring Exclosure

Build one exclosure fence around riparian zone downstream from Morgan Spring located T. 30 N., R. 17 E. Section 28, W $\frac{1}{2}$ W $\frac{1}{2}$. Fence length is 4800'. About 34 acres would be enclosed. The fence as proposed would intersect and block vehicle access on current way that accesses the Morgan Spring drainage about $\frac{1}{8}$ -mile south of the end of the way. A "walkover" structure would be placed adjacent to the blocked way. Boulders would be placed on the

way in front of the fence to discourage people from cutting the fence so they could drive to the end of the way to an unimproved campsite located next to the drainage. Access for construction purposes also would be via this existing road and way.

ii. Wild Horse Spring Enclosure

Build a roughly rectangular-shaped enclosure around the spring and associated riparian area located T. 29 N., R. 17 E., Section 32 NW $\frac{1}{4}$ NW $\frac{1}{4}$. Enclosure dimensions would be about 300 feet by 500 feet and enclose about 3 $\frac{1}{2}$ acres. Total fence length is about 1600 feet. Vehicle access is possible via a jeep trail which leads to the spring.

iii. Grazing Management of Enclosures

The area within the above-listed enclosures would be excluded from grazing by cattle and sheep. Exclusion would continue pending the collaborative development and approval of a written site-specific prescriptive grazing strategy for the area within the enclosure. The development of a site-specific grazing strategy would occur after BLM has determined that general criteria for establishing protected wetland riparian area readiness for prescribed grazing have been met, unless site specific readiness criteria for an enclosure are subsequently developed, in which case the specific criteria would govern.

5. Painter Fence

i. Proposed Construction

Remove 13,156 feet of fence now illegally enclosing public lands near Painter Ranch located T. 34 N., R. 17 E., Sections 13 and 14. Build 7862 feet of fence along north public private land boundary of ranch.

ii. Grazing Management Following Construction

Painter Ranch is south of the west side of Rowland Mountain and north of Painter Flat. The Twin Peaks AMP as addended requires that the permittee remove cattle from the west side of Rowland Mountain on or before July 15, or, when utilization on key perennial grasses reaches 60 percent. This management would continue. A consideration in the addendum is that physical barriers are ineffective to prevent cattle from returning to the Rowland Mountain area after they are driven away. This fence would cut off a main route of return from Painter Flat to Rowland Mountain.

f. Cumulative Potential Soil and Vegetation Disturbance

Table 2.2f, below, presents in acres the amount of soil and vegetation disturbance expected due to project construction under the proposed action:

Table 2.2f: Soil and Vegetation Disturbance Expected due to Proposed Action			
PROJECT NAME	LENGTH IN FEET (MULTIPLIED BY ⇒)	ACRES DISTURBED PER FOOT @10- FOOT DISTURBANCE WIDTH (EQUALS ⇒)	ACRES SOIL AND VEGETATION DISTURBANCE EXPECTED
PROJECTS WITHIN WILDERNESS STUDY AREAS			
Chimney Drift Fence Segment I	6362	.00023	1.46
Chimney Drift Fence Segment II	11,132	.00023	2.56
Chimney Drift Fence Segment III	4167	.00023	0.96
Morgan Spring Exclosure	4800	.00023	1.10
West Parsnip Drift Fence	1152	.00023	0.26
East Upper Smoke Creek Fence	10,260	.00023	2.36
Red Rock II Spring Redevelopment Fence	2210	.00023	0.51
" " " " " Pipeline	300	.00023	0.07
Jenkins Trough Spring Redevelopment and Exclosure Fence	6200	.00023	1.43
" Pipeline	300	.00023	0.07
Horn Springs Meadow Exclosures	14,846	.00023	3.42
Washtub Spring Exclosure	1135	.00023	0.26
Three Springs Exclosure	9633	.00023	2.22
Two Springs Exclosure	1971	.00023	0.45
Sheep Trail Spring I Fence	1046	.00023	0.24
" " " " Pipeline	500	.00023	0.12
Sheep Trail Spring II	1235	.00023	0.28
Wild Horse Spring Exclosure	1600	.00023	0.37
TOTAL FOR WSA PROPOSED PROJECTS			18.14
PROJECTS NOT IN WSA'S			
Painter Fence	7862	.00023	1.81
TOTAL FOR PROJECTS NOT IN WSA'S			1.81
TOTAL ALL PROJECTS			19.95

2.3 **Alternative One - Alternative Trough Design on Spring Developments and Alternative Fence Route on Morgan Spring Enclosure**

Alternative one is identical to the proposed action in every respect (standard procedures, construction conditions, grazing management, etc.), except as described below.

a. **Alternative Trough Design on Spring Development and Redevelopments**

This alternative differs from the proposed action in that Red Rock II Spring Development, Jenkins Trough Spring Re-development and Enclosure, and Sheep Trail Spring I, rather than using solely a deep green "Powder River" type trough, would be constructed either:

- 1) by instead of using the currently in-place green "Powder River" type troughs at Red Rock II Spring Development and Jenkins Trough Spring Redevelopment, and a new green "Powder River" type trough at Sheep Trail Spring I development, remove existing troughs and construct all troughs from concrete faced with local rock no more than one foot above the ground surface; or,
- 2) painting the existing "Powder River" type troughs and the one proposed for installation at Sheep Trail Spring I Development with a desert camouflage pattern.

The purpose of these options is related to the aesthetic values of the appearance of the project. The intent is to screen/blend a noticeable attribute of a spring development, the trough, into the background as much as possible to minimize its visibility within each respective WSA as a whole.

b. **Alternative Fence Route on Morgan Spring Enclosure**

This alternative fence route is different from the proposed route in that the fence would not block vehicle access via the way to the Morgan Spring drainage. Instead, at the way intersection, the fence would be placed parallel to the road and continue on that route until it connected to the south side of the enclosure fence. The approximate fence dimensions and area excluded would be similar, although slightly smaller.

2.4 **No Action Alternative**

The no action alternative consists of not constructing the projects at this time. Grazing use of the allotment would continue as currently permitted pending the proposal, NEPA-required analysis and implementation of other actions intended to protect wilderness values at risk in the Twin Peaks allotment.

2.5 **Alternatives Considered But Dismissed From Detailed Analysis**

a. **Alternative Construction Sites**

This alternative would consider the possibility of construction projects outside of the WSA's that could result in achieving the same objectives as the proposed action. This alternative is

not examined in detail because the proposed action is specific to sites within the WSA. BLM cannot physically remove a spring or riparian area to another place. The fences and enclosures are designed for riparian area protection and were located under that concept. Therefore, no alternative sites for project construction exist. This alternative is dismissed from detailed analysis.

b. Project Subsets

Projects priorities are listed under the proposed action. These priorities are based on BLM and permittee consultation regarding where the most pressing on-the-ground issues involving livestock management that could be alleviated by project work are, and on BLM's analysis of input from interested publics regarding actions that could be taken in this allotment to improve resource management.

Given that there are now 14 different projects proposed, there are 196 combinations (14^2) of these 14 projects that could be constructed and each subset would have a different degree of effects on the environment as a whole. Each of these subsets could be considered as an alternative to the proposed action. No special considerations have arisen which make any of these subsets preferable to any other while still accomplishing the same objective of improved riparian management. Any project subset, however, would generally result in less soil and vegetation disturbance during the construction phase, and afford riparian areas less protection from heavy grazing following construction.

c. Significant Changes in the Permitted Grazing Use and Reduction in Wild Horse and Burro Populations

Stocking the allotment to a level based on proper use of the forage occurring only within riparian areas, or, to not permit grazing on the allotment during the June through September "hot season" months also would serve to enhance the naturalness of the subject riparian areas in the wilderness study areas. Stocking only to the level of the grazing capacity of the riparian areas, which common sense indicates would require a significant reduction in the number of livestock allowed to graze on the allotment, or excluding "hot season" use, would have significant environmental ramifications beyond the scope of analysis of this EA and are not considered by BLM to be reasonable options at this time, and are dismissed from further analysis.

Combining the Twin Peaks allotment with the other large relatively large allotments in the vicinity, such as the Winter Range, Deep Cut, Observation, Tuledad, and Snowstorm allotments and using existing fences to control the movement and distribution of livestock in a rotation grazing system also could enhance wilderness values and further the previously stated land use objectives, not only in Twin Peaks, but in the other allotments as well. This would require the (re)establishment of a large allotment grazed in common with at least 10 other grazing permittees and a great amount of logistical coordination among the permittees and agreements among them concerning livestock husbandry such as kinds and breeds of livestock and state branding, health and sanitation rules. This also would require the consideration and evaluation of a host of other factors not immediately pertinent to this environmental assessment. It also would result in the need for increased BLM administration and oversight of the permitted livestock use within the wilderness study areas. BLM does not

consider this to be a reasonable option at this time and this concept is dismissed from further analysis.

Significantly reducing the number of wild horses and burros that are allowed to graze in the Twin Peaks Herd Management Area or implementing a hazing program could also relieve detrimental grazing pressure on certain riparian areas in the allotment (for example, those which occur in Spencer Basin) and therefore enhance the wilderness quality of naturalness in the wilderness study areas. This option likely would conflict with provisions of the Wild Horse and Burro Act, does not seem reasonable in light of the option of exclosures, and is dismissed from detailed analysis.

Eliminating livestock grazing entirely, or significantly modifying the terms and conditions of grazing permits for the Twin Peaks allotment, to provide for a different grazing system based on more intensive permittee herding and livestock control, elimination of "hot-season use," or some combination, could reduce the risk to wilderness characteristics posed by close cropping of riparian areas and result in the enhancement of wilderness values (specifically, naturalness of riparian areas, among other benefits) as well as further some of the other land use objectives listed in Section 1.2 of this EA.

In 1993-94, BLM attempted consultation with the permittees and interested publics and developed significant modifications to the Twin Peaks Allotment Management Plan (AMP), which is a part of the grazing permits for this allotment. Among other things, these modifications would have relied on a significant increase in permittee control and movement of livestock in order to reduce heavy summer/fall livestock utilization of riparian areas. BLM issued these permit modifications to the permittees via a February 28, 1994, decision issued in full force and effect. This decision was administratively appealed by the permittees, the Nevada Division of Wildlife, the California Department of Fish and Game, the California Cattlemen's Association, Wild Horse Organized Assistance, the Nevada Commission for the preservation of Wild Horses, the California Woolgrower's Association, the Western Range Association, and the Lassen County Board of Supervisors. The permittees also appealed the decision to the federal Nevada District court which enjoined the decision pending a hearing before it (John Espil Sheep Company, Inc, (plaintiff) vs. Bruce Babbitt, et al. (defendants), CV-N-94-172-DWH). The case never reached judgement as Espil and BLM settled the lawsuit after BLM and Espil negotiated and signed an agreement which replaced and superseded the February, 1994, Decision. This agreement ratified the existing AMP and provided special terms and conditions for the 1995 grazing season⁷. It also stated that "BLM will provide a timeline on or before March 1, 1995, for the implementation of the riparian projects as identified in the Espil letter to Linda Hansen (BLM), dated December 15, 1994."

Given the events preceding the development of the proposed action, BLM does not consider that significantly modifying the terms and conditions of the grazing permits to reflect use that would be allowed under the above-stated scenarios for this allotment feasible at this time, and this alternative is dismissed from detailed analysis.

⁷ This agreement subsequently was appealed by the California Department of Fish and Game, the Nevada Commission for the Preservation of Wild Horses, the Nevada Division of Wildlife, and Wild Horse Organized Assistance. These appeals are now in the jurisdiction of the Department of Interior, Office of Hearings and Appeals. They are pending hearing.

Never-the-less, BLM monitoring shows that heavy use of some riparian areas in the Twin Peaks allotment continues on a recurring basis. In the absence of a livestock grazing system that "provide[s] periodic rest to assure an improvement in range condition and trend and provide for the improvement of and/or protection of riparian vegetation" and that "give[s] particular consideration toward improving and maintaining riparian, wetland, and meadow habitat to enhance and protect wildlife and watershed values" (CNMFP, 1982) and a wild horse and burro population management plan that accounts for and prescribes actions designed to relieve wild horse and burro pressure on riparian areas as needed, other action is required to alleviate recurring heavy use of some riparian areas on the Twin Peaks allotment to protect the wilderness characteristics of the affected WSA's and enhance the wilderness values inherent in these areas.

Analysis of the above-described actions (major livestock grazing modifications, wild horse and burro reductions, significant allotment administrative changes) are beyond the scope of this environmental assessment and will not be further considered.

3. ENVIRONMENT AFFECTED BY THE PROPOSED ACTION AND ALTERNATIVES

3.1 Critical Elements of the Environment to Consider

The National Environmental Policy Act of 1969 (NEPA) requires us to consider certain parts of the environment every time we analyze our proposals. NEPA terms these "critical elements" of the environment. They are air quality, areas of critical environmental concern, cultural resources, prime or unique farmlands, floodplains, Native American religious concerns, threatened and endangered species, hazardous and solid wastes, water quality, wetlands and riparian zones, wild and scenic rivers and wilderness.

Of these elements, air quality, prime or unique farmlands, floodplains, Native American religious concerns, hazardous and solid wastes, and wild and scenic rivers are not present and/or will not be affected by the proposed action or alternatives. These are not discussed further in this report.

3.2 General Environmental Overview

The Twin Peaks allotment is within the Cottonwood - Skedaddle Mountains Subsection of the Northwestern Basin and Range Section of the Intermountain Semi-desert Province of the Temperate Desert Division ecosystem (*Ecological Units of California*, 1994. USDI-USFS, Pacific Southwest Region).

Topography is a mix of steep escarpments, high hills and rolling mountains, incised canyons, gently inclined slopes and nearly flat bottoms. Elevations range from near 3900 feet adjacent to the Smoke Creek Desert to the top of Hot Springs Peak in the Skedaddle Mountains at around 7500 feet. Precipitation averages range from 4-6 inches near the Smoke Creek desert to above 16 inches in the upper elevations of the Skedaddle Mountains. Most precipitation is received in the late fall, winter and early spring in the form of snow or rain although summer thunderstorms are not uncommon. Soils generally are derived from basaltic parent rock. Except for areas that typically pond water, such as Mixie Flat, Bull Flat, Painter Flat, some areas in Dry Valley, and numerous small unnamed alkali flats, the surface generally is rocky

to very rocky. The dominant aspect of upland vegetation is big-sagebrush and low sagebrush with an understory of native perennial and/or exotic annual grasses and forbs. A secondary aspect is bitterbrush mixed with sage, grasses and juniper which occurs primarily in Rowland Mountain, immediately east of upper Smoke Creek and infrequently on some west facing slopes of the Skedaddle Mountains. Salt-desert shrub communities occur adjacent to the Smoke Creek desert and in Dry Valley. Aspen-dominated plant communities occur sporadically in the Skedaddle Mountains in moist sites. Mahogany occurs also, generally in the northern portion of the allotment. Interspersed and generally occurring in drainage bottoms and along riparian steams are willow-shrub communities and/or grass/sedge/forb communities. Springs and seeps occur in many topographical settings, from bottoms to side slopes to the base of upper elevation peaks. Principal stream courses occurring in the allotment are Buffalo Creek, Smoke Creek, and Skedaddle Creek. They in turn are fed by numerous drainages and or smaller creeks such as the South Fork of Parsnip Creek and Chimney Creek. As previously stated, BLM estimates that there are 81 springs and 57 intermittent and perennial miles of streamside riparian area on public lands in the Twin Peaks allotment.

A variety of wildlife, fish, amphibians, and aquatic invertebrates typical to the Great Basin use the allotment for all or a part of their life cycle. "Featured" species include pronghorn antelope, mule deer, sage grouse, although a variety of fauna occurs at several trophic levels.

Wild horses and burros roam the entire allotment.

Livestock grazing is permitted to John Espil Sheep Company, Inc., and Laver Ranches under the auspices of the Twin Peaks AMP. Espil grazes both sheep and cattle, while Laver grazes cattle only. The permitted period-of-use for Espil is March 1 to December 31, annually, and for Laver, April 15 to October 31, annually. Maximum annual permitted AUM removal by livestock as allowed by the AMP is 15,528 AUM's.

Fenced private lands associated with the ranching operations included within the boundaries of the allotment include Buffalo Meadows Ranch, Stone Corral, Skedaddle Ranch, Bull Flat Ranch, and Five Springs. Heller Ranch, a base for the Espil cattle operation, is located on the allotment's east boundary adjacent to the Smoke Creek desert. The permittees also own several unfenced 40-80 acre scattered parcels within the allotment associated with springs and seeps.

