12-17-98

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Surprise Field Office
P.O. Box 460
602 Cressler Street
Cedarville, CA 96104
(530)279-6101 - (530)279-2171 FAX

In Reply Refer to:
1792 (CA-370) P
(CA-370-99-03)

December 17, 1998

CERTIFIED MAIL #P 954 727 129
RETURN RECEIPT REQUESTED

Cathy Barcomb
Commission for the Preservation of
Wild Horses
123 West Nye Lane, Suite 248
Carson City, NV 89706-0818

Buckhorn

15 DAY

Dear Cathy:

PROPOSED GRAZING DECISION
Tuledad Allotment
Grazing Strategy and Related Projects

Enclosed for your review is my Decision and the Environmental Assessment for the **Tuledad Allotment Grazing Strategy and Related Projects.** My decision implements a new short-term grazing strategy and associated projects designed to move the allotment toward meeting a new set of landscape goals and resource objectives for the Tuledad Allotment. This proposal has been developed in close consultation, cooperation, and coordination with the livestock permittees, Tuledad Technical Review Team representatives, and the affected interests, over a three year period extending from about September 1995 through December 1998. It is the culmination of a planning effort which began initially in 1992.

This Decision represents the **Proposed Action** in the **Environmental Assessment (CA-370-99-03).** In an effort to further minimize potential economic impacts to livestock operators, I am delaying implementation of the short-term grazing strategy and prescribed burn project implementation within the South Pasture for one year. At that time, I anticipate that the Boot Lake prescribed burn area will have received adequate post-treatment rest, and the forage in the Boot Lake use area can be made available for use (within appropriate utilization limits) by the livestock operators while the South Pasture is being rested pre- and post prescribed fire treatment. I plan to take advantage of the one year delay to scope additional prescribed burn project opportunities within the South Pasture. However, based upon the available information, I do not anticipate burning more than a maximum of 5,000 to 6,000 acres total within the South Pasture.

I believe the Proposed Action represents the best balance between the socio-economic needs of the livestock operators (and local communities) with the need to achieve shorter-term accomplishment

of the desired landscape goals and resource management objectives. It sets the stage for providing a series of summer livestock use areas with minimal potential for conflicts with late summer/early fall livestock use. Moreover, it implements a series of doable and affordable projects which are designed to tangibly move the allotment toward meeting the newly established goals and objectives.

I have chosen not to select the alternative proposed by the livestock operator's on December 1, 1998. While the permittee's proposal results in environmental effects similar to the Proposed Action, I believe the alternative would result in greater potential financial impact to the livestock operator's. This result would come from increased herding requirements by the North Fork Ranch; the potential for increased livestock management and trailing by the North Fork Ranch should they be required to graze with the remaining permittees in the South Pasture while the North Pasture is being treated; and a high likelihood that allowable utilization levels in the South Pasture would be exceeded prior to the scheduled off date, requiring the remaining operators to find or lease additional pasture.

Additionally, based on the livestock operator's consensus decision in March 1998 to prioritize the South Pasture for prescribed burn treatment first, the Bureau prepared for burning beginning as soon as 1999 in the South Pasture. These projects are funded and ready for implementation. Not only would the opportunity be foregone to complete these projects in the short-term, but grazing management would continue for the next three to five year period in the South Pasture similar to 1996-1998 when allowable utilization standards for key riparian and bitterbrush areas were exceeded.

Please review the attached Decision. If you have any questions, please contact Alan Uchida, Project Leader; Roger Farschon, Environmental Coordinator; or me at (530) 279-6101.

PROTEST AND APPEALS PROCEDURES

Any applicant, permittee, lessee or other affected interest may protest this Proposed Decision under Section 43 CFR 4160.1, in person or in writing to the Authorized Officer at the following address:

Susan T. Stokke
Field Manager
Surprise Field Office
PO Box 460 (602 Cressler Street)
Cedarville, CA 96104

Any protest must be filed within **15 days after receipt** of the Decision. The protest, if filed, should clearly and concisely state the reason(s) as to why the Proposed Decision is in error.

In the absence of a protest, this Proposed Decision will become the Final Decision of the Authorized Officer without further notice.

Any applicant, permittee, or other person whose interest in adversely affected by the Final Decision may file an appeal and petition for stay of the Decision pending final determination of the appeal. The appeal and petition for stay must be filed in the office of the Authorized Officer at the address stated 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 wish to file a motion for a stay, the appellant shall show sufficient justification 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.

As noted above, the petition for stay must be filed in the office of the Authorized Officer.

Sincerely,

Susan T. Stokke
Surprise Field Manager

Enclosure
- Decision Record
- Environmental Assessment

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Surprise Field Office
P.O. Box 460
602 Cressler Street
Cedarville, CA 96104
(530)279-6101 - (530)279-2171 FAX

4130(CA-370)

December 17, 1998

Tuledad Allotment

Grazing Strategy and Related Projects
Decision Record/FONSI
CA-370-99-03

Decision

It is my decision to implement the Proposed Action in the attached Environmental Assessment. No additional mitigation measures were identified as a result of the environmental analysis.

My decision implements a new short-term grazing strategy and associated projects designed to move the allotment toward meeting a new set of landscape goals and resource objectives for the Tuledad Allotment (#0802).

Rationale

The Tuledad Allotment was evaluated by a Technical Review Team (TRT) in 1995-1998 and this decision is intended to implement the recommendations of the TRT as approved by the Modoc/Washoe Experimental Stewardship Committee. Implementation of this decision would replace the 1996-1998 annual grazing decisions, and their accompanying site specific environmental assessments, with a new grazing strategy, new landscape goals and resource objectives, and a set of projects designed to meet the objectives. The decision would:

- Maintain or improve the diversity and health of vegetation types that occurs across the landscape.
- Create additional mosaic in the landscape by altering the age structure through prescribed fire of about 3,920 acres of upland shrub communities in the South Pasture.
- Improve riparian areas which are currently functional-at-risk, and maintain or improve riparian areas currently in properly functioning condition, and at or moving toward potential natural community.
- Ensure the long term health of uncommon but important sites including stream corridors, aspen stands and meadows.
- Reduce juniper density by implementing 7 juniper removal projects for riparian/aspen stand improvements and improve at-risk riparian areas through construction of 3-5 headcut structures.
- Create a 1,500 acre Duck Flat field to establish Great Basin wildrye on loamy bottom sites, and make the forage available for late summer/early fall use by livestock and wild horses.