Private lands not owned by the permittees located within the allotment include the Painter Ranch, the Smoke Creek and Lower Smoke Creek ranches, Rush Creek Ranch, Hole-in-the-Ground, Chimney, Wildcat Spring, Stone Corral and several small parcels.

Typical recreational opportunities in the allotment include hunting, fishing, hiking, camping, horseback riding, wildlife observation, wild horse and burro observation, off-road vehicle use and activities associated with natural history study and appreciation.

Vehicle access is generally poor. Five infrequently maintained roads (Buffalo Meadows road, Painter Ranch road, Smoke Creek Desert Road, Skedaddle Ranch Road and Gerlach/Sand Pass Road) provide principal access to the allotment. Numerous side roads and ways emanate from these principal arteries. Generally, they are passable only to high-clearance four-wheel drive vehicles or all-terrain vehicles and only during the spring after soils dry, summer and fall.

All projects proposed would occur on BLM land that is Visual Resource Management Class II. The objective of this class is to retain the existing character of the landscape. Management activities may be seen, but should not attract the attention of the casual observer.

3.3 Wilderness Values Overview

Wilderness values are identified in Section 2(c) of the Wilderness Act of 1964, and for the purposes of BLM inventory, further distilled by the BLM's 1978 *Wilderness Inventory Handbook* as: roadlessness, naturalness, solitude, (opportunity for) primitive and unconfined recreation, size and supplemental values (ecological, geological, or other features of scientific, scenic or historical values). The proposed action and alternative will impact WSA naturalness and supplemental values. The proposed action or alternative will not affect the characteristics of roadlessness or size, geological, scientific or historical values or the opportunity for primitive and unconfined recreation. As such, they will not be included in this affected environment description.

Disturbance of solitude resulting from implementation of the proposed action would be insignificant, minor and temporary: limited to the time of materials delivery, construction and infrequent periodic maintenance. Therefore, the inventory description of solitude is not included in the description of the affected environment.

The descriptions of the affected wilderness characteristics of naturalness and supplemental values that are in the next section are from the Intensive Wilderness Inventory of these areas conducted by BLM in 1979.

3.4 Project Sites Affected Environment

The affected environment descriptions of the proposed project sites are organized by the WSA where they occur. Painter Fence site is not in a WSA and is discussed at the end of this section.

a. Project Sites in the Twin Peaks WSA

There are 91,405 acres under wilderness review in the Twin Peaks WSA.

1. Intensive Wilderness Inventory Description of Affected Wilderness Characteristics

Naturalness

"This unit is natural in character. The majority of the intrusions occur on the periphery off of the boundary roads. An exception is the four ways which run into the unit interior. Among the 35 miles of way through out this expansive area, all but two ways dead end within the area. These two ways through Al Shinn Canyon and from the Smoke Creek Reservoir south to the airstrip, circle back to their boundary road origins. They have prevalent washouts and are revegetating quite rapidly. All the ways are generally inconspicuous, dispersed and of low impact.

Five miles of roads are found entirely in the northwest unit portion. All the mileage

connects with the ways. There are also ten miles of initially bladed winter range drift fenceline traversing the unit southeast.

The remaining intrusions amount to one borrow pit, fire dam and six pit reservoirs, a one-mile ditch, one developed spring, and one windmill. All are on or very near the unit boundary and separately and cumulatively create a low unit impact.

The Smoke Creek Ranch airstrip is dirt constructed, partially revegetating with grasses and weeds, and has a moderate impact.

The natural character of this unit is maintained by its large uninterrupted size and vast amount of undisturbed lands.

Supplemental Values

Within the canyon a number of petroglyph sites have been found. The perennial streams could also be considered as supplemental values."

2. Description of Other Affected Elements of the Environment by Project Site

i. Chimney Drift Fences

These would be three segments of fence connecting natural topographic barriers northeast of Smoke Creek Ranch. Segment one would be located directly east of Wilcox Canyon and traverse a broad bench. It would connect rimrock associated with a mesa directly northeast of Smoke Creek Reservoir with a steep butte also northeast of the reservoir. Segment II would traverse a draw near the head of the East Fork of Smoke Creek canyon and connect rimrock natural barriers located on both sides of the draw. The north and western portions of Segment III would be located on a rim directly south of Mixie Flat while the eastern portion would angle around the head of 2 draws that lead down into Chimney Canyon and end at a rough escarpment 1/2-mile east of the head of another draw that leads down into Chimney Canyon.

The area that would be directly affected by these projects is comprised of about 19,500 acres of public lands and 320 acres of private lands. The private land occurs in a broad rocky basin at the confluence of Chimney Creek and the East Fork of Smoke Creek. The north "boundary" of this area is an irregular line starting just below Mixie Flat and follows rimrock above Wilcox Canyon and the East Fork of Smoke Creek. The eastern boundary runs along the backbone of Twin Peaks and its neighboring mountains. The southern edge is bounded by the Twin Peaks fire rehabilitation fence. The western edge is also bounded by this fence as well as steep buttes that run along the east edge of Smoke Creek Ranch.

Elevation of the area ranges from 4200 near Smoke Creek Ranch to 6592 feet at the crest of Twin Peaks. Slopes of the southern quarter of the area are gentle, 0-5% and the upper three-quarters is a steep and rocky maze of canyons and ridges with slopes above 70% in the northeast and between 31 and 70% elsewhere.

Soils in this area's uplands are generally low in productivity and generally produce between 400 and 800 pounds (dry-weight) of vegetation per acre. Vegetation in this area's uplands

is comprised principally of low shrubs, and annual grasses and forbs. Big sagebrush, grey rabbitbrush, green rabbitbrush and horsebrush are the most prevalent shrubs. Cheatgrass and tumble mustard, and exotic annual grass and forb, respectively, dominate the shrub interspaces. Bluebunch wheatgrass and great basin wild rye occur on those north and extremely rocky slopes which have remained unburned in recent history. At least nine perennial springs occur in this area. Chimney Creek and East Fork of Smoke Creek are perennial streams in the northern half. Sagehen spring, near Mixie Flat, is the headwater for Chimney Creek which runs discontinuously for two miles then becomes continuous and perennial. East Fork of Smoke Creek is three miles long. Large areas of bare soils occur within this locality. Burro Creek, an ephemeral stream in the southern half of the area, has carried large amounts of sediment, debris and water during thunderstorms during the last 10 years. Stream bank vegetation consists of arroyo and coyote willow, Wood's rose and various grass, sedge and rush species. Common mullein, birdsfoot trefoil and other exotic forbs dominate the herbaceous layer on Chimney Creek. The upper elevations of this creek support a thick stand of willows. Spring and seep communities are rich in native grasses, forbs and sedges as well as chokecherry and wild rose.

In 1995, BLM's Riparian Functional Assessment team assessed two springs immediately west of the East Fork of Smoke Creek located T. 32 N., R. 18 E., Section 7 SE $\frac{1}{4}$ SE $\frac{1}{4}$. One of these had been proposed to be excluded in the original project proposal of February, 1995. In summary, they found both to be hydrologically functioning at risk, one with an upward trend and one with a downward trend. Both springs were noted as being affected by moderate to heavy hoof action attributed to wild horses and cattle. Vegetation around both springs was noted as being in low vigor.

The streams and springs in this area support aquatic invertebrates, small fish, amphibians, and small mammals for all or part of their live cycle. In October, 1995, a heretofore undescribed species of spring snail, *Pyrgulopsis eremica*, was found in springs in the same general area. The Cal-Neva Grazing EIS (1982) identifies the northeast half of the area as being a sage grouse breeding complex.

No threatened or endangered animal species are known to inhabit the area.

A large population of mule deer (typically 400-500) winter in this area. High concentrations of deer occupy the southern end of the area, along the slopes of Burro Mountain. Big sagebrush and cheatgrass are their primary winter diet. Thermal cover on west facing slopes and riparian draws receive heavy concentrated use by deer during the winter. By April 1, deer leave the area for summer habitat to the north. The northern half of the area is considered yearlong pronghorn range and the southern half is considered winter range. The flatter areas of gently rolling terrain are preferred by the pronghorn. In combination with the benches and flats east of the Chimney area (east of the mountains), 200 antelope were considered by the Nevada Division of Wildlife in 1979 to be a reasonable objective number for pronghorn in the fall and 100 for the winter.

This Chimney area comprises about nine percent of the 223,000-acre North pasture of Twin Peaks allotment. BLM permits cattle to graze in the North pasture on the following 2-year repeating cycle: the first year they are allowed into the area no earlier than March 1 (north pasture turn-out year) and in the second year they are allowed into the area no earlier than

July 1 (south pasture turn-out year); after these dates, use may continue up to December 31. Sheep grazing operates independently of the cattle operation and is not constrained by the dates established for cattle entry. Of the total combined maximum cattle numbers permitted on the Twin Peaks allotment (971 Espil cattle and 103 Laver cattle), a lesser number, typically 200-400 Espil cattle, use the Chimney area at any one time. Laver cattle do not usually use this area.

In north pasture turn-out years, Espil's time of use typically is in the spring (April and May), when cattle are pushed to here from the adjacent Lower Smoke Creek area. In late spring and early summer, Espil drives these cattle north and northwest up to Mixie Flat and Painter Flat areas. Also typically, some cattle are missed within the maze of upper elevation canyons and/or some cattle return via the canyons back to the area and can be found there in lesser numbers throughout the summer and fall. In the late fall (late October and November) following a drop in temperatures, cattle drift back into the area and remain until the Espil's gather and drive them south and then east through Lower Smoke Creek to lands east of the Twin Peaks mountain range. 200-300 cattle are moved from the area in this fashion.

In south pasture turn-out years, Espil's time of use in the Chimney area typically is from July onward. 150-250 cattle are gathered from the Bull Flat/Rush Creek area or the Dry Valley Rim, driven past the Smoke Creek ranch into the area and left. From there, many drift on their own volition up through the Wilcox and East Fork of Smoke Creek canyons into the Mixie Flat and Painter Flat areas. Some remain behind for the summer and fall. Removal of cattle is similar to that of the north turn-out years.

Sheep grazing in the area typically consists of annual trailing of a "dry" band of ewes that ranges from 500-700 sheep, from south to north through the area up through Wilcox Canyon in late May.

Wild horses and burro use in this area varies. An October 12, 1994, overflight found 42 horses and 17 foals, and 14 burros and 3 burro foals in this area. On October 24-26, 1994, BLM gathered horses and burros in this area. A January 17-18, 1995, post gather census flight of this area found 19 horses and 7 burros. A January 25, 1996, overflight of the area found no horses or burros in this area, but observed horses and burros in adjacent areas. From this information it can be concluded that wild horses and burros do roam in and out of this area on a regular basis. Field examinations of the proposed routes conducted in the summer of 1995 did not find any recognizable horse trails that crossed the proposed fence routes.

Riparian grass and woody plants are grazed annually by all herbivores who use this area. Chokecherry and rose in the spring riparian communities are hedged to approximately five feet. Meadows associated with streams and springs are closely grazed and typically have the appearance of a carpet by mid-summer. The gently sloped area at the confluence of Chimney and the East Fork of Smoke Creek (which is mostly private land) typically is grazed heavily. Utilization of the steeper, upper elevation uplands typically is slight to light. Cattle, sheep, wild horses and mule deer and pronghorn all contribute to the utilization levels observed, however, most forage removal and trampling of saturated soils associated with springs and streams is attributable to cattle and wild horses and burros.

A survey for special status plant species conducted along the proposed fence routes in October, 1995, found none.

A survey for archeological resources conducted along the proposed fence routes in October, 1995, found small lithic scatters along Chimney Drift Fence II and Chimney Drift Fence III. These are considered insignificant and do not in and of themselves preclude fence construction along this route.

The projects proposed are centrally located within the Twin Peaks WSA.

ii. West Parsnip Drift Fence

This 1152-foot (0.2-mile) fence would be located near the head of Parsnip Wash, an intermittent stream, about ½-mile east of Indian Spring. The fence would traverse a narrow draw and connect two canyon rims

The fence route is within the big sagebrush vegetation community. Sagebrush and rabbitbrush comprise most of the overstory with bluebunch wheatgrass, squirreltail, lupine, and other herbs and grasses in the understory. A 10/24/95 survey found no special status plant species along the fence route. Riparian functional assessment has yet to be conducted on Parsnip and South Fork of Parsnip Washes. In 1992, BLM did a vegetation survey (by the "Greenline" method) of a portion of the Wash about 3½ miles east and down drainage from the proposed fence location. Riparian species typical to this area, willow, rose and sedges were found where surface water was present. On the banks above the incised channel are big sagebrush, mugwort, squirreltail and cheatgrass.

The area is within deer winter range and pronghorn yearlong range. Various small mammals, birds, aquatic invertebrates, and other wildlife also inhabit the washes. It is within the Twin Peaks Wild Horse Herd Management area.

The fence location is within the north pasture of the Twin Peaks allotment. Under the AMP, livestock are not to be introduced into the Parsnip area by the permittees, but there is no restriction on them entering on their own volition. Topographically, these washes provide the easiest trail in this area to higher elevation ranges to the west. Cattle therefore use the washes to trail west and some remain behind while most continue west. The AMP also provides that, after April 30 and provided that vegetation use is determined to be or approaching 40 percent, the permittees will make diligent efforts to drive livestock from the Parsnip Creek drainage and keep them out for the remainder of the year. Sheep use is transient but this drainage typically is used both for trailing west in the spring and east in the fall.

In 1995, BLM constructed a fence near the mouth of the wash, near where it joins Buffalo Creek, and developed Parsnip Spring, also within this area.

If constructed, a portion of this fence will intrude about ¼-mile into the Twin Peaks WSA.

A survey for cultural resources along the fence route conducted 10/30/95 found no artifacts.

iii. East Upper Smoke Creek Fence

This 2-mile proposed route is located east and south of the Shinn Ranch on a bench directly east of Upper Smoke Creek at about 5000-foot elevation.

Overstory vegetation aspect along the fence route is mix of big and low sagebrush, bitterbrush and rabbitbrush. Understory vegetation is primarily sunflower, bluebunch wheatgrass, and squirreltail, but a variety of other grasses and forbs are present. The soil is very rocky on the surface. A survey for special status plants on 07/26/95 found a 5-plant population of *Polygala subspinosa* and a 1000+ -plant population of *Scutellaria holmgreniorum*. The former is on the California Native Plant Society's (CNPS) List 2, which is a list of plants that are rare, threatened or endangered in California, but more common elsewhere. The latter is on CNPS List 3, which is a list of plants about which more information is needed. Under BLM policy, these plants do not require special management consideration, however, ELRA avoids them if we can while not jeopardizing the project.

This fence would pose a barrier to cattle entry from the east into a 3+ -mile stretch of Upper Smoke Creek. This stretch of creek was assessed for hydrologic functioning condition by BLM's RFA team on 7/26/95. Within this stretch of the riparian area, the team found 6 species of shrubs and trees, 7 species of grasslikes, 14 species of grasses and 42 herbaceous species. For the most part, this stretch of creek was in properly functioning condition from a hydrologic standpoint. Bare banks were noted only in the very southernmost portion above water gaps (Project Name: "Smoke Creek Crossing" - originally constructed in 1986 and reconstructed in 1989) located about ¼ mile south of the southernmost end of the proposed fence route. With the exception of willows, plants in the area exhibited a diverse age structure. Plant composition diversity was good also, except for the southernmost portion.

The fence is within deer winter range and pronghorn yearlong range and kidding area. The area supports a variety of small non-game mammals, birds, reptiles and other fauna. Upper Smoke Creek is perennial and supports aquatic invertebrates and amphibians. A survey conducted in 1982 found the fishes Tahoe sucker, speckled dace, tui chub and redband shiner in Upper Smoke Creek.

Upper Smoke Creek is on the west boundary of the north pasture of the Twin Peaks allotment. Cattle are permitted to graze in the area every other year after March 1 and every year after July 1. In practice, in those years cattle are permitted into the area after March 1, they typically have not drifted this far west until late spring or early summer. For the last few years, Espil has not pushed cattle into this general vicinity until mid-to-late summer. The area immediately north and adjacent to Upper Smoke Creek is used by cattle as fall route to return to the Chimney area from the Painter, Horn Springs, Al Shinn and Black Mountain Area. Sheep use is transient.

The fence route is located near the western edge of the Twin Peaks WSA and is within the Twin Peaks HMA.

A survey for cultural resources conducted along the proposed fence route 07/26/95 found one white chert isolate.

iv. Horn Springs Meadow Enclosures

Horn Springs is a complex of several springs located primarily on private, but also on public land. This project consists of one enclosure fence, which would be located on a flat about $\frac{3}{4}$ mile south of the private Horn Springs, that would surround the public land riparian area associated with the spring outflow, and, another enclosure fence around a public spring and associated riparian area about $\frac{1}{4}$ mile east of Horn Springs.

The proposed fence route is within a sagebrush-juniper community with other shrubs including bitterbrush, rabbitbrush and horsebrush. Principal understory species along the route include squirreltail, cheatgrass, bluebunch wheatgrass, penstemon and vetch. A survey for special status plant species conducted 07/25/95 found ± 100 -population of *Scutellaria holmgreniorum* along 30 linear feet of the proposed fence route. Within the riparian zone that drains the Horn Springs complex, a few silver sagebrush were observed. With that exception, the riparian zone supports only grasses (5 spp.) , grasslikes (8 spp.) and herbaceous (13) species.

Both the lentic system associated with the standing water at the public land spring and the lotic system associated with the spring outflow were judged to be in properly functioning hydrologic condition on 07/12/95⁸.

Horn Springs is within deer winter range and pronghorn kidding grounds. Various small non-game birds, mammals and reptiles use the springs and associated riparian area for all or a part of their life cycle.

Horn Springs is near the western edge of the North pasture of the Twin Peaks allotment. Cattle are permitted to graze in this area every other year after March 1 and every year after July 1. Sheep are permitted to graze every year after April 1. In practice, cattle typically do not arrive this far west in this pasture until mid-May or later depending on the permittee's preference. In some years, use is deferred until late August or September, or, if Painter Flat is having a productive growth year for forage, use is minimal if any. Sheep use is transient.

This area is within the Twin Peaks HMA. Wild horses that use this area seem to prefer to remain up in the rolling hills east of the spring rather than on the flats around the spring.

The project is located on the western edge of the Twin Peaks WSA. The project would be located immediately adjacent to the road which defines the western boundary of the Twin Peaks WSA.

An archeological survey conducted in the summer of 1995 revealed significant findings. By law and regulation, this discovery bars this project's construction until a further, more detailed examination of the site occurs, and BLM complies with consultation requirements with the State. Typically, the process for complying takes several months to a year. This timetable will not allow BLM to meet required contracting scheduling and this project cannot be built as proposed.

⁸ Riparian area soils, vegetation and hydrology vary due to many factors. A "lentic" riparian area is associated with standing water such as lakes, ponds, seeps, bogs and meadows. A "lotic" riparian area is associated with running water such as rivers, streams and springs.

b. Project Sites in the Dry Valley Rim WSA

There are 95,025 acres under wilderness review in the Dry Valley Rim WSA.

1. Intensive Wilderness Inventory Description of the Affected Wilderness Characteristics

Naturalness

"The natural character of this unit is little affected by the intrusion scattered about this large, broken, roadless area. The bulk of the intrusions are dam-type reservoirs and ways leading to them totaling 12 and 50 miles, respectively. The reservoirs are low profiled and are not a[n] obvious impact on the unit[']s natural character. Several of the "ways" have revegetated and are mostly inconspicuous. An area of unnatural character is a one[-]acre mining claim located on a side hill. It is highly visible (sic), has very little vegetative growth and is of moderate impact. A one and one-half mile road has been bulldozed into this claim. The area surrounding the mining claim and road is also unnatural in character due to the numerous ways dead ending and for no apparent purpose, and another mining claim not yet excavated.

Other man-made features consist of a guzzler, an old large washed out dam, and two windmills. These features as well as those described above are wide-spread and absorbed well by the unit's vastness and diversity.

Supplemental Values

None observed."

2. Description of other Affected Environmental Elements by Project Site

i. Red Rock II Spring Redevelopment and Exclosure

This proposed project is located about 5 miles east of Bull Flat within a draw at about 5300-foot elevation. The spring was originally developed in 1981. As part of the development, an square exclosure fence about 80 feet on a side was constructed around the source and water was piped down drainage into a trough also located in the drainage about 50 feet from the exclosure. The current proposal would enlarge the exclosure as well as pipe water to a trough located on uplands outside of the riparian zone associated with the drainage.

The overstory shrub community along the proposed fence route is mix of big and low sagebrush, and rubber rabbitbrush. Understory species include bluebunch wheatgrass, cheatgrass, lupine, paintbrush, balsamroot, clover, fiddleneck and phlox. No special status plants were found along the route on 06/13/95. Riparian vegetation associated with the spring includes 7 species of trees and shrubs, 4 species of sedges and juncus, 9 species of grasses and 19 non-grass herbaceous species. BLM's riparian functional assessment team visited the site on 06/13/96 and determined that the spring and associated intermittent riparian area was functioning at risk with a downward trend. Problems included headcutting and bank erosion attributed to a lack of sufficient vegetation cover to adequately dissipate water energy. This was noted as occurring more above the existing exclosure than below it.

The spring is within deer winter range, pronghorn yearlong range, a sage grouse breeding complex and also provides water for wild horses, cattle and sheep. Various small non-game mammals, birds, also use the spring or its associated riparian habitat for all or a part of their life-cycle.

The spring is in the South Pasture of Twin Peaks allotment. Sheep grazing is permitted after April 1 annually, and cattle grazing is permitted after March 1 every other year and after July 1 annually. In practice, cattle typically do not enter this area until mid-to-late April and in those years that use is allowed after July 1, cattle are scattered in small bunches from here down the valley to Telephone Springs and up into the Skedaddle Area.

The spring is within the Twin Peaks HMA.

No archeological resources were found along the route on 06/13/95.

ii. Jenkins Trough Spring Redevelopment and Enclosure

This project would be located in a draw at about 5200-foot elevation about 5 miles northeast of Bull Flat. The original date of development of this spring is unknown to BLM. In 1962, BLM identified it as "an old rancher developed spring" that was in disrepair, with a rusted out storage tank and a series of 8 galvanized sheep troughs that were no longer functioning. It was refurbished at that time. In 1989, it was again refurbished and an enclosure was constructed around the spring source. This current proposal is to expand the enclosure to exclude the entire riparian area and move the troughs to uplands on a bench up slope from excluded riparian area.

The fence route is on the uplands surrounding the riparian area with big and low sagebrush dominating the overstory with bluebunch wheatgrass, lupine, penstemon and Sandberg's bluegrass among the principal understory species. Eight species of shrubs and trees, including willow, chokecherry and rose occur in the riparian area. Also present are juncus, sedges, bluegrass, lemon grass, foxtail and 14 herbaceous species. A 06/13/95 survey did not find any special status plant species along the proposed fence route.

Both the spring source and the riparian area are in properly functioning hydrologic condition.

The spring is within deer winter range, pronghorn yearlong range, a sage grouse breeding complex and also provides water for wild horses, cattle and sheep. Various small non-game mammals, birds, also use the spring or its associated riparian habitat for all or a part of their life-cycle.

The spring is in the South Pasture of Twin Peaks allotment. Sheep grazing is permitted after April 1 annually, and cattle grazing is permitted after March 1 every other year and after July 1 annually. In practice, significant cattle use in this area typically does not begin before April 1. Sheep use is transient.

The spring is within the Dry Valley Rim WSA and the Twin Peaks HMA.

No archeological resources were found along the project route on 06/13/95.

iii. Sheep Trail Spring I Development and Sheep Trail II Exclosure

These springs are located relatively close to one another about 2 miles east of Bull Flat in rocky foothills in adjacent drainages at about 5200-foot elevation. Currently, flow from each spring is impounded by small stock ponds. When the ponds are full to overflowing, water continues down drainage. BLM proposes to develop and exclude Sheep Trail Spring I and build an exclosure fence only around Sheep Trail Spring II.

Vegetation overstory along the proposed fence routes at both sites is similar: primarily a mixture of big and low sagebrush with lesser amounts of rabbitbrush, horsebrush, and squawapple. Understory grasses include primarily squirreltail, cheatgrass, bluegrass, bluebunch wheatgrass and understory forbs of lomatium, lupine, violet. BLM surveyed for special status plants on 05/16/95 at both sites and did not find any.

21 and 24 herbaceous species were found in the riparian areas associated with Sheep Trail Spring I and II, respectively, and no shrub species were present. In summary, riparian functional assessments of these springs conducted by BLM on 05/16/95 found that Sheep Trail Spring I was hydrologically in properly functioning condition and that Sheep Trail Spring II was hydrologically functioning-at-risk with either a downward or an unapparent trend. Both springs are having their natural flow affected by hoof action disturbance. At Sheep Trail Spring II the pond dam was noted as being affected by a headcut and there was not adequate vegetation cover present to protect the soil surface during high overland flow events.

These springs, ponds and associated riparian areas provide habitat for a variety of small non-game birds, mammals, reptiles, amphibians, and aquatic invertebrates for all or a part of their life cycle. They are located within a sagegrouse breeding complex, pronghorn yearlong range, and mule deer yearlong range, and are within a mule deer winter concentration area.

These springs are in the Twin Peaks HMA and Dry Valley Rim WSA. BLM surveyed the proposed fence routes for cultural artifacts on 05/16/95, found a lithic scatter and milling stones near Sheep Trail Spring I and did not find any artifacts at Sheep Trail Spring II.

These springs are in the South Pasture of the Twin Peaks allotment. Sheep grazing is permitted after April 1 annually, and cattle grazing is permitted after March 1 every other year and after July 1, annually. In practice, significant cattle use in this area typically does not begin before April 1. Sheep use is transient.

c. Project Sites in the Five Springs WSA

There are 48,460 acres under wilderness review in the Five Springs WSA.

1. Intensive Wilderness Inventory Description of Affected Wilderness Characteristics

Naturalness

"The lower slopes of Five Springs Mountain along the southwestern and southeastern sides of the unit have been subjected to very heavy livestock grazing for many years. The native vegetation has been substantially altered by invading, exotic annual grasses

on these areas. This alteration of native vegetation has a low adverse impact.

Some ways, reservoirs, and fences have low to moderate impact on the natural character of small areas along the periphery of the unit. However, most of the unit has no intrusions and retains its natural integrity.

There are three earthen dam reservoirs and three pit reservoirs for livestock water within the unit. These structures are on drainage courses and situated from one to two miles in from the boundaries. The spring developments for livestock water are on private lands. These structures have low adverse impact on the landscape.

Fence construction is limited to very small areas of national resource lands and privately owned lands around the periphery of the unit. These fences have low to moderate adverse impact on very limited areas of the unit.

In summary, most of the unit has no man-made features and retains a pristine appearance, especially in the interior. Existing intrusions mostly impact small areas along the periphery of the unit.

Supplemental Values

There are Indian caves, campsites and petroglyphs along Stony Creek, in the northwestern corner of the unit, that are of archaeological value. The pioneer covered wagon and stagecoach route along the southeastern boundary is of interest to historians."

2. Description of other Affected Environmental Elements by Project Site

i. Washtub Spring Exclosure

The proposed exclosure site is in a draw about $\frac{3}{4}$ mile north of Bull Flat at 5000-foot elevation.

Overstory vegetation along the fence route is big and low sagebrush and rabbitbrush. Understory vegetation is cheatgrass, squirreltail bluegrass and phlox. A survey for special status plant species conducted 05/24/95 found that a 20-to-30-plant population of *Astragalus pulsiferae* ssp. *suksdorfii* and a 50-plant population of *Astragalus lentiginosus* var. *chartaceus* would be located inside the exclosure were it constructed. The former is on the CNPS List 1B, which is a list of plants that are rare, threatened and endangered in California and elsewhere. This plant requires special management consideration. The latter is proposed for listing on CNPS List 4, which is a list of plants of limited distribution. This plant requires no special management consideration.

23 grass and herbaceous plant species are within the riparian area associated with Washtub Spring. The spring is in properly functioning hydrologic condition. Impacts at the spring site in May, 1995, include heavy trampling of a 100 yard² area attributed to wild horses.

Washtub Spring is within pronghorn winter range. It also provides habitat for a variety of

small non-game birds, mammals and reptiles for all or a part of their life cycle.

This spring is in the South Pasture of Twin Peaks allotment. Cattle are permitted to graze in this area every other year after March 1 and every year after July 1. Sheep are permitted to graze in this area every year after April 1. In practice, cattle typically arrive in this area as early as April and are moved by the operators to the Skedaddle Mountain area in mid-June. Sheep use is transient. The upland forage in this area principally is cheatgrass. Its value as livestock forage declines rapidly after June in most years. Cattle, therefore, have no incentive to remain in the area after June except to graze on the riparian area.

This spring is within Twin Peaks HMA. Horses and burros frequent this area. By mid-spring, they spend most of their time in the higher elevation mountains north of Washtub Spring.

Washtub Spring is near the southern edge of Five Springs WSA. The lowlands of this WSA, although perhaps appearing unaffected by the activities of man, are now dominated by annual exotic grasses (cheatgrass and medusahead). These species invaded growing space left vacant after historical overgrazing denuded native perennial grasses. Now, remnant perennial grass species such as bluebunch wheatgrass and needlegrass occupy rocky areas unattractive to livestock, although recently they have made a foothold in the open benches.

An archeological survey conducted along the proposed fence route on 05/24/95 found 2 obsidian isolates.

ii. Three Springs Enclosure

Three Springs is located on private land about 2½ miles north of Bull Flat on a broad open bench at 5180-foot elevation. The spring is located on a private 40-acre parcel. The riparian meadow associated the spring extends south towards Bull Flat for about a mile. BLM proposes to exclude the public land portion of the meadow.

Overstory vegetation along the proposed fence route is a mixture of big and low sagebrush, rabbitbrush, ephedra, and horsebrush. Squawapple and bitterbrush also are present. An examination for special status plants resulted in a realignment of the originally proposed fence route in order to include a 300+ plant population of *Polygala subspinosa* within the enclosure.

Thirty species of grasses and forbs were recorded in the riparian area on 06/19/95. For purposes of assessment, the RFA team divided the riparian zone into a upper and lower segment. They determined that the upper segment was hydrologically functional-at-risk and the lower segment was hydrologically in properly functioning condition. Several small headcuts were noted on the upper segment.

The project area is within pronghorn winter and kidding range. It also provides habitat for a variety of small non-game birds, mammals, reptiles, amphibians, and aquatic invertebrates for all or a part of their life cycle.

This spring is about 2 miles northwest of Washtub Spring and environmental descriptions of cattle, sheep, wild horse and WSA's found in that section apply here too.

An archeological survey conducted along the proposed fence route on 05/31/95 noted that sites were nearby but not along the fence route.

iii. Two Springs Exclosure

This project is located immediately adjacent to the private Five Springs spring complex on a small bluff at about 5000-foot elevation. Two springs of good flow emanate from the bluff and flow down into and join water emanating from the Five Springs complex. BLM proposes to build an exclosure around these two springs and their associated riparian vegetation.

Overstory vegetation along the proposed fence route consists of big sagebrush, rabbitbrush, horsebrush, gooseberry and bitterbrush. Understory species are principally medusahead and bluegrass with phlox, bluebunch wheatgrass, penstemon, vetch, sunflower and dock also in the mix. An October 3, 1995 search for special status plant species found *Polygala subspinosa*. As a result, the fence was realigned to avoid populations of this species.

These springs are about 3 miles northwest of Washtub spring and environmental descriptions of wildlife, cattle, sheep, wild horses and WSA's found in that section apply here too.

An archeological survey conducted along the proposed fence route on 10/03/95 did not find any artifacts.

d. Project Sites in the Skedaddle WSA

There are 63,790 acres under wilderness review in the Skedaddle WSA.

1. Intensive Wilderness Inventory Description of Affected Wilderness Characteristics

Naturalness

"The inventory unit has a relatively large number of man-made intrusion features or improvements/disturbances. These include approximately 19 stockwater ponds, mostly low impact spring developments, 7 roads which penetrate the unit distances (sic) varying from 1/2 mile to a maximum of 4 1/2 miles, numerous ways and a number of miscellaneous (sic) disturbances.