- Maintain aggressive wildfire suppression to prevent the risk for conversion to cheatgrass or medusahead at low-elevation high-risk sites.
- Implement 300 acres of double burning to reduce annual forage and seed production of medusahead at Snake Lake.
- Create an 850 acre Buckhorn Field which will be rested from livestock grazing and conduct small scale bitterbrush experimental treatments to determine the best combination of practices for successful bitterbrush regeneration in the Cottonwood Mountain, Buckhorn and Coppersmith Hills areas.
- Create a 300 acre field at North Lake to provide an opportunity to observe long term changes in vegetation of ephemeral lakebeds under prescriptive grazing.
- Using hand tools, remove competing juniper and sagebrush from 5 sites in the Coppersmith Hills and Cottonwood Mountain areas.
- Establish small experimental test plots (less than 5 acres each) to evaluate forage kochia for rehabilitating low-elevation cheatgrass-dominated sites adjacent to Duck Flat (Nevada).

In order to accomplish the above objectives, livestock operators will be required to rest the South Pasture for about three years to provide for appropriate pre- and post-rest for prescribed burn project areas. The rest period will also be a benefit to key riparian and upland areas in the South Pasture which have received five consecutive years of mostly season-long use during 1994-1998. Livestock will be turned out in the North Pasture during the implementation period. About 650 cattle will be removed by July 15th and moved to the Modoc National Forest. The remainder will graze the North Pasture until allowable utilization is reached. When allowable utilization is reached, livestock will be promptly moved into the next scheduled use area or off the allotment. Intensive herding will be required to keep livestock well distributed throughout the scheduled use areas and to ensure that allowable utilization is not exceeded.

Finding of No Significant Impact

Base upon the Environmental Assessment CA-370-99-03, I have determined that implementation of the proposed Tuledad Allotment Grazing Strategy and Related Projects would not result in any significant impacts on the quality of the human environment. Therefore, an Environmental Impact Statement is not required according to section 102 (2) (c) of NEPA.

The project is in conformance with the Tuledad/Home Camp MFP. The proposed activity would not cause any undue or unnecessary environmental degradation.

Susan J. Stokke

Susan T. Stokke, Field Office Manager

12/17/98

Date

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Surprise Field Office
P.O. Box 460
602 Cressler Street
Cedarville, CA 96104
(530)279-6101 - (530)279-2171 FAX

In Reply Refer to:
4130 (CA-370) P

December 17, 1998

TULEDAD ALLOTMENT
Grazing Strategy and Related Projects
Environmental Assessment
CA-370-99-03

BACKGROUND

Introduction

The Tuledad Allotment is located about 25 miles south of Cedarville, California within portions of Lassen and Modoc Counties, California and Washoe County, Nevada. The allotment is 160,400 acres in size, with about 89% federal and 11% unfenced private land. Elevation ranges from about 4,600 feet in Duck Flat to just over 8,000 feet near Boot Lake. Terrain varies from steep to moderately steep and from flat to gently rolling. Precipitation averages less than 8" annually at lower elevations to more than 16" at higher elevations. Soils range from deeper loams with minimal surface rock to shallow, rocky or extremely alkaline soils.

Sagebrush-dominated plant communities are most common. Vegetation associations include Mountain Big Sagebrush/Mountain Brush/Juniper at higher elevations, Wyoming Big Sagebrush/Desert Shrubs/Juniper at lower elevations, and Greasewood/Desert Shrubs/Basin wildrye in Duck Flat. Low sagebrush, aspen, bitterbrush, mountain mahogany and a variety of riparian plant communities, including ephemeral lakebeds, are also present.

Wildlife is highly diverse, including deer, antelope, sage grouse, chukar, songbirds/neotropical migratory birds, and raptors. Some streams support a fishery. The allotment also has two wild horse herd management areas: Coppersmith and Buckhorn. Higher elevations provide mainly spring-summer-fall habitat for deer, wild horses, sage grouse and antelope, with lower elevations providing winter habitat mainly for antelope, wild horses and sage grouse. The primary winter deer habitat lies to the south within the Twin Peaks area which is managed by BLM's Eagle Lake Field Office, while the primary deer summer habitat lies north within the Modoc National Forest's Warner Mountain Ranger District.

The Tuledad Allotment Management Plan (AMP) was finalized in 1980 following completion of the Tuledad-Home Camp Management Framework Plan. The new AMP implemented a two-pasture deferred-rotation for the Tuledad Allotment, in which early and late grazing use was alternated each year between the North and South Pastures.

In addition to the two main pastures, several smaller pastures are also used as part of the overall grazing strategy. Included are the Cottonwood and Bald Mountain fields, which were fenced separately to provide for post-wildfire

management; the Worland and Tuledad fields, which are seedings that had marginal success; and the Boot Lake field which is about 50% privately owned.

The primary management objectives for this allotment were to manage for upward range trend (increased herbaceous cover) on uplands, increased vegetative cover on meadows, and to improve and maintain browse condition for winter deer use.

An evaluation of the 1980 AMP was completed in 1991 following extensive consultation with the grazing permittees, the Modoc/Washoe Experimental Stewardship Committee, the California Department of Fish and Game, the Nevada Division of Wildlife and other interested parties. The key results of the evaluation were that upland perennial grasses were generally improving, changes to riparian zones were mixed with many remaining in less than desirable vegetation condition, and bitterbrush stands which, for the most part, were being replaced by grasses and other shrubs. The causes of unsatisfactory riparian conditions and loss of bitterbrush was not clear for all areas of the allotment.

In 1992, BLM's Susanville District initiated a planning process for an area known as East Lassen, of which the Tuledad Allotment comprises about 10%. The intent of the planning was to develop a vegetation management plan that would meet the needs of the area. This plan was not completed for a variety of reasons, and the planning effort was abandoned in late 1995 following a series of public workshops in which the public asked that the planning effort be dropped.

However, in April 1992, an Interim Grazing Decision was issued for Tuledad that modified the Allotment Management Plan to provide additional consideration for riparian and bitterbrush areas. The decision was to remain in effect three grazing seasons, or until the East Lassen planning effort was completed. This decision was appealed by five entities representing wildlife interests. In early 1994, the appeals were dropped when the Bureau agreed to changes to the livestock grazing practices contained in the Interim Grazing Decision that related primarily to riparian and bitterbrush sites. The annual grazing plans developed with the livestock permittees for the 1994 and 1995 grazing seasons were a combination of the original AMP, the Interim Grazing Decision, and the 1994 agreement. These annual plans were developed through informal agreement with the permittees.

During the 1996-1998 grazing seasons, BLM prepared a site-specific environmental assessment and issued annual grazing decisions in consultation with the permittees and all the affected interests. This is because the Interim Grazing Decision and the 1994 agreement had sunset dates following the 1995 grazing season, when a more comprehensive "East Lassen" plan was expected to be completed. Another concern was the grazing permittee's appeal of the 1994 agreement; their appeal was upheld in 1998, leaving the 1992 appeal with it's original standing. The entire matter was eventually resolved in 1998 when the five original appellants withdrew their 1992 appeal.