Beginning at the southeast corner of the inventory unit and progressing counter-clock wise, most of the major disturbances to naturalness will be discussed in the following narrative. The first area affected is the strip of public land located between the adjacent military demolition area and the south end of the Skedaddle Road which constitutes the east boundary. This area is crossed by numerous fire break trails and roads related to access and fire protection from the demolition area. These vary from cat trails to double the impact in this area is high and naturalness has been severely affected.[sic]

The next intrusion into the unit is the Spencer Basin route of which the first 1 3/4 miles has been classified a road and the remaining 4 miles has been classified a way. This route provides access to 2 reservoirs[,] a spring development and 3 inholdings in and

en route to Spencer Basin. The east boundary between the Spencer Basin route and the Skedaddle Ranch is penetrated by a number of ways. Three of the ways provide access to reservoirs. Most are of indeterminate purposes (sic).

A road traverses the non-public property west of the Skedaddle Ranch (and then crosses) and additional 1½ miles of Public (sic) lands before it diminishes (sic) to way status. This route constitutes 1 of the 3 deepest penetrations into the unit interior. The route provides access to 4 inholdings, 2 reservoirs and 2 spring developments. The northeast portion of the boundary is penetrated by 2 roads and 3 ways. The first or east road penetrates the unit 1½ miles and provides access to a stockwater reservoir and hunter camp north of Morgan Spring. The second road forks into 2 roads and has a total length of 4½ miles although it penetrates to a depth of only 2½ miles. This road provides access to two spring developments at Jenkins and Antelope Springs, 3 inholdings, and 3 reservoirs.

The north boundary provides access to 2 reservoirs and the "old Humbolt (sic) and Idaho trak" (sic) which parallels the north boundary and is located ½ mile within the unit.

The west boundary is penetrated by 2 roads. The first road, ½ mile in length, provides access to a corral and a reservoir. The second, 2 miles in length, provides access to a perlite mining claim which has substantially revegetated. In addition, the northern part of the west boundary contains disturbances in the form of a large shallow reservoir and gravel pit.

The south part or the west boundary provides short access to two gravel pits, one of which has a disturbed area of 40 acres and is extremely unnatural.

The unit is severely disturbed along its south boundary for a depth of 1 to 2 miles. This area contains 3 gravel pits with a disturbed areas (sic) of 20 to 40 acres, numerous cat trail fire lines and ways and is located adjacent to an area of extreme unnaturalness which is due to military ammunition demolition activities by the army within the demolition area. While the demolition area is outside the inventory unit boundary, daily demolition activities, which consist of single to multiple explosions for a period of up to 20 minutes, and (sic) have significant sound impact on the inventory unit.

The large size of the inventory unit and the large number of ways within the unit have made it impractical to discuss the ways individually. Most are of low impact individually, their effect on some areas within the unit is at least moderate due to their proximity to each other. Cumulatively, there is approximately 53 miles of ways within the unit.

The disturbances discussed in the preceding paragraph constitute an impact on much of the periphery of the inventory unit adverse to its naturalness. However, there remains a core area with a lesser impact on naturalness which needs further study and evaluation to determine if this unit deserves W.S.A. designation.

Supplemental Values

Seven species of raptors annually nest in the Skedaddle and Amedee Mountains. These birds include prairie (sic) falcons, great horned owls, and golden eagles. This area contains one of the highest known concentrations of nesting raptors within the entire Susanville and (sic) District of the B.L.M.

The southern 1/3 of the unit is considered an excellent big horn sheep reintroduction area. Field studies in support of introduction have already been conducted. Introduction is now dependant upon management plan development and big horn stock availability. The presence of this former endemic species would add tremendous supplemental value to the undisturbed mountainous area."

2. Description of other Affected Environmental Elements by Project Site

i. Morgan Spring Exclosure

Morgan Spring consists of three springs or seeps that occur in a draw two miles south of Bull Flat at 5344 feet elevation on the northern flanks of the Skedaddle Mountains.

The primary water source is located on private land and is impounded by a reservoir. Lesser quantities of water emanate from the ground both above and below the reservoir. The riparian area on public land associated with the spring is estimated to be slightly bigger than 4 acres. 45 species of plants were recorded within the area proposed for exclosure. For assessment purposes, the 1995 Riparian Functional Assessment team separated the riparian area into two segments: the first running from the public/private land boundary just below the private reservoir south about 100 yards to an ephemeral plunge pool, and the second from the ephemeral pool south about 200 yards to a rock dike. The riparian influence on vegetation dissipates at this point as the water flow is ephemeral. The first segment was judged to be hydrologically functioning at risk with an upward trend and the second was judged to be in properly functioning hydrologic condition. The risk identified was that the system was not vertically stable, in that more than 20% is influenced by several small headcuts.

The area is within mule deer yearlong range, pronghorn yearlong range and in a sage grouse breeding complex. Amphibians and aquatic invertebrates inhabit the waters. Waterfowl, songbirds and upland game birds, and small mammals use the water and associated habitat for all or a part of their life-cycle. During years when there is hydrologic continuity with Deep Creek, the plunge pool supports a few native fish, primarily speckled dace.

The spring is in the south pasture of the Twin Peaks allotment. Cattle typically use the Skedaddle area in the summer annually, unless during north turn-out years there is sufficient forage in the north pasture that the south pasture, at the permittee's option, is not used. 2000 sheep (two 1000-head lamb bands) can be herded through the south pasture from April 1 to October 15. Typically around Memorial Day, ewes from these bands which do not have lambs are grouped with their counterparts from the two lamb bands using the north pasture into a "dry" band of 500-700 sheep. This dry band and one of the lamb bands then can roam the entire allotment up until October 15, annually, with the following restrictions: one of the lamb band shall not use the AMP-designated south pasture "special management area"

(which includes Morgan Spring) before June 1 during a south pasture turn-out year for cattle, and the dry band can only use the Skedaddle Mountain area every other year between June 15 and August 1. The other lamb band can use the allotment for the rest of June and from mid-September to mid-October. Use by sheep in any one area is transient. The sheep typically do not remain in any one area for more than 3 or 4 days.

Morgan Spring is in the Twin Peaks Herd Management Area. Wild horses graze it throughout the year. It is one of several springs used by them for water on the north flanks of the Skedaddle Mountains.

BLM monitoring data indicates that typically, the riparian vegetation associated with this spring is heavily grazed, annually, while nearby vegetation in the uplands is grazed no more than slightly to lightly, on average. An exception was in 1995 when the riparian vegetation was not grazed heavily. In that year, cattle were not observed in the area all year.

Morgan Spring is toward the edge of the northeast section of the Skedaddle WSA. It is accessed by a "cherry-stemmed" road. It is not visible from any roads in the area and only can be viewed from the "cherry-stemmed" road upon close approach.

The proposed exclosure fence route was surveyed for special status plants and archeological resources on May 22, 1995. No special status plants or archeological resources were found.

ii. Wild Horse Spring Exclosure

Wild Horse spring is located on a bench in Spencer Basin about a mile east of the head of Thousand Springs Canyon. It was originally developed and piped to a trough by BLM in 1955. The spring source was exclosed by a small 25' x 15' fence. At that time, maintenance was accepted by Hostetter, Johnson & Sherman, the grazing permittee in the area. In 1973, BLM and the California Department of Fish and Game enlarged the exclosure to 105' x 75'. Maintenance was not reassigned and the exclosure fell into disrepair. In 1984, the current permittees, Espil and Laver, accepted maintenance of the spring and trough with the provision that the fence would need to be reconstructed before their responsibility for maintaining it became effective. BLM proposes to remove the old exclosure and construct a larger exclosure around the spring associated riparian vegetation.

Overstory vegetation along the fence route is primarily sagebrush and rabbitbrush. Understory vegetation consists of cheatgrass and other weedy species. Currently, riparian vegetation associated with the spring is primarily sedges.

Spencer Basin is within the Twin Peaks Wild Horse HMA. Typically, one can always find wild horses in or near Spencer Basin. A specific band of horses seems to favor the area.

Wild Horse Spring is within the Skedaddle WSA. It is within the portion of the WSA designated as a "Lassen County Safety Area."

Spencer Basin is within the South Pasture of the Twin Peaks allotment. Sheep grazing is permitted after April 1 annually, and cattle grazing is permitted after March 1 every other year and after July 1, annually. The Twin Peaks AMP designates Spencer Basin as a turn-out area

for Laver Ranches. In recent years (since 1991), BLM has noted no cattle in Spencer Basin. Sheep use is transient.

Wild Horse Spring is within pronghorn yearlong range, is a winter concentration area and also is within pronghorn kidding area. It is within a sage grouse breeding complex and also is within deer yearlong range. The area also serves as habitat to numerous small mammals, birds, and reptiles for all or a part of their life cycle. The water associated with the spring provides habitat for aquatic invertebrates.

No surveys have been conducted to date along the proposed fence route for special status plant species or cultural artifacts. These will be conducted before the fence is constructed. If these surveys find special status plants or cultural artifacts that may be disturbed by fence construction activities, the project route will be changed to avoid them. If avoidance is impossible, then the project may not be completed.

d. Description of Affected Environmental Elements - Painter Fence

Painter Fence would be located just north of Painter Flat on a gentle slope near the privately owned Painter Ranch at about 5600-foot elevation.

This fence would replace an existing fence installed many years ago. Under this proposal, BLM would remove the old fence and build new fence close to the public/private boundary.

The proposed route is in a sagebrush/rabbitbrush vegetation community. These plants as well as bitterbrush, western juniper gooseberry, greasewood and wild rose comprise most of the overstory with squirreltail, Nevada bluegrass, basin wild rye, lupine and yarrow being prominent understory species. A 09/21/95 survey of the proposed route found no special status plant species.

The proposed fence route is within pronghorn kidding range and the area is inhabited by numerous small non-game mammals and birds.

The proposed fence route is within the north pasture of the Twin Peaks allotment and in the Twin Peaks Wild Horse Herd Management Area (HMA).

Currently, public lands enclosed within Painter Ranch are grazed annually by livestock belonging to John Casey (or one of his affiliates), who does not have a BLM grazing permit. Permitted cattle are authorized to graze the Painter area every other year after March 1 and every year after July 1.

An archeological survey of the proposed fence route conducted in the summer of 1995 revealed significant findings. By law and regulation, this discovery bars this project's construction until a further, more detailed examination of the site occurs, and BLM complies with consultation requirements with the State. Typically, the process for complying takes several months to a year. This timetable will not allow BLM to meet required contracting scheduling and this project cannot be built as proposed.

4. ENVIRONMENTAL CONSEQUENCES

Some anticipated impacts are similar for all the projects and these are described generally. Other impacts are site specific and are described by individual projects. Most of the individual projects are not expected to have impacts beyond those generally described below.

4.1 Environmental Consequences of the Proposed Action

a. Direct Project Impacts - Generally

Cumulatively, approximately 20 acres of soil and vegetation disturbance would result from proposed fence and pipeline construction activities. This disturbance would entail soil and vegetation trampling and shrub chopping, as needed, along the fence route. Since uprooting of perennial vegetation would occur only sporadically, if at all, these impacts would be temporary, with no noticeable visual impacts following one or two average precipitation years. About 0.25 acres of disturbance would be expected to occur from pipeline burial. This disturbance would be more significant than impacts due to fence activities because trenches would be dug and then refilled, resulting in the uprooting and death of the perennial vegetation occurring on the pipeline routes. Annual vegetation would be expected to recolonize the pipeline routes within one year and perennial shrubs would also be expected to take root. Natural shrub growth and concurrent colonization of shrub interspaces with annual and perennial understory species would be expected to mask the pipeline routes within 3-5 years to all but the trained eye.

Construction of the Painter Fence and Horn Springs fences would result in disturbance of potentially significant cultural sites.

Small mammals and birds inhabiting the fence routes and pipeline routes would be temporarily displaced or destroyed. This would not have any significant affect on the populations of the species disturbed. Large animals, including but not limited to cattle, sheep, wild horses, deer and pronghorn, in the vicinity of the projects would be disturbed by fence construction and spring development activities and will move out of the area until construction ceases, when they would resume their normal activities. Digging out of the springs in preparation for spring-box installation will disrupt small aquatic animals and likely destroy some, on those projects where spring boxes are employed. This is not likely to jeopardize the continued existence of these species as they are expected to recolonize the free water that would be collected in the spring box.

Fence construction noises (fence post pounding, vehicle noises, helicopter noises) would temporarily disturb solitude within the WSAs as construction occurs. This would be temporary and cease upon project completion.

b. Indirect Project Impacts - Exclosures and Spring Developments - Generally

These projects would result in about 345 acres, occupied principally by riparian vegetation, being excluded from livestock and wild horse and burro grazing. This would allow natural processes to occur in the absence of grazing pressure from these animals. Table 4.1b, below, summarizes project names and acres excluded under the proposed action:

TABLE 4. 1b: ACRES EXCLUDED UNDER PROPOSED ACTION	
Project Name	Acres Excluded
Morgan Spring Exclosure	34
East Upper Smoke Creek Fence	125
Red Rock II Spring Redevelopment	4
Jenkins Trough Spg. Redev. & Exclosure	24
Horn Springs Exclosures	90
Washtub Spring Development	2
Three Springs Exclosure	54
Two Springs Exclosure	5
Sheep Trail Spring I	1
Sheep Trail Spring II	2
Wild Horse Spring	3.5
TOTAL	344.5

Plant relative composition with the exclosures is expected to change in that species which are not adapted to heavy grazing will no longer be at a disadvantage for survival. This is expected to further the variety of plant structure and composition and resulting in greater floral and faunal diversity.

Habitat structure, particularly vertical structure is the key to biological diversity. Absence or presence of wildlife species in an area can be attributed to either the absence of a habitat layer or inadequate habitat conditions within that layer of habitat (Short 1986). Maser et. al. (1986) determined that up to 200 of the 341 wildlife species found in the Great Basin use wetland/riparian habitats during their reproduction cycle. Approximately 225 species use wetland/riparian habitats for feeding.

Within wetland/riparian habitats foliar density is important to bird species while soil moisture and texture, and vegetation litter are important for small mammals (Ohmart and Anderson 1986). Amphibians and reptiles rely on horizontal structure (foliar density) for meeting their habitat requirements (Jones 1986). Loss of these structural characteristics occurs when the vegetation is over grazed.

Although other land management practices have adversely impacted wetland/riparian habitat leading to serious reductions in biological diversity, grazing may be the major factor (Oregon-Washington Interagency Wildlife Council 1978). Wetland/riparian habitats with degraded structure such as deteriorating from a native bunchgrass understory to an annual grass understory have exhibited an increase in species richness. This species richness, however, is representative of the influx of generalists. This is not a representation of biological diversity which better reflects the health of endemic species (Ohmart and Anderson 1986).

A number of studies have shown a dramatic increase in biological diversity where wetland/riparian systems were fenced. Numbers of small mammals, songbirds, and raptors increased 350% in an areas fenced for 8 years after grazing (Wineger 1977, Duff 1979, Van Velson 1979).

Woody species that are present in stunted forms due to repeated cropping will be relieved of heavy grazing pressure within the exclosures and gain in vigor and likely increase in population and occupy a larger area. Amounts of plant litter within the exclosures is expected to increase and thereby, in combination with increased biomass production, provide greater soil protection from the effects of precipitation and wind than that provided from what currently exists. Increased litter also can be expected to improve soil structure and as organic matter is incorporated into the soil, aid its ability to retain moisture into the summer and release on a steadier basis. Hydrologic functionality of the subject riparian areas is expected to be enhanced by the proposed projects. Those springs that are now hydrologically in properly functioning condition will continue to be so and those that are functional-at-risk are expected to eventually improve to properly functioning condition. These are considered positive impacts.

Generally, the spring and stream exclosures are large enough that animals requiring water will feel secure entering them to obtain water. Fence specifications are not expected to pose a barrier or hazard to wildlife. Excluding the springs and associated riparian areas from livestock and wild horses is expected to allow vegetation growing within to express itself more fully within the site's potential, providing greater wildlife cover for activities such as hiding, resting, nesting, shading and predator evasion while at the same time providing more available vegetation for wildlife grazing and browsing. For those projects within sage grouse breeding complexes, more succulent vegetation would be available for feeding and fully grown meadows would provide hiding cover for chicks. This would result in greater nesting success for these birds. Some individual pronghorn and mule deer may not learn to negotiate the exclosure fences and they will be negatively impacted as they will then need to search for water elsewhere in the area. This negative impact is outweighed by the positive impacts to wildlife populations gained from allowing full vegetation expression within exclosures which allow a greater opportunity for natural processes to occur. The proposed action is expected to result in net benefits to wildlife habitat in the area.

As vegetation is allowed to grow and reproduce in the absence of heavy grazing pressure, aquatic habitat within the subject three-mile stretch of Upper Smoke Creek is anticipated to improve to an unquantified degree. Past history of periodic livestock trespass into this section of the creek from the nearby Shinn Ranch would indicate setbacks to aquatic habitat recovery if this use continues. Unauthorized use in this area will be handled on a case-by-case basis.

Any archeological sites within the riparian areas (which were not surveyed for artifacts - only the fence and pipeline routes were surveyed) would no longer be subject to disturbance by cattle and sheep and wild horse and burro hoof impacts.

The proposed exclosures would have net positive impacts to cattle grazing management, and a small negative effect on sheep grazing management.

Although cattle and sheep could not graze the forage within the exclosures, they would have

access to adjacent off-site watering troughs or ponds at the Morgan Spring Enclosure, Red Rock II Spring Redevelopment, Jenkins Trough Spring Redevelopment and Enclosure, Sheep Trail Spring I Redevelopment and Enclosure, Sheep Trail Spring II Enclosure, and Wild Horse Spring Enclosure reconstruction.

The permittee Espil has indicated that, following enclosure construction, they expect to have continued authorization to for grazing by their sheep and lambs inside Morgan Spring Enclosure and Jenkins Trough Re-development and Enclosure. Because part of the proposed action and alternative one is that these areas would be excluded from grazing by *all* livestock pending the achievement of recovery criteria, the permittees would not be authorized to graze in the enclosures. This is a negative impact to Espil's sheep management operation because they consider these linear water sources crucial to their lambing operation.

Cattle that use the area within the proposed Horn Springs Enclosure and in the Upper Smoke Creek drainage would continue to have free access to the private Horn Springs and to a reservoir located less than a mile northeast of the subject stretch of Upper Smoke Creek. Localized impact on the vegetation in the vicinity of these sources may increase. This is difficult to quantify however, as the number of livestock using the sources appears to vary greatly in different years, depending on how many find the area on their own and how many the grazing permittee chooses to drive to the area. Livestock that graze in the vicinity of the excluded Two Springs would have access to the adjacent, unfenced Five Springs. Livestock that graze in the vicinity of the Three Springs Enclosure would have access to the adjacent unfenced Three Springs. Livestock that grew accustomed to finding free water at Washtub Spring would not have to search far for water available at a reservoir located about 1¼ miles north of it. From this information it can be concluded that livestock distribution based on water availability would be only minorly affected in the area immediately east and northeast of the subject stretch of Upper Smoke Creek.

A positive distribution impact is that cattle would now have incentive to roam into the uplands around the proposed project sites to a greater degree than if the projects were not built. They could no longer loaf, shade and feed at these riparian areas and would likely scatter farther because of this fact. This scattering would benefit overall distribution of grazing pressure. Given that livestock access to water would be similar to that if the enclosures and fences were not built, it is expected that grazing use patterns would not change significantly. That is, areas that have been grazed slightly to lightly in the past would continue to be grazed slightly to lightly. It is not expected that the enclosures would result in areas previously ungrazed now being grazed.

The proposed enclosure projects will be relatively impact neutral for wild horses and burro populations. As with livestock, in all cases, water will be available for horses within the same general area of the project sites and they can be expected to find it. The Chimney Drift Fences and West Fork Parsnip Drift Fence would create barriers to wild horse and burro passage where none had existed before. When this happens, at least 2 things are possible: 1) the horses follow the fence until they find a route around it; or 2) the horses break through the fence. The fences were designed to end at rocky faces or outcrops that are expected to be a barrier to livestock but are negotiable by wild horses and burros. Fence locations were designed to minimize disturbance to wild horse and burro movement. They are able to traverse rougher topography than cattle. If fence is broken by horses, we will re-

evaluate the fence or fence segment location and make adjustments as needed to prevent repeated breakage. No negative impacts to wild horse and burro populations due to project implementation is expected.

Off Highway Vehicle (OHV) use will be impacted minorly by the route of the Morgan Spring Exclosure, which cuts off an access way that terminates at the drainage bottom. If fence cutting occurs, the integrity of the fence would be compromised and it would require repair in order to meet its objective. Off-road vehicle impacts also would increase.

The fact that Morgan Spring Exclosure traverses the Morgan Spring riparian area, which is a combination of public and private land, will result in a vegetation fenceline contrast between the private land portion, which will be available to cattle and wild horses and which will be closely cropped in most years, and the public land portion, which will remain ungrazed.

c. Impacts of Grazing Management Modification of the "Chimney Area"

Direct project impacts (soil and vegetation disturbance, temporary disturbance of WSA solitude) are included in the discussion of general impacts, above.

In addition, the Chimney Drift Fences would provide a significant barrier to livestock drift (free movement of livestock under their own volition) in to the Chimney area described under the Affected Environment of this report. The fact that cattle would be restricted from returning to the Chimney area following their removal after grazing it in the spring would result in an enhancement of the natural qualities of the riparian zones that occur in this area.

Grazing management following construction described under the proposed action is expected to result in a marked decrease in livestock grazing during the hot season months. This, in turn, is expected to allow at least 8 linear miles of streamside riparian vegetation associated with the East Fork of Smoke Creek and Chimney Creek and several acres of spring-associated riparian vegetation to complete their annual growth and result in a more natural appearance.

Grazing use restricted to early-to-mid spring likely will result in greater cattle scattering into the uplands during the period to graze cheatgrass while it is green. Concurrently, cattle will spend less time grazing and loafing in riparian areas, lessening their impacts to soils and vegetation. In the uplands, a greater degree of use than what occurs now would be expected to occur and is desirable. This increased degree of use, however, would not be expected to be noticeable to the casual observer. Less use of woody upland and riparian vegetation is made by cattle during the spring prior to forage drying out in the uplands. Although riparian grasses and forbs will be grazed during the spring use period, typically there is sufficient soil moisture within the riparian zone to allow growth to continue following livestock removal well into summer and fall.

Provided that livestock are removed from and kept out of the area during the months of June, July, August and September in most years, the plants will attain full vegetative expression prior to late-fall dormancy. One effect of full vegetation expression is a greater variety in vegetative structure, which creates a greater habitat diversity. Another effect is that plants increase in vigor and develop larger root masses which serve to anchor stream bank soils which can lead to the creation of overhanging banks needed for water temperature moderation

which is favorable to aquatic wildlife habitat.

Provided also that use in the fall is closely watched and the livestock are removed before moderate use of the riparian vegetation occurs, more plant litter and materials (fallen branches, leaves, etc.) will be deposited both instream and streamside which serve, among other things, to dissipate high water energy generated by late-winter and early spring snow melt. No greater than light use on both riparian and upland woody vegetation and browse in the fall will leave more vegetation for thermal cover and forage for the wintering mule deer herd as well, which is wildlife habitat improvement.

d. Impacts of the Proposed Action to Affected Wilderness Characteristics

1. Twin Peaks WSA

If the proposed action is implemented, the Chimney Drift Fences, the East Upper Smoke Creek Fence, Horn Springs Enclosures, and part of the West Parsnip Drift Fence would be constructed in the Twin Peaks Wilderness Study Area.

Issues involved with the placement of fence within a WSA center around the fence's effects on naturalness and whether they would be non-impairing. The 1979 wilderness inventory stated that the natural character of this unit is maintained by its large uninterrupted size and vast amount of undisturbed lands. Since the area is typified by a network of canyons and drainages, "this creates an almost unlimited landscape of sound and visual barriers" It also stated that the area has several perennial creeks which compliment primitive recreation, and included these streams as a supplemental value of the wilderness study area.

This would introduce about nine miles of fence into the WSA. The effects to primitive and unconfined recreation would be minor - hikers would need to shimmy under or hop over the fences, horseback riders would need to find and then open gates, ride through and then close them. The fences are expected to benefit primitive and unconfined recreation in the form of hunting. The excluded riparian areas will provide improved upland game bird habitat and therefore increase upland bird chances for reproductive success. The presence of a fence does not affect solitude.

The route of Segment I of the Chimney Drift Fence is located on a broad slope that is screened by topography. To see it, one would need to come within $\frac{1}{4}$ to $\frac{3}{4}$ mile from most angles. From distances greater than that, the all-green steel posts and thin steel wire readily blend into the background rocks and vegetation. The route of Segment II of the Chimney Drift fence is located at the upper end of the steep East Fork of Smoke Creek Canyon. It could not be viewed from adjacent ridges and one would need to be within the canyon no greater than about $\frac{1}{4}$ mile on either side to be able to view it. Much of Segment III would be visible from the Mixie Flat road, which runs adjacent to the fence for about 2 miles. Similarly, the $\frac{1}{4}$ -mile of the West Fork of Parsnip Drift Fence would be readily visible from the way that runs the length of the Parsnip Wash drainage. One would have to drive within $\frac{1}{4}$ -mile of it in order to view it, however, as it is located in a canyon and would not be visible from adjacent ridges. None of these fences would be visible from the Smoke Creek Road or the Buffalo Meadows Ranch road, which are the main access road in this vicinity. None of these fences would be substantially noticeable within the WSA as a whole, because, as noted in the

inventory, the area has "an almost unlimited landscape of ... visual barriers." The location of these fences, therefore, meets the objective of lands in the Class II VRM category in that these fences can be seen, if you get relatively close to them, but would not attract the attention of a casual observer in the area.

The Horn Spring Exclosure Fences and the East Upper Smoke Creek Fence are located on flatter areas and are not readily screened from the casual observer. The Horn Spring Fences are located literally on the boundary of the WSA and would be visible to anyone driving to them on the road which defines this boundary. The tops of the posts of both fences would be no greater than 4.5 feet off the ground. If one was approaching the East Fork of Smoke Creek Fence from any angle, it likely would be visible from a 1/2-mile distance, except if one was traveling within the Smoke Creek drainage, which is incised to a depth of 10-20 feet. From distances further away than 1/2-mile, the green posts and steel wire would blend into the background and not be visible to the unaided eye. Similarly, if the Horn Spring Exclosure Fences were approached from the north, south or west, it also likely would be visible from about 1/2-mile and blend into the background at distances greater than that. If approached from the east, this fence would be visible perhaps up to a mile away because the topography gradually slopes upward to the east of this proposed exclosure. Despite this, however, the fence design, although visible, would not attract the attention of the casual observer.

These impacts, although meeting Class II VRM objectives, and being substantially unnoticeable in the WSA as a whole, are still considered to be a negative impact to the naturalness of the Twin Peaks WSA.

Although the perennial streams in this WSA were considered as being a "supplemental value" in the 1979 wilderness inventory, for the purposes of analysis in this report, they are considered to be an aspect of the naturalness of the area. As discussed under general impacts, implementation of the proposed action is expected to result in accelerated enhancement of the current hydrologic, watershed and wildlife habitat aspects of the subject riparian areas, and in the case of the Chimney Creek area, of its upland watershed and hydrologic aspects as well, when compared to the rate of enhancement occurring under the no action alternative. The manifestation of full vegetative expression of the riparian areas will be obvious to even the casual observer within one to two years. Positive impacts that result from implementing the proposed action will include greater diversity in riparian vegetation composition and structure, improved streambank stability, improved terrestrial and aquatic habitat and, as a result, a return to a more "natural" state, in both appearance and ecosystem function. Livestock management in this area that has occurred since 1987 has ameliorated this interference, however, the rate of improvement is unsatisfactory to others and the BLM in light of the objectives of the CNMFP. Livestock exclusion and improved management will minimize their negative impacts to riparian area processes and functions.

Fence construction processes would cause about 11 acres of temporary disturbance to vegetation and soils within this WSA. Vegetation that is crushed and soil that is trampled would revert to their natural appearance within one to two growing seasons. For exclosure construction, this disturbance would be minimized by the stipulation limiting access to one-time, one-way along the fenceline. BLM would facilitate the contractor meeting this stipulation by ferrying in and placing materials along the fence route by helicopter as needed.

If the proposed fences had been in place at the time of the original wilderness inventory, it is not likely that they would have disqualified this area, or any portion of this area from being identified as or included in this WSA. This statement is made based on the fact that over ten miles of fence that was present at the time of the initial inventory was not disqualifying. The route of this existing fence was bladed in preparation for fence construction and this blade line also did not disqualify the area from being identified as having wilderness characteristics. The construction and existence of these fences would not constrain Congress's decision whether to designate the area as wilderness.

The fence is planned as a permanent fixture on the landscape. Fences, however, can be removed from areas relatively easily with little landscape impacts should the decision be made to do so. An example of this can be found along the Shinn Ranch road to the west of Shinn Peaks. Following a wildfire in this area in 1968, a protection fence was placed roughly around its perimeter. It stayed in place while the burned area re-established vegetation cover and then was used in managing livestock in the area. In 1991, this fence was removed as livestock management was changed. From the appearance of the landscape, one cannot tell where the fence used to be. Therefore, fences are not considered so permanent that extraordinary effort or means are required to remove them, and once they are removed, typically one cannot discern where they used to be.

The positive benefits to riparian areas, wildlife habitat and the watershed described in the previous section that will occur as a result of the proposed action will result in a great enhancement of the naturalness within the WSA. This positive impact outweighs the negative impact to naturalness represented by introducing 9 miles of fence into this WSA and represents an improvement in naturalness when compared to the naturalness that would be maintained under the no action alternative. Implementing the proposed action truly would enhance wilderness values in this WSA.

2. Dry Valley Rim WSA

Implementation of the proposed action would result in: a) two existing spring developments being re-worked and "upgraded" to pipe water away from the drainage area about a football field's distance into the uplands and enlarge the existing enclosure fences to a size that encompasses the entire associated riparian area; b) one spring that has its water impounded by a pond being developed to pipe the water from near the riparian area, which would be fenced, to an upland area 500 feet away from the riparian area; and c) a fence constructed around the riparian area of a fourth spring that also is impounded by a pond. All enclosures are of a suitable size that all wildlife inhabiting the area would feel secure in entering them for food, water and cover.

The 1979 wilderness inventory of the Dry Valley Rim WSA seems to emphasize its vastness and states that the existing intrusions are absorbed well into this vastness and do not impose an obvious impact on its natural character. No significant impacts to the ability of the unit to provide solitude or an opportunity for primitive and unconfined recreation is posed by implementing the proposed action. The fences are expected to benefit primitive and unconfined recreation in the form of hunting. The excluded riparian areas will provide improved upland game bird habitat and therefore increase upland bird chances for reproductive success. The inventory notes that numerous reservoirs existed at the time of the inventory

and these did not disqualify it from being considered suitable for wilderness designation. The primary issue involved with implementing the proposed action, therefore, is whether the 4 developments would be impairing and their affects on naturalness. It is noted that all 4 of the projects proposed are a modification of developments that already are in place.

Soil and vegetation disturbance resulting from construction processes will be temporary. Ripping or trenching the pipeline routes would disturb vegetation and soils on about 1/4 acre and the fence construction activity would trample soils and crush vegetation on about 2 1/2 acres. For enclosure construction, this disturbance would be minimized by the stipulation limiting access to one-time, one-way along the fenceline. BLM would facilitate the contractor meeting this stipulation by ferrying in and placing materials along the fence route by helicopter as needed. Pipeline disturbance is expected to revert to its natural appearance through natural processes within 3 to 5 years, and fence construction disturbance is expected to revert to its natural appearance through natural processes within 1 to 2 years.

All 4 of these springs are located in draws and therefore screened from the casual visitor. The troughs would be located on side hills and not be generally visible to the casual observer. A recreationist accessing these sites would need to be nearly on top of them before he/she became aware of them. Therefore, these projects conform with VRM Class II objectives previously mentioned in this report, and would be substantially unnoticeable within the WSA considered as a whole. Given the vastness of the WSA and the amount of physical and visual disturbance expected, these 4 developments are readily absorbed into the WSA and implementing the 4 projects would not be impairing.

Excluding the riparian areas associated with these springs from livestock and wild horse and burro grazing is expected to enhance their naturalness in the same manner as the other riparian areas previously discussed in this report. Enlarging the enclosures at Jenkins Spring and Red Rock II Spring does constitute a detraction from naturalness, but this is outweighed by the benefits to naturalness afforded to the riparian areas by the enclosure fences.