Purpose and Need

Development of a new grazing strategy and supporting projects is needed to resolve the following concerns:

- The 1991 allotment evaluation and subsequent annual evaluations highlight some resource management opportunities which will result in improved resource conditions over the longer-term.

- Conflicts between livestock use and some special habitats such as aspen, bitterbrush, and riparian habitats are occurring from extended use periods, especially during the hot season (after July 15th). In many cases, riparian recovery is being slowed due to this use.

- Some riparian areas have less vegetation diversity, and offer fewer resource values than those which could be provided. For the most part, riparian areas are functioning properly, but some are at-risk.

- There is disagreement about whether or not bitterbrush should be the management objective for some key areas on the allotment, especially the Buckhorn. There is also disagreement about the factors contributing to its existing condition.

- Measured utilization levels are mostly in the light to moderate category; however, some areas with important resource values receive heavy use by grazing animals.

- Two livestock grazing permits have expired and require reevaluation before they can be renewed.

- A determination as to whether or not the allotment meets Rangeland Health Standards is required by the recently adopted range regulations.

Scoping Process

The proposed action was developed by a Technical Review Team (TRT) following on-site review and evaluation of the allotment during 1995-1998. TRT representatives included grazing permittees, University of California Cooperative Extension, the Nevada Division of Wildlife, Agricultural Research Service, and sportsman, environmental, and wild horse interests. An interdisciplinary team within the Surprise Field Office identified the resources within the allotment that potentially would be affected, the appropriate issues to be resolved, and the alternatives to be considered in this planning effort.

Extensive public involvement has occurred throughout the planning period. Periodic updates and briefings were made to the Modoc/Washoe Experimental Stewardship Committee, the Northeastern California Resource Advisory Council, the Modoc County Land Use Committee and to grazing permittees and affected interests, including the California Department of Fish and Game, Nevada Division of Wildlife, and Nevada Commission for the Preservation of Wild Horses. Additional scoping was also conducted in conjunction with issuance of annual grazing decisions for 1996-1998. These contacts highlighted that the identified issues, proposed resource objectives, and possible management practices, were appropriate and on track.

The proposed action was subsequently reviewed by the Modoc/Washoe Experimental Stewardship Committee, livestock permittees, Modoc County Land Use Committee, and other affected interests in November, 1998. No additional issues were identified. However, grazing permittees reiterated concerns about the potential financial impact if livestock are required to come off the allotment prior to the scheduled off date.

Issues Selected for Analysis

The following issues were identified during the scoping process:

- **Impacts to Upland Vegetation Communities**

  The livestock grazing management practices initiated in 1980 and modified in 1993-1998, have been successful in increasing the vigor of perennial grasses and other herbaceous vegetation in many areas of the allotment. However, some areas lack the desired vegetation mix and offer fewer resource values than could be provided. Practices such as prescribed fire and changes in grazing management have the potential to benefit these plant communities over the short and long term.

- **Impacts on Riparian Vegetation Communities**

  Riparian habitats present on the allotment are important to a large number of users, including livestock, wildlife and fish, wild horses and human visitors. In contrast to many upland plant communities, riparian areas are highly productive and have the greatest opportunity to improve over the shorter term. Timing, intensity, and duration of livestock use affect these communities over the short and long term. Prescribed

burning and other projects that change the structure and composition of vegetation communities also can directly or indirectly affect riparian communities. Changes in riparian condition will also directly and indirectly affect many wildlife and fish species such as non-game birds and trout.

- **Impacts on Wildlife Indicator Species**

  The allotment provides habitat for a wide variety of fish and wildlife species, including spring-summer-fall habitat for mule deer, and year-round habitat for antelope, sage grouse, and a wide range of non-game species. Changes in grazing management and implementation of a variety of other possible management practices have the potential to affect habitat conditions, especially forage quantity and quality, for wildlife and fish. Wildlife species selected as indicators for this analysis are mule deer, pronghorn and sage grouse.

- **Impacts on Wild Horses**

  The appropriate management level (AML) of wild horses for the Coppersmith and Buckhorn herds was established through monitoring, analysis and decision in November 1995 at 50-75 head and 59-85 head, respectively. Changes in grazing management and implementation of vegetation projects has the potential to affect habitat for wild horses present on the allotment.

- **Potential Impacts on Livestock Management**

  Changes in grazing management has potential to affect existing livestock operations through: (1) the ease of handling/controlling livestock; (2) the time spent in maintaining improvements; (3) the need for additional investment in range improvements or other required management actions; (4) potential changes in season-of-use for livestock, specifically having to come off the allotment prior to the scheduled off date when utilization limits have been exceeded; and (5) higher operating costs due to intensive herding efforts during project implementation. These kinds of changes may have potentially significant social or economic impacts, both to individual operators and to the local community.

Issues Considered but Dropped from Further Analysis

- A small portion of the allotment (7,956 acres) is located within the Buffalo Hills Wilderness Study Area (WSA: CA-020-619); and (2,670 acres) is located within the South Warner Section 202 Wilderness Study Area (WSA: CA-020-708). However, no structural or nonstructural improvements or other management actions are proposed for the WSA's. The manner and degree of grazing use within the WSA's under every alternative is similar to or less than the practices evaluated in the 1987 Final Eagle Lake/ Cedarville Wilderness Study EIS and the California Section 202 Wilderness Study Area EIS. Therefore, there was no need to reanalyze impacts on wilderness values.

- While Rocky Mountain elk are residing year-round in the Fandango-Lassen Creek area of the Warner Mountains (Modoc National Forest), elk are not currently residing on the Tuledad Allotment. Based on habitat suitability and population modeling, elk may eventually become a wildlife management species for the Tuledad area. Because the scope of this evaluation is five years and the likelihood of elk being resident within the allotment in a sizeable populations during the next decade is remote, this issue was not carried forward at this time.

- The interdisciplinary team also considered a number of other resources and programs including floodplains, prime farmlands, ACECs, cultural resources, and recreation. A determination was made that either the resource and/or program was not present on the allotment, would be considered as part of the project clearance process, or would not be measurably affected by any of the alternatives.

Consistency with Land Use Plan Direction

The Tuledad/Home Camp Management Framework Plan, approved in 1977, contains land use objectives and decisions for the entire planning area. Applicable land use plan goals, objectives and decisions are summarized in Appendix A for easy reference. The MFP has been reviewed and compared again with the three alternatives to be evaluated in this assessment. Based on this review, the alternatives are in compliance with the Tuledad/Home Camp Management Framework Plan.

Consistency with Fallback Rangeland Health Standards

They are:

Soils Health Standard Fallback (43 CFR 4180.2(f)(1)(i)):	Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.
Stream Health Standards Fallback (43 CFR 4180.2(f)(1)(iii):	Stream channel morphology (including but not limited to gradient, width/depth ratio, channel roughness and sinuosity) functions and are appropriate for the climate and landform.
Riparian and Wetland Sites Standard Fallback (43 CFR 4180.2(f)(1)(ii):	Riparian and Wetland areas are in properly functioning condition.
Biodiversity Standards Fallback (43 CFR 4180.2(f)(1)(iv)):	Healthy, productive and diverse populations of native species exist and are maintained.