Based on the above discussion of impacts of the proposed action, it is expected that the proposed action truly would enhance wilderness values within this WSA.

3. Five Springs WSA

Washtub Spring Enclosure, Two Springs Enclosure and Three Springs Enclosure are proposed to be constructed in the Five Springs Wilderness Study Area.

The 1979 wilderness inventory noted that the lower slopes of Five Springs mountain were invaded by exotic annual grasses.⁹ It stated also that fence construction is limited to very small areas around the periphery of the unit and that "these fences have low to moderate adverse impact [on naturalness] on very limited areas of the unit."

⁹ The inventory is referring to medusahead and cheatgrass; both exotic annuals with limited forage value. Although the inventory stated that "this alteration of native vegetation has low adverse impact" to naturalness, the colonization of an area by an exotic plant is distinctly unnatural. This fact, however, is oftentimes not recognized by the "casual observer," unless they have at least a rudimentary understanding of the natural history of the area.

The proposed action is not expected to affect solitude within this WSA. The 1979 wilderness inventory when evaluating solitude opportunities cited the unit's rocky bluffs and canyons interconnected with three mountain ranges. The proposed action would occur several miles south of where this topographic diversity occurs. The fences are expected to benefit primitive and unconfined recreation in the form of hunting. The excluded riparian areas will provide improved upland game bird habitat and therefore increase upland bird chances for reproductive success. Supplemental values would not be affected. The primary issue associated with implementing the proposed action in the Five Springs WSA is its affect on naturalness.

The proposed action would introduce about 2½ miles of new fence into this WSA. Washtub Spring would be located about ¾-mile from the boundary of the WSA and Two Springs Exclosure would be located on the boundary of the WSA. The Two Springs and Washtub Spring Exclosures would be located within draws and one would have to approach within ¼-mile of Two Springs Exclosure and about the same distance from the Washtub Spring Exclosure in order to view them. Neither exclosure would be readily visible to the casual observer until they were in the immediate vicinity, and would be substantially unnoticeable in the WSA as a whole. These projects considered individually and together would not constrain Congress's decision concerning the suitability of this WSA for wilderness designation.

The Three Springs Exclosure would be located in a broad, open draw and would be visible to the casual observer driving along the road which defines the south boundary of this WSA, but likely would not attract their attention. The use of green steel posts would serve to blend this fence into the background to some degree.

For these reasons, all three projects would meet the Class II VRM objectives for the area, however, they would detract from the naturalness of the area and this is considered a negative impact to the naturalness of this WSA.

Vegetation and ground disturbance associated with fence construction processes would be a temporary impact to about 3 acres within the WSA. This disturbance would be minimized by the stipulation limiting access to one-time, one-way along the fenceline. BLM would facilitate the contractor meeting this stipulation by ferrying in and placing materials along the fence route by helicopter as needed. Because the fences would be constructed in upland areas, which are dominated by annual grasses, this disturbance would be substantially unnoticeable after 1 growing season. Because water would be available immediately outside of these exclosures, it is not expected that livestock and wild horses and burros would trail along the fence searching for water. Once they became accustomed to where the available waters were, they would establish trails directly to them.

The proposed fences are similar to those in existence at the time of the initial inventory. If the projects were in place at the time of the initial inventory, they would have not disqualified the area or WSA from being considered suitable for wilderness.

The benefits to naturalness provided by implementing the proposed action are similar to the benefits described for the other riparian areas discussed previously in this report. These benefits to naturalness outweigh the detraction from wilderness and would truly enhance wilderness values.

4. Skedaddle WSA

Morgan Spring Exclosure and Wild Horse Spring Exclosure is proposed to be constructed in the Skedaddle WSA.

Except for a temporary disturbance due to construction activities, the proposed action is not expected to affect solitude within this WSA. The fences are expected to benefit primitive and unconfined recreation in the form of hunting. The excluded riparian area will provide improved upland game bird habitat and therefore increase upland bird chances for reproductive success. Supplemental values would not be affected. The primary issue associated with implementing the proposed action in the Skedaddle WSA is its affect on naturalness.

The 1979 wilderness inventory noted many man-made intrusions/disturbances on the periphery of the study unit which were adverse to its naturalness , and referenced a "core area" with much less frequency of disturbance. The proposed project would be outside the referenced "core area."

The Morgan Spring Exclosure would introduce about 0.9 miles of fence into the Skedaddle WSA. This fence would be located in a draw and not readily noticeable to the casual observer. The casual observer accessing the area would use the cherry-stemmed road that leads to it and would not be able to view it until they were within about 1/4-mile of it. The use of all-green steel fence posts would serve to blend it effectively into the background of sagebrush. The exclosure would not be readily visible to the casual observer until they were in the immediate vicinity, and would be substantially unnoticeable in the WSA as a whole. For these reasons, this project would meet the Class II VRM objectives for the area, however, it would detract from the naturalness of the area and this is considered a negative impact to the naturalness of this WSA. However, this project considered individually and together with previous projects within this WSA would not constrain Congress's decision concerning the suitability of this WSA for wilderness designation. If this project was in place at the time of the initial inventory, it would have not disqualified the area or this WSA from being considered suitable for wilderness.

Wild Horse Spring Development and Exclosure was in place at the time of the 1979 inventory. (In fact, it was in place prior to the 1964 Wilderness Act). It has been and would be readily visible from the cherry-stemmed road that leads into Spencer Basin. It would be enlarged from its original dimensions to exclude the spring-associated riparian area and total about 0.3 miles of new fence within the WSA. Since a permutation of this project was in place at the time of the initial inventory, and did not disqualify the area or this WSA from being considered suitable for wilderness, enlarging it to enhance naturalness associated with ungrazed riparian area would not disqualify this area or WSA from continuing to be suitable for wilderness.

Vegetation and ground disturbance associated with fence construction processes (trampling and crushing) would be a temporary impact to about 1.5 acres within the WSA. This disturbance would be minimized by the stipulation limiting access to one-time, one-way along the fenceline. BLM would facilitate the contractor meeting this stipulation by ferrying in and placing materials along the fence route by helicopter as needed. This disturbance would be substantially unnoticeable after 1 to 2 growing seasons.

The benefits to naturalness provided by implementing the proposed action are similar to the benefits described for the other riparian areas discussed previously in this report. These benefits to naturalness outweigh the detraction from wilderness represented by the fence and would truly enhance wilderness values.

e. Cumulative Effects of the Proposed Action

Direct affects of the proposed action consist of soil and vegetation disturbance due to construction processes. In summary, direct disturbance of about 18 acres, total, within the five WSA's that together encompass 298,680 acres, would occur under the proposed action. Table 4.1e1, below, summarizes this disturbance by project and WSA, and compares it to the estimated number of acres where indirect resource protection benefits would accrue due to livestock and wild horse and burro exclusion (344.5 acres) and the estimated number of acres where improved livestock grazing management would enable a greater degree of naturalness than what now exists (23,500 acres).

TABLE 4.1e1: ACRES OF CUMULATIVE GROUND DISTURBANCE, AND, ACRES PROTECTED OR IMPROVED LIVESTOCK MANAGEMENT ENABLED IN AFFECTED WSA'S UNDER THE PROPOSED ACTION			
WSA	PROJECT	ACRES DISTURBED	ACRES PROTECTED OR IMPROVED MANAGEMENT ENABLED
Twin Peaks	Chimney Drift Fences	4.98	19,500
	West Parsnip Drift Fence	0.26	4,000
	East Upper Smoke Creek Fence	2.36	125
	Horn Springs Meadow Exclosures	3.42	90
TOTAL		11.02	23,715
Dry Valley Rim	Red Rock II Spring Revel. & Excl.	0.58	4
	Jenkins Trough Spring Redev. & Excl.	1.50	24
	Sheep Trail I Spring Dev. & Excl.	0.36	1
	Sheep Trail II Exclosure	0.28	2
TOTAL		2.72	31
Five Springs	Washtub Spring Exclosure	0.26	2
	Two Springs Exclosure	0.45	5
	Three Springs Exclosure	2.22	54
TOTAL		2.93	61
Skedaddle	Morgan Spring Exclosure	1.10	34
	Wild Horse Spring Exclosure	0.37	3.5
TOTAL		1.47	37.5
TOTAL ALL WSA's		18.14	23,844.5

When examined on a acre-per-acre basis, it is evident that the land area protected, or, where improved livestock management is enabled by the proposed action, far outweighs the temporary ground disturbance that would be caused by the proposed action.

Similarly, the direct negative long-term impacts to naturalness within the WSA's imposed by the addition of fences and pipeline must be weighed against the benefits that would accrue to riparian ecosystem processes and functions (with the caveat that no steel post and wire fence is so permanent that it could not be removed relatively easily should BLM decide to do so).

As stated previously in Section 4.1d of this EA, most of the proposed projects are screened from the casual visitor to the WSA. It is expected that most visitors desiring a "wilderness experience" who see the projects would interpret their sighting as detracting from the naturalness they came to experience. The perception of detraction would vary with the background and interests of the individual. For example, a visitor from an urban area likely would have a different reaction to a fence sighting than one from a rural area. Similarly, the benefits to naturalness (besides benefitting the ecosystem) would also be seen in different lights by different individuals depending on their background and interests. For example, one interested primarily in botany who had visited the riparian areas before they were excluded and then returned following exclusion likely would be pleased by the plant expression evident and view the fences as a minor detraction to wilderness characteristics that was positively outweighed by the improvement in naturalness evident within the enclosure.

Indirect cumulative effects of the proposed action include additive resource impacts and interactive resource impacts to the Twin Peaks allotment by the addition of these projects and the detraction from WSA naturalness posed by project construction. These new impacts must be considered together with projects that already exist on lands on the allotment and in the wilderness study areas. Reasonably foreseeable future actions that are not part of the proposed action but are likely to take place should the proposed action be implemented also must be considered.

BLM's first project on what is now the Twin Peaks allotment was built in 1936. From 1936 through 1975, 60 projects were built under BLM auspices on the public lands in the allotment and two projects (Rattlesnake Spring and Horse Spring) were built on private lands. From 1976 to present, 85 projects were constructed. Currently, BLM has record of 145 projects on public lands within the allotment. Table 4.1e2, below, summarizes public land projects that occur in or are located on the boundary of the Twin Peaks allotment:

TABLE 4.1e2i: AUTHORIZED PROJECTS BY KIND ON PUBLIC LANDS IN TWIN PEAKS ALLOTMENT								
Decade Built	Spring Developments	Reservoirs and Dams	Wells	Guzzlers	Exclosures Fence (Number of Ex-closures)	Allotment Boundary Fence*** (Miles)	Interior Fence (Miles)	Cattle-guards
1930-39	1							
1940-49		5						
1950-59	11	22	4					
1960-69	5	1		1		27.0		
1970-79*	2			1	1			2
1980-89	8	33	1	13	1	52.8	4.1	7
1990-95	9				1		5.4	1
Totals	36	61	5	15	3	79.8	9.5	10
Prop. Action	3**				8		5.8	

* All projects in this row were built before October 21, 1976. This means that they and previously built projects are "grandfathered" under FLPMA and may be continued to be used and maintained regardless of wilderness status.

** Under the Proposed Action, two of the three developments would be re-developments of springs listed above in this column.

*** Winter Range, Deep Cut, Observation (Eagle Lake Resource Area), Tuledad (Surprise Resource Area), Coyote and Buffalo Hills (Winnemucca District) allotments share boundaries with the Twin Peaks allotment.

Additive cumulative impacts to WSA naturalness must be considered. Table 4.1e2ii, following, summarizes what projects occur on land in WSA status in the Twin Peaks allotment, with the proposed action shown also:

TABLE 4.1e2ii: EXISTING AND PROPOSED PROJECTS ON LANDS IN WSA STATUS IN TWIN PEAKS ALLOTMENT						
Wilderness Study Area Name -->		TWIN PEAKS	DRY VALLEY RIM	FIVE SPRINGS	SKEDADDLE	TOTALS
Spring Developments (Number)	Existing	12	5	4	6	27
	Proposed	-	3*	-	-	-
Dams and Reservoirs (Number)	Existing	3	26	2	17	48
	Proposed	-	-	-	-	-
Wells (Number)	Existing	1	1	0	0	2
	Proposed	-	-	-	-	-
Guzzlers (Number)	Existing	1	5	0	3	9
	Proposed	-	-	-	-	-
Exclosure Fences (No. of Exclosures)	Existing	1	1	0	0	2
	Proposed	2	1	3	2	8
Allotment Boundary Fence (Miles)	Existing	0	1.5	12.5	5.6	19.6
	Proposed	-	-	-	-	-
Interior Fence (Miles)	Existing	0.1	3.0	0	0	3.1
	Proposed	4.3	-	-	-	4.3
Project Features** on the Landscape (non line fence)	Existing	18	38	6	26	88
	Proposed Additional	2	2*	3	2	9
Line Fence Features (i.e. separate fence segments)	Existing	2	3	4	1	10
	Proposed Additional	4***	-	-	-	4
Total Project Features	Existing	20	41	10	27	98
	Proposed Additional	6	2	3	2	13

* Two of these three spring developments are re-developing an existing project. The net added number of spring developments in this WSA under the proposed action is one.

** "Feature" in this table being defined as " an individual thing on the landscape made by humans." For example, six miles of straight fence, all connected, would be a single feature, or 0.1 mile of fence, or one exclosure, or one well, windmill and trough (a single watering facility), and so forth.

** Each of the three segments of the Chimney Drift Fence is counted as a separate feature.

Note: No cattleguards occur in any WSA's in the Twin Peaks allotment.

Most if not all of the ground disturbance associated with the construction of these projects has already been revegetated through natural processes and ground disturbance recovery is not an

issue. They now all exist as features on the landscape, however. The addition of 13 more features to the existing 98 would both negatively and positively affect naturalness of the WSA's. Given the need for resource protection of riparian areas in the WSA's, the relative infrequency of man-made features on the vast affected landscapes and because the features would be relatively unnoticeable to the casual visitor due to topographic screening, it is believed that the positive benefits to naturalness that would result from implementing the proposed action outweigh the negative impacts associated with the proposal. All of the additional features, when considered within each WSA as a whole, would not constrain Congress' decision whether to designate them wilderness.

Reasonably foreseeable future actions associated with the proposed action consists of maintenance activities following project construction. The nature of these activities are described in Section 2.2b of this EA. The number of visits to maintain these projects over their useful life cannot be accurately stated. It depends on how well the fences "hold up" and if and how often the spring headboxes, pipeline and troughs collect silt. It is expected that at a minimum, the fences would need inspection every two years and at least minor repair every 5 years, and, the spring developments would need inspection every year and minor repair every three years. Vehicle access to the projects would be restricted to existing roads and ways. A minor disruption in solitude would occur with every visit, but this would be no greater of a disruption of solitude than that which occurs when two different visitors to a WSA happen to cross paths.

There is not expected to be any negative interactive cumulative impacts to wildlife habitat as a result of the proposed action. Fence design allows mule deer to jump and pronghorn to shimmy under the fences. They pose no significant barrier to all other wildlife that inhabit the area. Similarly, there is expected to be no negative interactive impact with wild horses and burros. Water will be available to them in the same immediate area of each project site. Neither is there expected to be any negative interactive cumulative impacts to other affected natural resources.

There are expected to be interactive cumulative positive impacts to wildlife habitat and naturalness. As the riparian areas thrive under protection or improved management, wildlife habitat will improve and naturalness will be enhanced.

4.2 Environmental Consequences of Alternative One

The environmental consequences of alternative one are identical to that of the proposed action except as described below.

a. Consideration of the Alternative Trough Design Alternative

The alternative trough design alternative pertains to analysis of impacts in the Dry Valley Rim WSA because this is the only WSA where troughs are proposed to be located and relocated. The alternative trough design alternative involves either the use of concrete troughs faced with rock instead of green metal "Powder River" type troughs, or, painting the green metal "Powder River" type troughs a desert camouflage pattern to reduce its visual impact.

Facing the troughs with rock from the area would result in a more natural appearance than either a green or a desert camouflage painted metal troughs. Painting the metal troughs a camouflage pattern would result in the trough blending more effectively into the background than a green

trough.

The advantages of concrete troughs are that they are durable, require low maintenance and are relatively vandal proof when compared with metal "Powder River" type troughs.