Based upon a review of the information available for the allotment, three of the four Fallback Standards are being met. The Stream Health Standard is not being met, but progress toward meeting the standard is being made. Documentation of the Fallback Standards determination is contained in Appendix B.

ALTERNATIVES

Through the scoping process, three alternatives were selected for detailed consideration. They are:

- No Action - Continue grazing management as in 1996-1998.
- Proposed Action - Designate hot season livestock use areas.
- Early Use by Cattle - Remove cattle from the allotment on or before July 15th.

Features Common to All Alternatives

The alternatives considered in this environmental assessment are designed to meet the following landscape goals and resource management objectives. A detailed list of resource, monitoring and implementation objectives is found in Appendix C.

Landscape Management Goals

- <u>Manage for Healthy Rangelands</u>
  - Maintain or improve the diversity of vegetation types that occurs across the landscape.
  - Create additional mosaic in the landscape by altering the age structure of the upland shrub communities.
- <u>Manage for Healthy Riparian Areas</u>
  - Manage for properly functioning condition, at or moving toward potential natural community, unless a desired plant community has been established.
  - Ensure the long term health of uncommon but important sites including stream corridors, aspen stands, and meadows.

Resource Management Objectives

- Manage Duck Flat to establish Great Basin wildrye on loamy bottom sites.

- Increase the vigor of existing perennial grasses, especially in the high potential bottoms using very site specific, and low risk practices. Maintain aggressive wildfire suppression to prevent large areas from burning.

- Treat mature stands of mountain big sagebrush to create mosaics, increase vegetation diversity, structure, and provide mixed age classes of brush.

- Conduct small scale bitterbrush experimental treatments to determine the best practices or combination of practices for successful bitterbrush regeneration in the Cottonwood Mountain, Buckhorn, and Coppersmith Hills areas.

- Reduce the density of juniper on sites that retain an understory of desirable grasses, forbs, and shrubs. Removal of juniper in and around riparian areas is a high priority.

- Manage aspen stands to prevent stand loss and to enhance stands where feasible.

- Increase woody vegetation or maintain upward trend on the following streams/meadows:

  - *Cold water fisheries streams:* Emerson, Silver, North, and Bare Creeks.

  - *Perennial streams:* Barber, Upper Boot Lake, and Worland Canyon.

  - *Intermittent streams:* Ant Spring, Post Canyon, Chalk Hills drainage, Express Canyon, Snake Lake drainage, and Lower Bud Brown.

  - *Meadow systems:* Pryor Spring, Bud Brown complex, Mattress Spring, Windy Flat, Deer Spring, and West Garden Lake spring complex.

- Move the following riparian areas into properly functioning condition, as a minimum:

  - *Perennial streams:* Bryant Spring drainage.

  - *Intermittent streams:* Little Tuledad Canyon, Upper Tuledad Canyon, Red Rock Creek, and Cedar Canyon.

- Evaluate forage kochia (an introduced species) in low production, low rainfall sites which are presently cheatgrass mono-cultures.

Description of Alternatives Considered

For a comparison of the three alternatives, please refer to Table 1 (pages 12 and 13). Maps outlining the alternatives are found on pages 14-16.

- **No Action**

The theme for the **No Action** Alternative is to accomplish the above landscape goals and objectives over the longer-term by minimizing impacts to existing livestock operations in the shorter-term. This alternative would continue livestock grazing on the Tuledad Allotment as it has been managed for the last three years for an additional five years. An annual grazing meeting would be held prior to each grazing season to define specific management requirements and practices. Habitat improvements such as prescribed burning and vegetation treatment is planned; however, opportunities for burning would be limited to areas which can be dependably rested from grazing until recovery objectives are met. Fencing of some riparian, bitterbrush, and aspen communities and herding would be required to meet utilization standards. Also, adjustment would be made as needed to accommodate vegetation recovery on wild fires as needed. Projects planned for development and grazing use by cattle are outlined below. Any needed adjustments to meet resource objectives would be made annually.

No Action Alternative Proposed Projects			
Project Type	Project Name	Purpose	Quantity
Fence Construction	Buckhorn	850 acre field to provide opportunities for bitterbrush regeneration studies, differential utilization monitoring	3.3 miles
	Duck Flat	1,500 acre field to provide summer/early fall forage for cattle on Great Basin rye sites.	4.5 miles
	Totals:		7.8 miles
Fence Removal	Tuledad Seeding	Eliminate old seeding pasture	7.0 miles
	Worland Seeding	Eliminate old seeding pasture	10 miles
	Totals:		17 miles
Prescribed Burning		Burn mature stands of Mtn. big sagebrush with juniper to retain shrub steppe communities.	370 acres
Head Cut Repair	Upper Tuledad Canyon	To stabilize existing small headcuts.	3 each
Aspen Treatment		Use hand tools to remove competing juniper and sagebrush from aspen stands on the Coppersmith Hills and Cottonwood Mtn.	5 sites

Sheep Grazing

Sheep would be scattered throughout lower elevations during April for lambing. They would then be bunched into two or three bands of 1,000 sheep and slowly trailed toward the western part of the allotment until mid-summer. One band would come back on the allotment in late summer and leave September 30th to October 15th. There would be no sheep use of key bitterbrush areas after July 15th. Trailing routes would be defined annually, to prevent sheep use of the same areas at the same time each year.

Wild Horses

Wild horses on the Tuledad Allotment would continue to be managed in two herd management areas (Coppersmith and Buckhorn). Appropriate management levels (AML) established in November 1995 would be maintained and periodically re-evaluated based on the utilization standards for herbaceous riparian and upland vegetation.

Range Improvements

Small experimental test plots (less than 5 acres each) would be established to evaluate forage kochia for rehabilitating low elevation, cheatgrass dominated sites adjacent to Duck Flat, and to test the success of various techniques in establishing bitterbrush on the Buckhorn.

Grazing Permits

Grazing permits would be reissued to:

- Kurt Stodtmeister: 216 active AUM's for a period of 10 years.
- Lazy SJ Ranch: 1,017 active AUM's for a period of 10 years.

Cultural Resource Compliance

Pursuant to the provisions of the Programmatic Agreement among the Bureau of Land Management, the Advisory Council on Historic Preservation and the State of California, the Surprise Field Office shall assume the responsibility for identification, evaluation and assessment of effect on all historic properties prior to implementation of all actions which might adversely affect Cultural resources. This agreement requires BLM to maintain the necessary professional Cultural Heritage staff with appropriate disciplinary expertise to make judgements and decisions about historic properties and to carry out duties and responsibilities previously assigned to SHPO.