The disadvantages include cost and impacts to the area from the construction processes associated with building them. Forming them off-site and then transporting them to the job site was considered. BLM's estimate of the weight of each trough was 2.4 tons. BLM's largest lifting equipment can lift 1 ton. Therefore, this idea was rejected. This leaves constructing them on-site. Constructing the concrete troughs on-site would require additional equipment (a concrete mixer) and would involve hauling water for mixing. This would increase the number of trips to the trough site and increase crushing and trampling impacts to soils and vegetation. These impacts, however, could be expected to revegetate naturally through natural processes within 2-3 years, which is slightly less than the time it is expected to take for the pipeline disturbance to heal.

Another disadvantage of concrete troughs compared to "Powder River" type troughs is that concrete troughs are very difficult to remove when their useful life has expired. Once the integrity of the concrete trough is compromised, they must be broken up and removed. This would require the use of at a minimum a front end loader, or possibly a bulldozer or a backhoe, and a large truck to remove the broken up pieces of concrete. In contrast, "Powder River" type troughs can be disconnected and lifted by two men and placed on a pick-up to be removed.

BLM's estimated cost (including labor and materials) to pour and form them on site was \$1975 per trough. The current cost of a "Powder River" type trough is \$365. For BLM to paint the metal trough a camouflage pattern would increase the cost of the trough by about \$252 each (paint and labor).

The Red Rock II Spring Redevelopment and the Jenkins Trough Spring Redevelopment would involve the re-location of one and two on-site "Powder River" troughs, respectively. The Sheep Trail Spring I development as proposed would require the placement of one "Powder River" trough.

The No Action alternative would not result in negative impacts, however, it would also not meet the objectives of protecting the riparian area while providing off-site water for livestock and wild horses.

Table 4.2a, below, summarizes the *relative* differences between these design alternatives considered alone (i.e. without consideration of the positive ecological impacts to the riparian areas under the proposed, concrete trough and camouflaged trough alternatives):

Table 4.2a: RELATIVE IMPACTS OF PROPOSED TROUGH DESIGN, ALTERNATIVE TROUGH DESIGN AND NO ACTION						
ALTERNATIVE	CONSTRUCTION IMPACTS	MTCE./RE-PLACEMENT IMPACTS	VISUAL IMPACTS	COSTS	DURABILITY	MEET RES. PROT. OBJECTIVES?
PROPOSED	Medium - Temporary	Low and low	Medium - Permanent	Low	Medium	Yes
CONCRETE TROUGH	High - Longer Temporary	Low until useful life expires, then high	Low - Permanent	High	High	Yes
CAMOUFLAGED TROUGH	Medium - Temporary	Medium (to maintain camouflage), then low	Medium Low - Permanent	Medium	Medium	Yes
NO ACTION	None	None	None	None	N/A	No

Although more durable, concrete troughs are much more difficult to repair and or replace once their integrity is compromised. A comparative analysis of the impacts leads to the conclusion that a camouflaged metal trough would be the more reasonable choice among these alternative designs.

b. Consideration of Alternative Fence Route for Morgan Spring Exclosure as Compared with the Proposed Route

The alternative fence route for Morgan Spring Exclosure would not cut off the way leading down to the drainage and motorists could continue to drive directly to the drainage as they have up to now. The likelihood of vandalism would significantly decrease.

This alternative route also would cattle and horses approaching the drainage from the east easier access to and from the reservoir located in the riparian area on private land immediately upstream from the riparian exclosure. As with the proposed route, ungrazed forage immediately inside the fence would attract the cattle and they likely would press the fence on the south end and southeast corners of the exclosure. Excessive cattle pressure could result in fence failure at these areas.

The proposed route was designed to enclose as much of the riparian area as possible and to enclose also a small "buffer zone" of upland vegetation so that cattle would not necessarily be pressing at the fence. Both the proposed route and the alternative route result in the south end of the exclosure traversing the riparian area so in either case, cattle pressing on the fence on the south end is likely. Once they "graze off" the riparian vegetation located in the privately-owned riparian area, some will press the fence while attempting to graze growth within the exclosure. The larger non-riparian "buffer zone" in the southeast corner provided by the proposed action likely would alleviate cattle pressure on the southeast corner of the exclosure.

Livestock and possibly wild horses will press on the fence on the south end under either alternative. There is a likelihood that vandalism will occur if the proposed fence route is selected. Associated with this, OHV users would need to turn around once they ran into the fence. This would create a turn-around area adjacent to the road and would result in continued vehicle surface disturbance in the Skedaddle WSA. The alternative fence route reduces this risk but reduces the area of "buffer zone" upland vegetation included within the enclosure.

Should vandalism prove to be a problem, the option of re-routing the fence so that the access way is not cut off remains, but represents going in and fixing a problem that would be avoided by the alternative route. The proposed route would make cattle and horse access and egress more difficult for all animals who approached from the east, and could result in animals lingering longer in the bottoms (because of the difficulty of leaving the area). Animals approaching from the east would need to go up and around a rock bluff (which the proposed route is "tied in" to) and this likely would result in less pressure on the southeast corner of the fence.

The alternative route avoids the negative impacts of the proposed route of : 1) cutting off OHV user access to the bench immediately above Morgan Spring ; 2) creating the necessity for a turn-around in the WSA; and 3) increasing the difficulty of livestock and wild horse entry to and exit from watering at the private land reservoir. The benefits of the increased "buffer zone" in the southeast portion of the enclosure provided by the proposed route do not outweigh these negative impacts. For these reasons, the alternative route appears to be the more reasonable choice among the two alternatives considered.

4.3 Environmental Consequences of the No Action Alternative

a. Direct Impacts of the No Action Alternative

The no action alternative would result in no direct project impacts.

b. Indirect Impacts of the No Action Alternative

The no action alternative would result in the status quo being maintained for vegetation relative composition and production in the riparian areas associated with the subject springs and the 3-mile stretch of Upper Smoke Creek. Under currently permitted livestock grazing and wild horse and burro population management, all would be grazed heavily at some point during the grazing season, and many would be repeatedly heavily grazed annually. As current management of livestock has not resulted in hydrologic disfunctionality in any of the subject riparian areas, there is no reason to anticipate that continuation of current management would cause hydrologic functionality to be lost in these systems. Those springs that now are functional at risk would continue to remain at risk. Aquatic habitat would not change from existing conditions. Rests and deferments from livestock grazing management would continue to result in a slow increase in vigor of grasses and forbs in spring associated riparian habitat. However, during periods of use, these areas would still receive heavy concentrations of livestock. The current vegetation structure, composition, production and availability would not be enhanced over and beyond existing conditions for the purposes of wildlife habitat. Archeological sites would continue to be subject to disturbance by livestock and wild horse

and burro hoof action disturbance. Wild horses and burros would not need to find routes around the fences. Water quality and flood plain functionality would continue to be impacted.

c. Impacts of the No Action Alternative on the "Chimney Area"

Under the no action alternative and despite diligent efforts by the permittees to remove their livestock from this area following spring use, some cattle do inevitably return. Even in years when the permittee does not deliberately introduce livestock into the Chimney area, some find their way there from ranges to the north and/or west where they were originally left. The streamside and spring-associated riparian vegetation in the Chimney area has recently improved¹⁰, with the exception of that which occurs on the private land near the confluence of the two creeks, which seem to be a favorite congregation area both for permitted cattle and for trespass cattle originating from Casey's Smoke Creek Ranch.

Some of the more obvious direct benefits of the proposed action to watershed, riparian enhancement, and wildlife habitat enhancement have been briefly described above. These are considered positive impacts of implementing the proposed action. The projects as proposed will allow for accelerated improvement of these resource attributes when compared with the no action alternative. A rate of improvement in these attributes similar to what has occurred since the practical inception of the AMP in 1987 can be expected to continue under the no action alternative, provided the permittee continues to exercise his option to drive cattle from these areas periodically during the summer months and that BLM continues to pursue livestock trespass in the area.

d. Impacts of the No Action Alternative on Affected Wilderness Characteristics

The no action alternative would maintain the status quo with regard to the affected wilderness characteristics of naturalness and supplemental values in the subject WSA's. As continuous annual heavy grazing use by livestock and wild horses on the subject riparian area detracts from the "naturalness" of these areas due to the effects of this use, the benefits to naturalness derived from stopping this use would not be realized under the no action alternative. Riparian vegetation in the Chimney area would continue to be subject to grazing year-round. The accelerated enhancement of the perennial creek supplemental values in the Twin Peaks WSA that would accrue due to more refined grazing management in the Chimney area, which has been discussed previously in this EA, and livestock and wild horse and burro exclusion in the Upper Smoke Creek and Horn Springs meadow, would not occur. Under the no action alternative, the subject spring sites proposed for exclusion would continue to be subject to continuous annual heavy grazing use and continue to be at risk for degradation of the ecosystem benefits inherent in healthy, thriving riparian areas and therefore also continue to be at risk for degradation of some wilderness values.

¹⁰ This assertion is based on recent field inspections of the lower reaches of East Fork of Smoke Creek. It is not based on trend data.

5. CONSULTATION

ELRA BLM developed this proposal in February, 1995, in response to a December, 1994, proposal by Espil Sheep Company that BLM construct several projects associated with riparian area management. These included: drift fences in the Chimney Creek Area; an enclosure around the public land meadow below Morgan Spring, a fence on the North Fork of Buffalo Creek, a fence on the South Fork of Parsnip Wash, fence near Painter Ranch; several springs on the sidehill near East Fork of Smoke Creek; a fence near Shinn ranch east of Smoke Creek; redevelopment and enclosure of Red Rock I and Red Rock II springs; an enclosure of the riparian area below Jenkins Trough springs; an enclosure of the public land meadow below Horn Spring; redevelopment of Sagehen Spring; development of Washtub Spring; development of two springs adjacent to Five Springs; development of two springs east of Bull Flat; and, development of Indian Spring.

BLM examined their proposal and made some modifications to it before beginning project consultation. Some projects were dropped and others changed. Generally, the changes involved enlarging the enclosures for greater riparian area protection and to make them more compatible with wildlife habitat needs.

In February, 1995, ELRA BLM solicited input from the permittees and from Twin Peaks Allotment affected interests¹¹, which includes the California Department of Fish and Game and the Nevada Department of Wildlife, Lassen County, Washoe County, those interested in our management of Wilderness Study Areas, and wild horse and burro interest groups concerning the proposal. We received letters in response from The Wilderness Society - California/Nevada Regional Office, Intermountain Range Consultants, The Toiyabe Chapter of the Sierra Club, the California Mule Deer Foundation, the California Wilderness Coalition, H.J. Whitaker, the Shasta Group of the Mother Lode Chapter of the Sierra Club, and the Nevada Division of Wildlife. Ken Visser, ELRA BLM Supervisory Range Conservationist developed a summary of these comment letters and mailed it to all affected interests and the permittees on June 22, 1995, and this summary is incorporated into this document by reference (see Appendix F). Also on June 22, 1995, BLM invited the permittees and all affected interests on a field tour to examine the project sites and provide further comment and input. This tour occurred on July 19, 20, and 21, 1995 and was attended by Bob Schweigert of Intermountain Range Consultants, George Berrier of the American Mustang and Burro Association, Brent Espil, permittee of Twin Peaks allotment and BLM staff. BLM sent a summary of the tour and the items discussed to the permittees and all affected interests on August 30, 1995, and this summary is incorporated into this document by reference (see Appendix G).

On September 14, 1995, BLM solicited further information from Espil regarding their costs of herding and current costs of maintenance of existing improvements on the allotment. On October 24, 1995, Espil declined to provide the requested information and indicated that they believed that a discussion [in the EA] of their increased costs of maintenance of those projects which benefit their activity would be irrelevant because they have already committed to doing so and have already informed BLM that such is physically and fiscally possible, while

¹¹ The solicitation occurred before grazing regulation changes deleted the term "affected interests." A similar term, "interested public," was defined in the August, 1995, regulations change.

continuous riding is not.

On February 23, 1996, and again on March 27, 1996, BLM solicited information from Espil regarding grazing management following construction of the Chimney Creek Drift Fences. Input was received in response on April 4, 1996.

On April 30, 1996, BLM mailed to Espil and Laver Ranches nine and three Cooperative Agreements for Range Improvements, respectively, which, upon their signature, would indicate that they accept maintenance of the projects pursuant to the terms of the Agreement. On July 17, 1996, Espil returned the Cooperative Agreements. They signed (accepted maintenance) for six of the projects. They refused to accept maintenance of the fences associated with the Jenkins Trough Spring Re-development and Exclosure and the Red Rock Spring Re-development and Exclosure, or of the Morgan Spring Exclosure. They indicated that they believe that these exclosures are not of benefit to their livestock operations, are meant to exclude an area larger than the water source and are unnecessary to the health of the subject riparian and upland areas to be excluded. As of August 2, 1996, Laver Ranches had not returned the Cooperative Agreements mailed to them April 30.

On June 3, 1996, BLM briefed and consulted with the Susanville Resource Advisory Council about the projects at their regular business meeting in Alturas, California. The council did not provide any formal advice concerning the projects.

ELRA BLM also solicited and received input and comments regarding these proposals from Steve Smith, BLM Nevada State Office Wilderness Coordinator and Paul Brink and Jack Mills, BLM California State Office Wilderness Coordinator and Environmental Coordinator, respectively.

Appendices

Project Maps

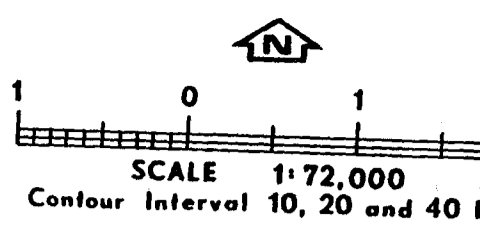
- A. Twin Peaks Allotment Project Proposals - Twin Peaks WSA
- B. Twin Peaks Allotment Project Proposals - Dry Valley Rim WSA
- C. Twin Peaks Allotment Project Proposals - Five Springs WSA
- D. Twin Peaks Allotment Project Proposals - Skedaddle WSA
- E. Twin Peaks Allotment Project Proposals - Painter Fence

Consultation Summaries

- F. Consultation Letter Summary
- G. Consultation Tour Summary

Literature Cited

Duff, D.A. 1979. Riparian habitat recovery on Big Creek, Rich County, Utah. Pages 91-92 *in* O.B. Cope. ed. Proc. of the Forum-Grazing and Riparian/Stream Ecosystems. Trout Unlimited, Inc., Vienna, VA 94pp.