Pursuant to Section 106 of the National Historic Preservation Act and Paragraph 2(b) of Executive Order 11593, the Nevada State Historic Preservation Officer and the Advisory Council on Historic Preservation will be provided documentation and allowed to comment prior to the implementation of all actions which might adversely affect cultural resources eligible for inclusion on the National Register of Historic Places.

Livestock Management Requirements

- In order to maintain rangeland health over the short and long term and to ensure that riparian areas remain properly functional at a minimum, livestock will be required to be promptly moved into the next scheduled use area or off the allotment when allowable utilization has been reached.

- Livestock may be turned out up to two weeks earlier than scheduled on-date (as early as March 15th) only with ***prior*** authorization from the Surprise Field Manager and provided that soil and vegetation conditions support the earlier turnout.

No Action Alternative Grazing Strategy for Cattle		
Operator	Season	Use Area
Berryessa	Early and Mid	Bald Mountain
North Fork Ranch	Early and Mid	North Pasture
Remainder of Cattle	Early and Mid	South Pasture, Buckhorn Road, Cottonwood Mountain
	Late	South Pasture (outside Buckhorn key bitterbrush area) North Pasture (outside of Coppersmith key bitterbrush area and areas used by cattle early)

- **Proposed Action**

The theme for the **Proposed Action** Alternative is to balance the socio-economic needs of livestock operators for summer livestock forage with shorter-term accomplishment of the desired landscape goals and objectives. Summer livestock use would be made in a series of new pastures and use areas that have few conflicts between livestock grazing and other uses during the summer and early fall. This alternative would establish a Duck Flat Pasture for Great Basin wildrye reestablishment, a North Lake field to assist in determining a desired plant community for lakebeds in the allotment, and a Buckhorn Field to allow for experimenting with various techniques to reestablish bitterbrush. Proposed range improvements and grazing use by cattle is summarized below. Adjustments would be made as needed in order to accomplish proposed projects and provide for appropriate post-treatment rest.

Proposed Action Alternative Proposed Projects			
Project Type	Project Name	Purpose	Quantity
Fence Construction	Buckhorn	850 acre field to provide opportunities for bitterbrush regeneration studies, differential utilization monitoring	3.3 miles
	Duck Flat	1,500 acre field to provide summer/early fall forage for cattle on Great Basin wildrye sites.	4.5 miles
	North Lake	300 acre field to provide an opportunity to observe long term changes in vegetation of ephemeral lakebed under prescriptive grazing	3.0 miles
	Totals:		10.8 miles
Head Cut Repair	Upper Tuledad Canyon	To stabilize existing small headcuts.	3 each
Prescribed Burning		Burn mature stands of Mtn. big sagebrush with juniper to retain shrub steppe communities.	3,920 acres
Aspen Treatment	Cottonwood Mtn. Coppersmith Hills	Use hand tools to remove competing juniper and sagebrush from aspen stands on the Coppersmith Hills and Cottonwood Mtn.	5 sites

Proposed Action Alternative Proposed Projects			
Project Type	Project Name	Purpose	Quantity
Medusahead treatment	Snake Lake Medusahead Treatment	Double burn medusahead site and graze with goats to deplete annual forage and reduce seed production.	300 acres

Proposed Action Alternative Grazing Strategy for Cattle			
Operator	Year	Season	Use Area
North Fork Ranch and Berryessa	1999 - 2000+	Early	Bald Mountain --> Bare Creek
		Mid	Little Hat Mountain --> Mahogany Mountain
		Late	N/A
Remainder of Cattle	1999 - 2000+	Early	Tuledad Canyon --> Duck Flat
		Mid	Boot's Hole --> Cottonwood Mountain
		Late	Little Hat Mountain, Coppersmith Hills
	2000+	Early	Worland --> Rye Patch
		Mid	Buckhorn --> Express
		Late	Burnt Lake, North Cottonwood

- **Early Use Grazing Alternative**

The theme for the Early Use Grazing Alternative is to maximize opportunities for shorter-term accomplishment of landscape goals and objectives at the expense of existing livestock operators who would be denied use of available forage after July 15th annually for summer/fall cattle grazing. This alternative would emphasize aspen restoration in relatively large blocks in conjunction with adjacent big sagebrush sites; improving riparian vegetation for cold water fish streams as well as those streams with potential for woody vegetation establishment; and would maintain high quality wetland and spring meadow habitat.

Proposed projects and grazing use by cattle are summarized below. Adjustments would be made as needed in order to accomplish proposed projects and provide for appropriate post-treatment rest.

Early Use Grazing Alternative Proposed Projects			
Project Type	Project Name	Purpose	Quantity
Head Cut Repair	Upper Tuledad Canyon	To stabilize existing small headcuts.	3 each
Prescribed Burning		Burn mature stands of Mtn. big sagebrush with juniper to retain shrub steppe communities.	3,370 acres

Early Use Grazing Alternative Proposed Projects			
Project Type	Project Name	Purpose	Quantity
Aspen Treatment	Cottonwood Mtn. Coppersmith Hills	Use hand tools to remove competing juniper and sagebrush from aspen stands on the Coppersmith Hills and Cottonwood Mtn.	7 sites
Fence Removal	Tuledad Seeding	Eliminate old seeding pasture	7 miles
	Worland Seeding	Eliminate old seeding pasture	10 miles
	Totals:		17 miles

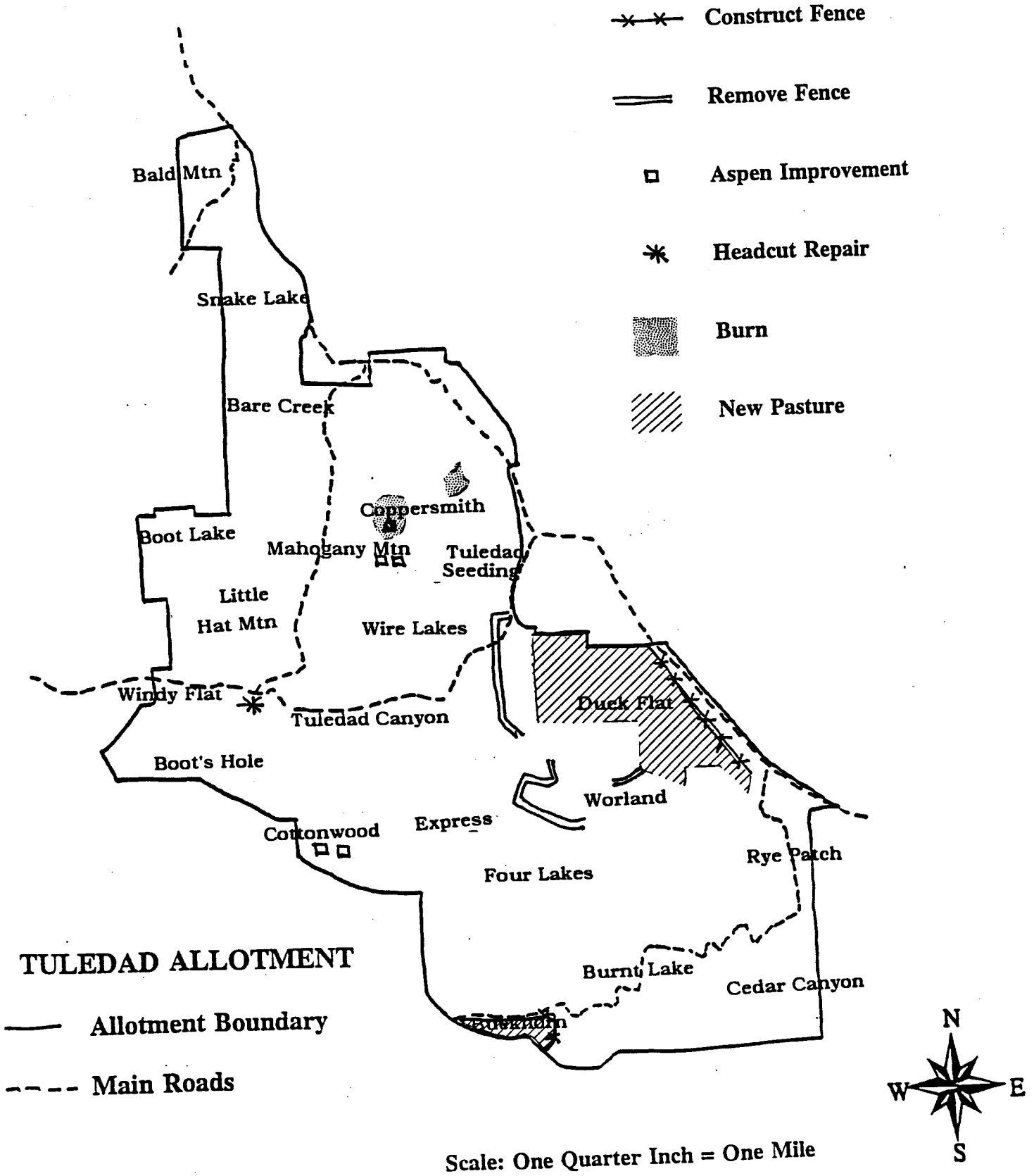
Early Use Grazing Alternative Grazing Strategy for Cattle			
Operator	Year	Season	Use Area
North Fork Ranch and Berryessa	Year 1	Early	Bald Mountain --> Snake Lake
		Mid	Bare Creek --> Boot Lake
	Year 2	Early	East Coppersmith --> North Coppersmith
		Mid	Coppersmith Hills --> Wire Lakes --> Little Hat Mtn.
Remainder of Cattle	Year 1	Early	Tuledad Seeding/Duck Flat --> Tuledad Canyon
		Mid	Boot's Hole/Windy Flat --> Cottonwood Mountain
	Year 2	Early	Worland/Rye Grass --> Rye Patch
		Mid	Cedar Canyon --> Buckhorn --> Four Lakes/Express

Table 1. Comparison of Features Across Alternatives Considered

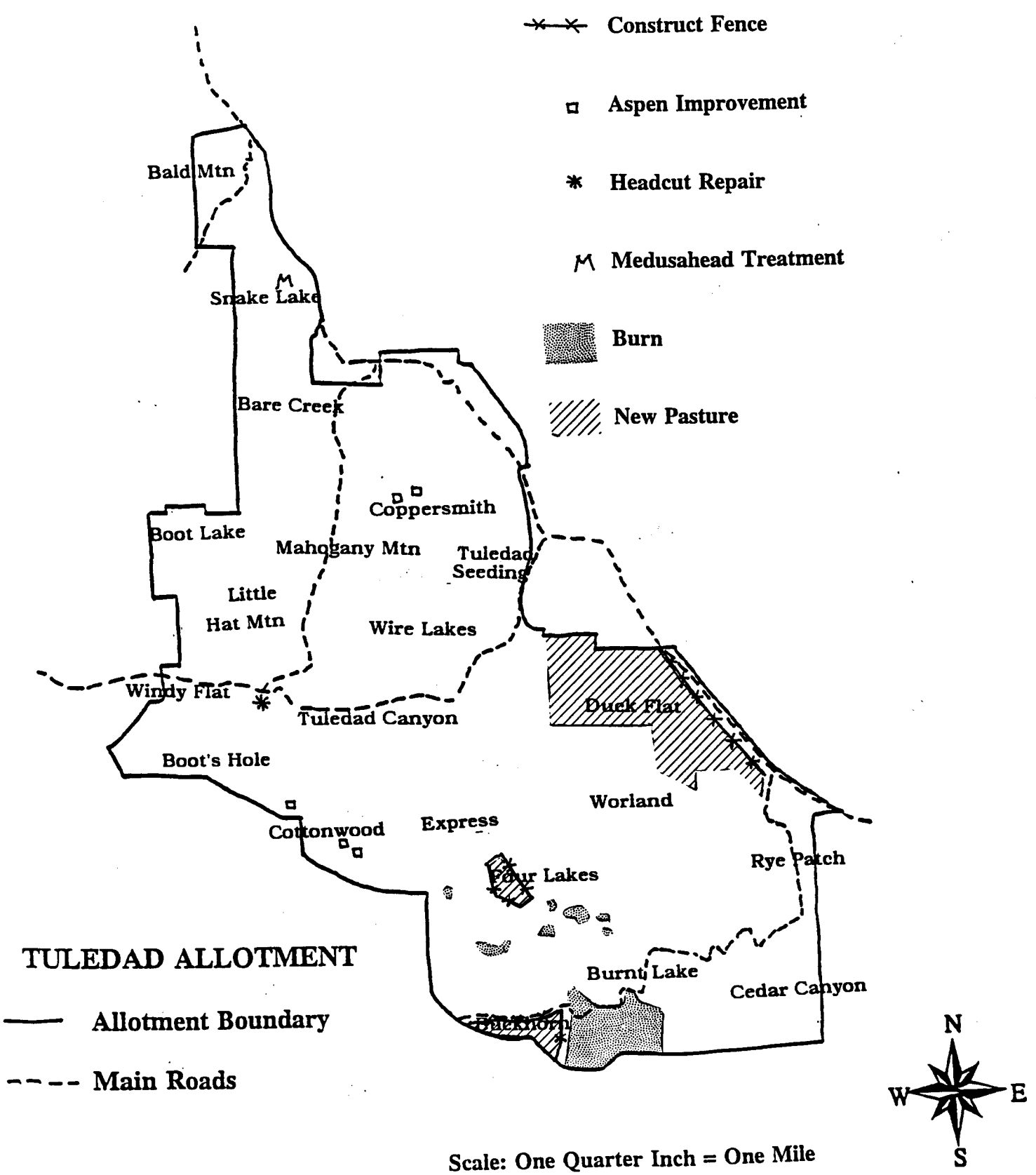
Item	Proposed Action	No Action	Early Use Grazing
Theme	Balance the socioeconomic needs of livestock operators for summer livestock forage with shorter-term accomplishment of the landscape goals/objectives. Designate hot season use areas for livestock in areas with minimal conflicts with other uses.	Accomplish the landscape goals/objectives over the longer-term by minimizing impacts to livestock operations in shorter-term. Continue livestock grazing as in 1996-1998.	Maximize opportunities for shorter-term accomplishment of landscape goals/objectives at the expense of livestock operator's who would be denied use of available forage for livestock after July 15th.
Permitted Season	April 1st to September 30th	April 1st to September 30th	April 1st to July 15th
Livestock Turnout	*Sheep:* March 26th *Cattle:* April 1st, with option of no earlier than March 15th or as late as April 15th if soil and vegetation conditions warrant, and only with *prior* authorization by Field Manager.		
Permit Renewal	Reissue grazing permits to Kurt Stodtmeister for 216 active AUM's and Lazy SJ Ranch for 1,017 active AUM's for a period of 10 years each.		
Sheep Grazing	Sheep would be scattered throughout lower elevations during April for lambing. They would then be bunched into two or three bands of 1,000 and slowly trailed toward the western part of the allotment until mid-summer. One band would come back on the allotment in late summer and leave September 30th to October 15th. There would be no sheep use of key bitterbrush areas after July 15th. Trailing routes would be defined annually, to prevent sheep use of the same areas at the same time each year.		
Cattle Grazing	Early-mid cattle use in Bald Mountain, North and South Pastures at alternating turn-out locations. Late season use in designated fields/areas with minimal resource conflicts.	Early-mid season use in Bald Mountain and North Pastures; early-mid-late season use in South Pastures. Some fencing of key areas and herding required to meet utilization standards.	Early-mid season livestock use only.
Cattle Takeoff	When allowable utilization levels in designated key areas have been reached.		On or before July 15th.
Table 1 Con't. Allowable Use in Uplands (Herbaceous species)	Average utilization standard of 50%. No more than one transect can exceed 70% on any one reading per year. No more than three transects can exceed 60% on any one reading per year.	Maximum overall use by the end of the growing season is 60%.	None specified, as early takeoff provides ample time for regrowth.
Allowable Use in Riparian Areas	Key perennial streams: <30% on woody species. Remaining riparian areas: 50% on woody species. 65% maximum on herbaceous species (in the interim to facilitate project implementation).	At the end of the grazing season: 4 inches minimum stubble height on riparian areas. 45% maximum use on willows.	None specified, as early takeoff provides ample time for regrowth.