1. JENKINS TROUGH SPRING REDEVELOPMENT & ENCLOSURE

6. RED ROCK II SPRING REDEVELOPMENT & ENCLOSURE

CALIFORNIA
NEVADA
RIFE
RIBE

WASHOE CO
LASSEN CO
DRY VALLEY RIVER

TWIN PEAKS

LEGEND

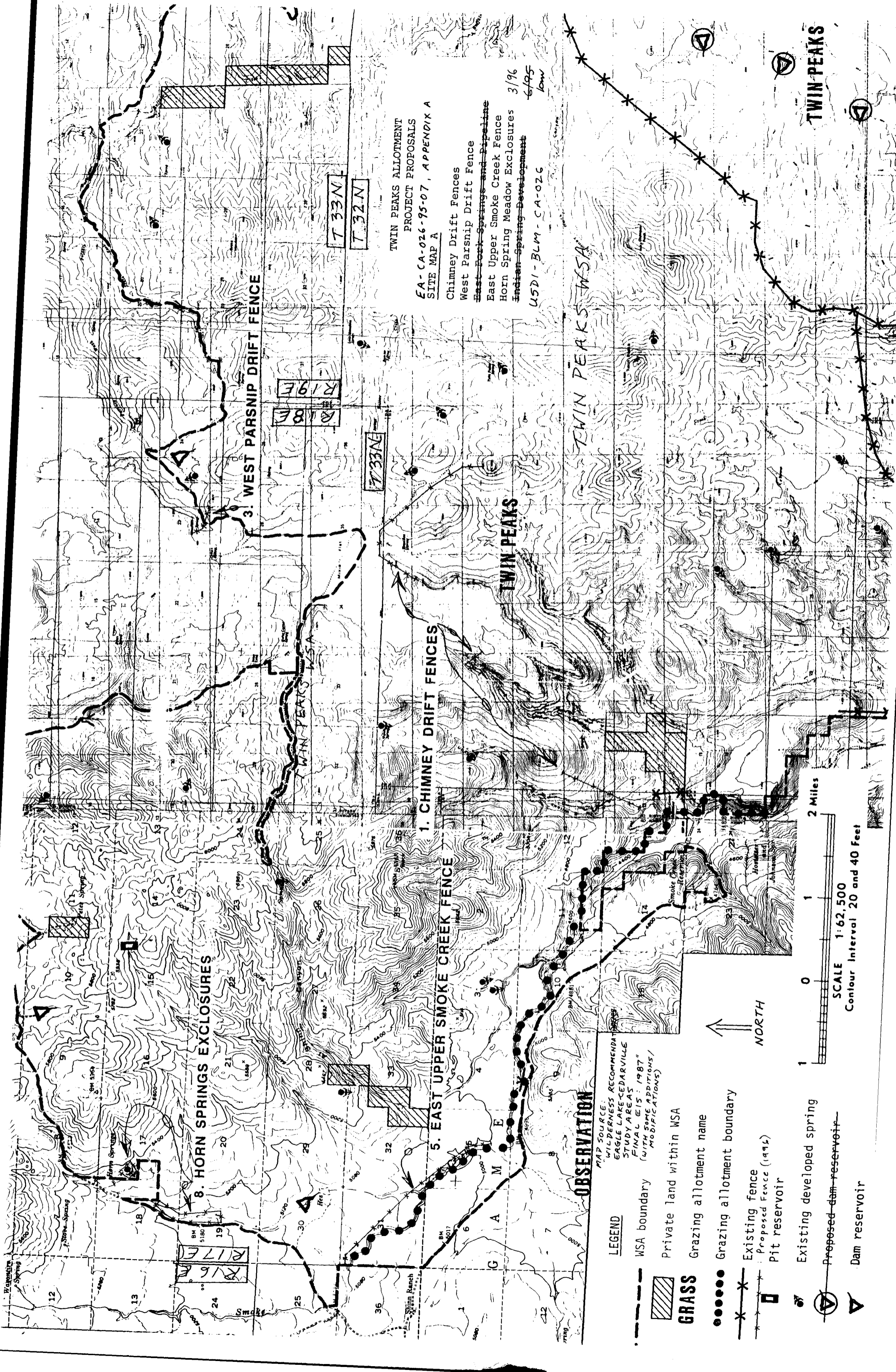
- - - WSA boundary
- [Hatched Box] Private land within
- GRASS** Grazing allotment no
- Grazing allotment b
- * Windmill
- x-x- Proposed Fence (1996)
- ♂ Developed spring
- |- Proposed Pipeline Trough (199
- Guzzler
- ∧ Wild horse trap site
- ▽ Existing dam reserv
- ▽ Proposed dam reserv
- Existing pit reserv

TWIN PEAKS ALLOTMENT
PROJECT PROPOSALS
EA-CA-026-95-07, APPENDIX B
SITE MAP B
Red Rock Springs II Redevelop-
ment & Enclosure
Jenkins Trough Spring
Redevelopment & Enclosure

USDI-BLM-CA-026

3/96
~~1/95~~
kmw

MAP SOURCE:
"WILDERNESS RECOMMENDATION
EAGLE LAKE - CEDARVILLE STU
AREAS
FINAL EIS - 1987"
(WITH SOME ADDITIONS/MODIFICATION)



TWIN PEAKS ALLOTMENT
PROJECT PROPOSALS
EA-CA-026-95-07, APPENDIX A
SITE MAP A

Chimney Drift Fences
West Parsnip Drift Fence
~~East Fork Springs and Pipeline~~
East Upper Smoke Creek Fence
Horn Spring Meadow Enclosures
~~Indian Spring Development~~

3/96
6/95
low

USD1-BLM-CA-026

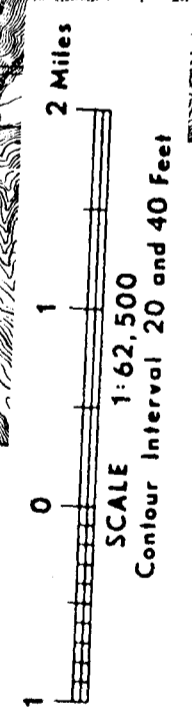
TWIN PEAKS WSA

MAP SOURCE:
WILDERNESS RECOMMENDATION
EAGLE LAKE CEDARVILLE
STUDY AREAS
FINAL EIS: 1987
(WITH SOME ADDITIONS/
MODIFICATIONS)

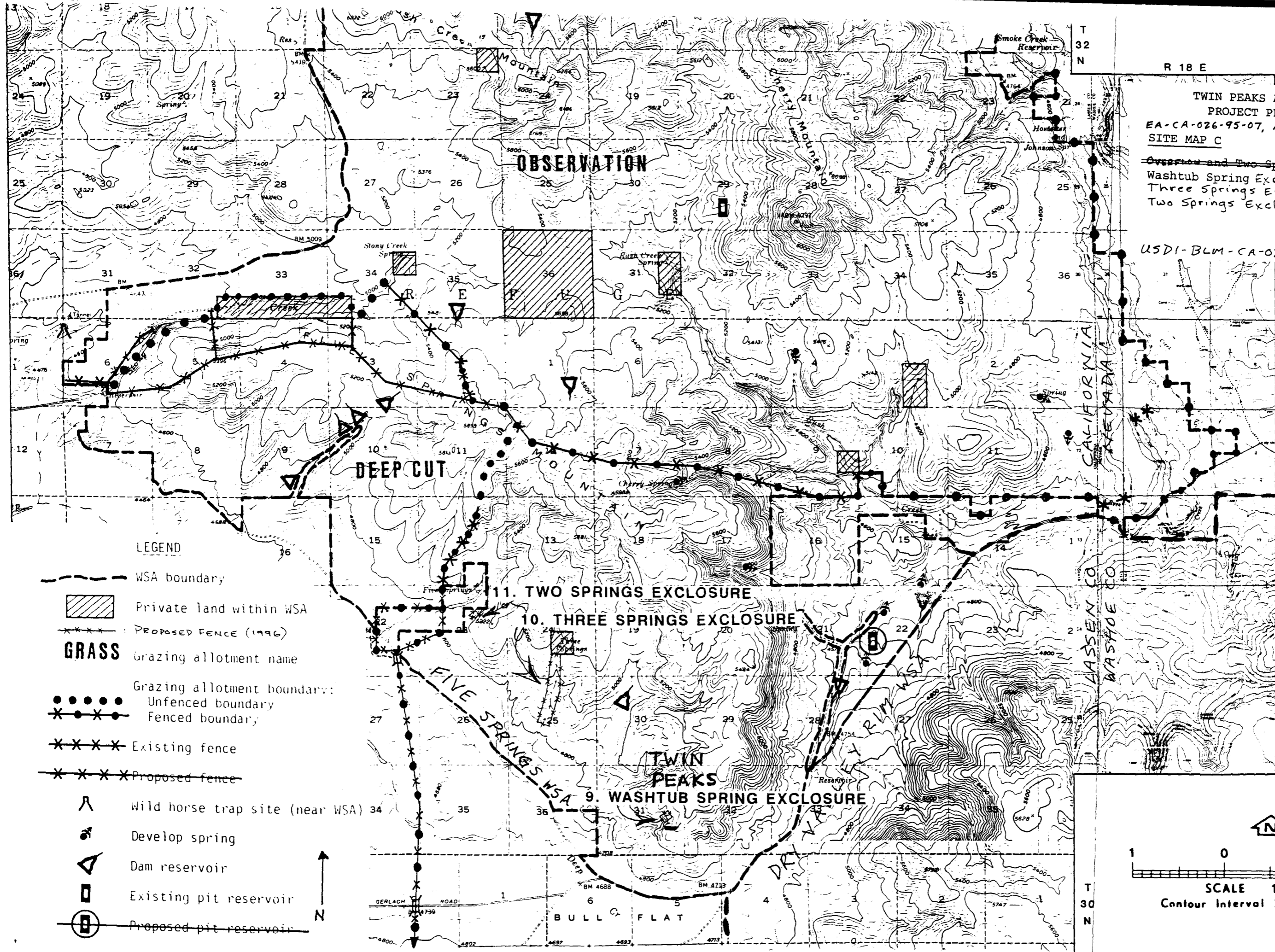
LEGEND

- WSA boundary
- ▨ Private land within WSA
- GRASS** Grazing allotment name
- Grazing allotment boundary
- Existing fence
- *- Proposed Fence (1995)
- Pit reservoir
- Existing developed spring
- Proposed dam reservoir
- △ Dam reservoir

NORTH



TWIN PEAKS



TWIN PEAKS ALLOTMENT
PROJECT PROPOSALS
EA-CA-026-95-07, APPENDIX C
SITE MAP C

~~Overton and Two Springs Enclosure~~
Washtub Spring Enclosure
Three Springs Enclosure
Two Springs Enclosure

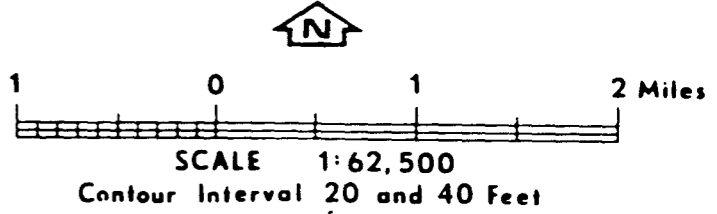
USDI-BLM-CA-026

3/96
6/95
low

MAP SOURCE:
"WILDERNESS RECOMMENDATIONS
EAGLE LAKE-CEDARVILLE
STUDY AREAS
FINAL EIS - 1987"
(WITH SOME ADDITIONS/MODIFICATIONS)

LEGEND

- - - WSA boundary
- [Hatched Box] Private land within WSA
- x - x - Proposed Fence (1996)
- GRASS** Grazing allotment name
- Grazing allotment boundary:
 - Unfenced boundary
 - x - x - Fenced boundary
- x - x - Existing fence
- x - x - Proposed fence
- ∧ Wild horse trap site (near WSA)
- Develop spring
- △ Dam reservoir
- Existing pit reservoir
- ⊕ Proposed pit reservoir



TWIN PEAKS ALLOTMENT
PROJECT PROPOSALS

EA-CA-026-95-07, APPENDIX D
SITE MAP D

Morgan Springs Riparian Exclosure
~~East Bull Springs Development~~
Sheep Trail Spring I
Sheep Trail Spring II
Wild Horse Spring Exclosure

USDI-BLM-CA-026

12. SHEEP TRAIL SPRING I
DEVELOPMENT & EXCLOSURE

13. SHEEP TRAIL SPRING II
EXCLOSURE

2. MORGAN SPRING RIPARIAN EXCLOSURE

TWIN PEAKS

14. WILD HORSE SPRING EXCLOSURE

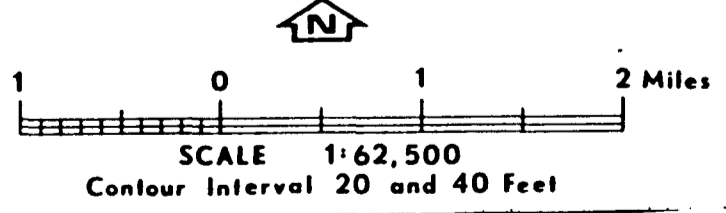
WINTER RANGE

DRY SKEDADDLE VALLEY

CALIFORNIA - LASSEN CO.
NEVADA - WASHOE CO.

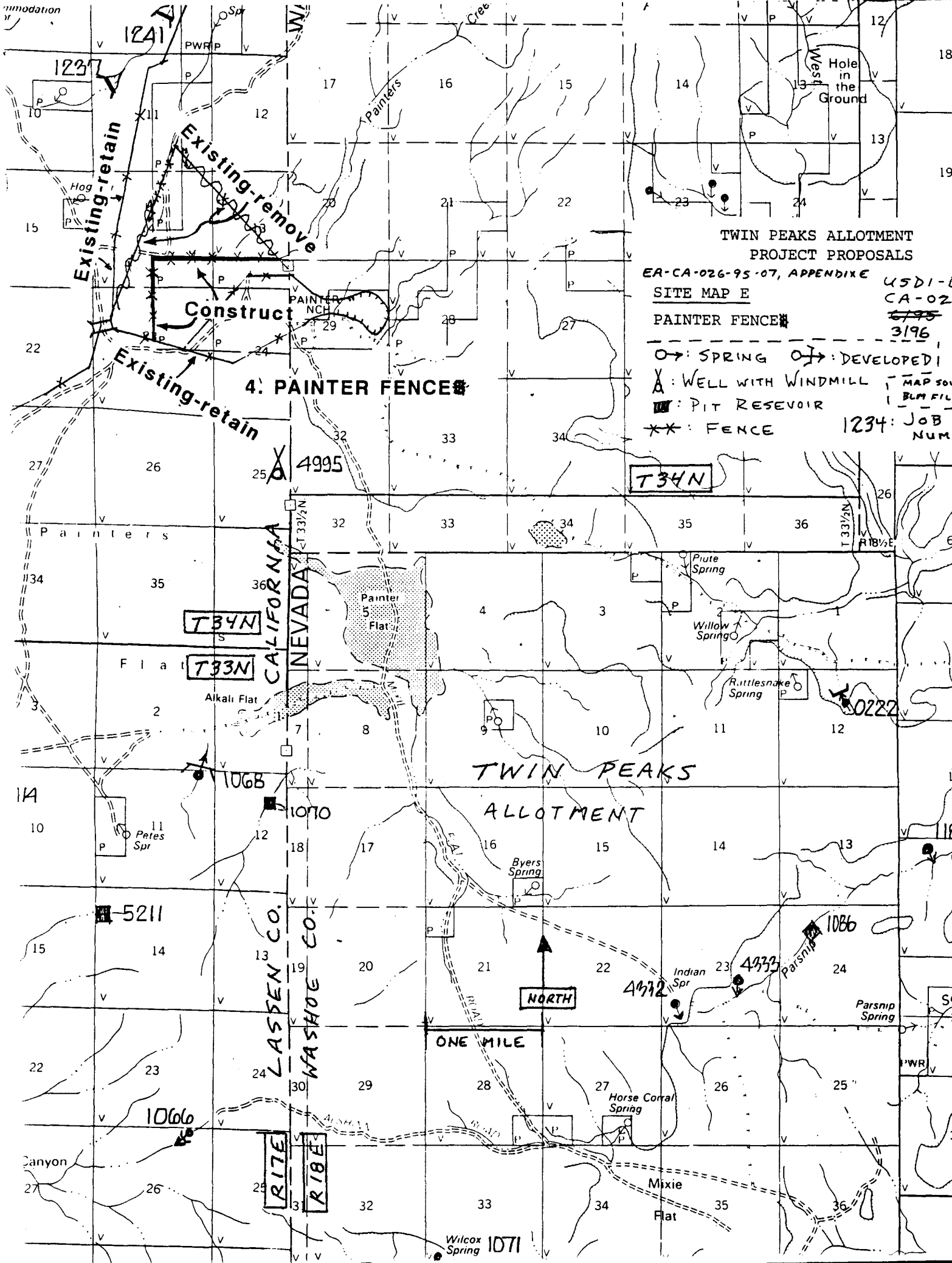
LEGEND

- WSA boundary
- Private land within WSA
- Lassen County public safety zone
- Military withdrawal
- GRASS** Grazing allotment name
- Grazing allotment boundary:
 - fenced
 - unfenced
 - Fence
- Wild horse trap site
- Proposed FENCE (1996)
- Proposed TROUGH PIPELINE (1996)
- Developed spring
- Guzzler
- Proposed windmill
- Existing pit reservoir
- Existing dam reservoir
- Proposed dam reservoir



M.D.M

MAP SOURCE:
WILDERNESS RECOMMENDATION
EAGLE LAKE/CEDARVILLE
STUDY AREAS FINAL EIS-1
(WITH SOME ADDITIONS/
MODIFICATIONS)



TWIN PEAKS ALLOTMENT
 PROJECT PROPOSALS
 EA-CA-026-95-07, APPENDIX E USDI-B
 SITE MAP E CA-026
 PAINTER FENCE ~~6795~~
 3196
 O: SPRING O+: DEVELOPED
 A: WELL WITH WINDMILL MAP SOURCE
 P: PIT RESEVOIR BLM FILE
 ** : FENCE 1234: JOB NUMB

4. PAINTER FENCE

TWIN PEAKS ALLOTMENT

CALIFORNIA
 NEVADA
 LASSEN CO.
 WASHOE CO.
 RITE
 RIBE

ONE MILE

NORTH

Wilcox Spring 1071