Item	Proposed Action	No Action	Early Use Grazing
Allowable Use for Bitterbrush	15% use when livestock leave Cottonwood Mountain. 40% when livestock leave Coppersmith Hills area. Buckhorn Field will be rested.	15% maximum use of bitterbrush in key areas by mid-July. 45% maximum use on bitterbrush except in key bitterbrush areas.	None needed due to a July 15th or earlier takeoff date.
Other Stipulations	• No salting or sheep bedding in aspen stands. • No use in Bud Brown, Bare Creek or Ant Spring exclosures, unless authorized by Field Manager. • Fences must be maintained to BLM standards prior to livestock turnout (higher elevation fences when access permits). • Herding will be sufficient to ensure that allowable utilization is not exceeded within designated key areas. Once allowable utilization levels are met, cattle will be moved into another pasture or use area, or home. • Permittees need to designate a representative that BLM can contact to provide instructions to the herder.		
New Management Units/Use Areas	• Duck Flat Field • North Lake Field • Buckhorn Field • Hot Season Use Areas - Boot's Hole, Burnt Lake, North Cottonwood, Little Hat Mtn., Coppersmith Hills	Buckhorn Eliminates Tuledad and Worland Seeding Fields	Eliminates Tuledad and Worland Seeding Fields
Fence Removal	0 miles	17 miles	17 miles
New Fence	10.8 miles	9.7 miles	0 miles
Prescribed Fire	3,920 acres	370 acres	3,370 acres
Restore Aspen	5 stands	5 stands	7 stands
Repair Headcuts	3-5 headcut structures		
Test Plots	Small test plots will be established to test forage kochia for rehabilitation on low elevation cheatgrass dominated sites at Duck Flat, and to experiment with techniques for bitterbrush and other palatable shrub establishment in the Buckhorn Field.		
Medusahead double burning	300 acres	300 acres	0 acres

NO ACTION ALTERNATIVE

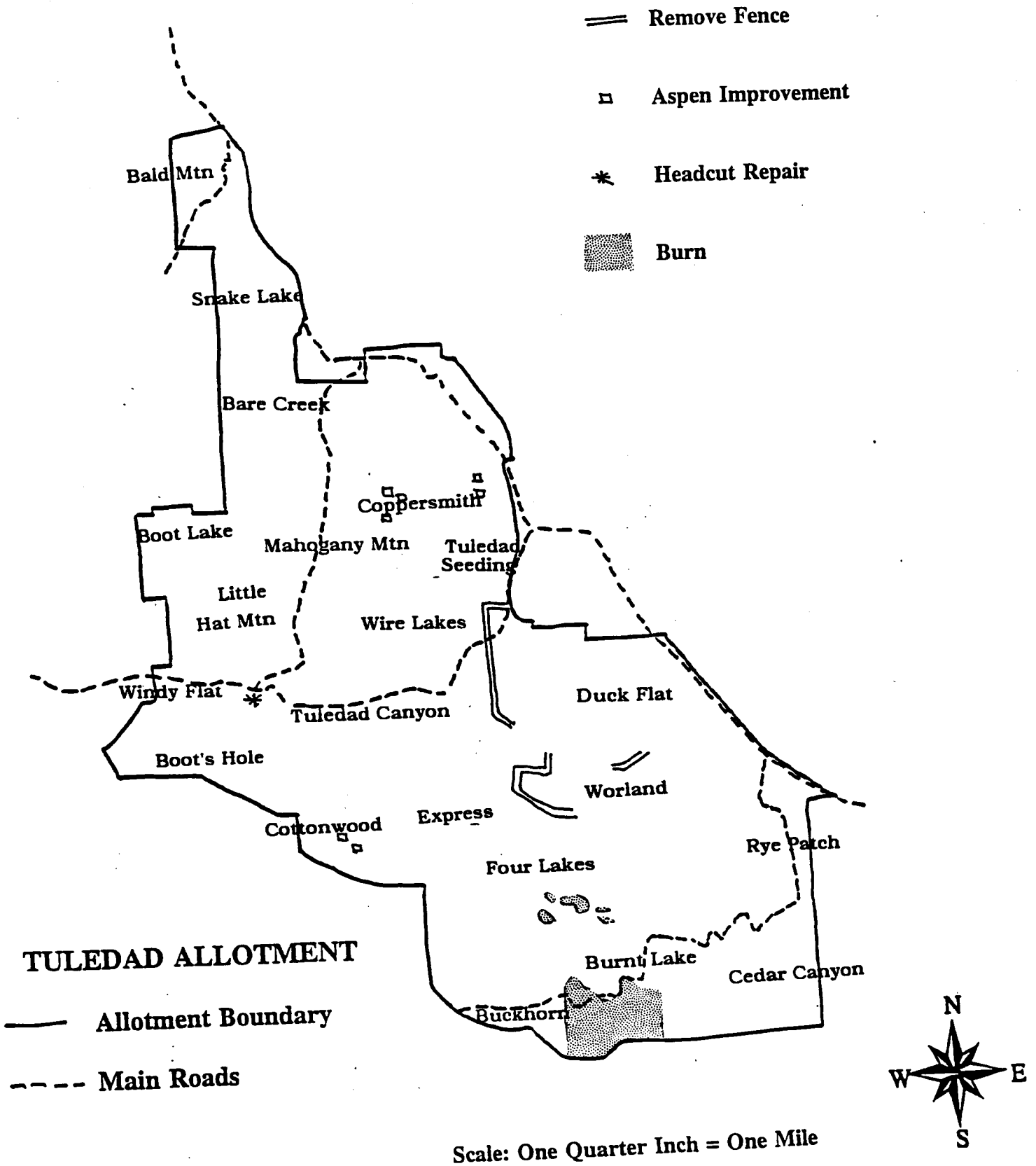


PROPOSED ACTION ALTERNATIVE



EARLY USE ALTERNATIVE

PROJECTS



Scale: One Quarter Inch = One Mile

Alternatives Considered but Dropped from Detailed Study

- An alternative was submitted by several of the livestock operators in the allotment on December 1, 1998. The alternative proposes burning in the North Pasture instead of the South Pasture (as proposed in the Proposed Action). This would require that livestock turned out by the North Fork Ranch graze in a smaller area than they currently use for a three to five year period in order to avoid the burn areas. Under this alternative, the remaining permittees would continue to use the South Pasture (mostly season-long) for the next three to five years, along with use of some portions of the North Pasture that would not be burned.

  This alternative is not being considered in detail here because the environmental effects are similar to those described for the Proposed Action, with the exception that the potential financial impact to the livestock operator's would be greater. The alternative would require increased herding by the North Fork Ranch in order to provide for adequate pre- and post-treatment rest of burned areas in the North Pasture, or if herding was not effective and all cattle were required to be placed in the South Pasture, there is a high likelihood that the remaining permittees would exceed allowable utilization limits, requiring them to come off the allotment prior to the scheduled off date. As a result, these operators would need to find or lease additional pasture.

  Additionally, the opportunity to implement prescribed fire projects in the South Pasture during the next two year period would be foregone. Funding is currently available for these projects and the projects are ready for implementation. Also foregone would be the resulting increase in available forage for wildlife, livestock and wild horses and a loss in the flexibility the additional forage would provide to livestock operators while the North Pasture is being rested pre- and post- prescribed fire treatment. It would also require at least an additional two to three years of the present management while the Bureau prepares for the burning in the North rather than the South Pasture. The Bureau originally prepared for burning beginning in the South Pasture based on the livestock operator's consensus recommendation in March 1998. As a result, the South Pasture would receive six to eight consecutive years of season-long grazing. During 1996-1998 under this management, goals for utilization of key riparian and bitterbrush areas were not met.

- On December 1, 1998, the livestock operators also submitted another alternative. This alternative would continue present management in the 1999 season. In the 2000-2002 grazing seasons, livestock would be turned out in the North Pasture. After July 15th, livestock would use Boot Lake, Cottonwood Mountain and Red Rock Lake. Approximately 15,000 acres would be burned in the South Pasture in the fall of 1999. In the fall of 2002, about 15,000 acres would be burned in the North Pasture. Livestock would use the South Pasture, Cottonwood Mountain, Boot Lake and Red Rock Lake during the 2003-2004 grazing seasons.

  This alternative is not being considered in detail here because the acreage proposed for burning is greater than that which is considered doable, affordable and appropriate to meet the landscape goals. Also, there would be severe economic impacts on the North Fork Ranch during the 2003-2004 grazing season, when they would not be allowed to turnout. Additionally, use of Cottonwood Mountain and Boot Lake after July 15th is a concern. Livestock use of these areas after July 15th would be limited by allowable utilization levels appropriate to ensure maintenance of range health. The result would be livestock forage available for only a short use period, or very low numbers.

- A no livestock grazing alternative was considered but not carried forward for detailed analysis. The existing land use plan allocates the allotment for grazing and it is not proposed to address that allocation at this time. Also, a no grazing alternative was considered in the 1978 Tuledad/Home Camp Final Grazing EIS.

AFFECTED ENVIRONMENT

The affected environment of the Tuledad Allotment has been discussed in the 1978 Tuledad/Home Camp Grazing EIS and Environmental Assessments completed in 1996, 1997, and 1998. Only additional information collected since then and which is pertinent to the issues is discussed here. For more information about historic conditions and influences, and a detailed description of the seven major vegetation associations found on the planning area, please refer to Appendix D.

The Tuledad Allotment has been managed under a complex grazing system since 1980. The system provides periods of growing season deferment from livestock grazing for one or more areas within the allotment each growing season. Since 1980, utilization of upland vegetation communities has been mostly light to moderate (moderate use is the maximum allowable). Beginning in 1994, utilization standards were also applied to key riparian plant communities and bitterbrush areas. During this period, wild horse numbers have been reduced to Appropriate Management Levels and authorized livestock use has been about 60% of the term permitted. The cattle grazing system in four of the last 5 years (1994 to 1998), has been to use the North Pasture early and the South Pasture late or season-long. As a result, utilization in the North Pasture and Bald Mountain has been light on upland grasses and bitterbrush, and light to moderate on riparian vegetation. Utilization in Cottonwood Mountain has been light to moderate on upland grasses, moderate to heavy on bitterbrush, and moderate on riparian vegetation. Utilization in the South Pasture has been moderate on upland grasses and moderate to heavy on bitterbrush and riparian vegetation. Use in Boot Lake started out during this period with heavy on all vegetation. The area has essentially been rested since 1996, in association with a prescribed burn that was completed in 1997.

Upland Vegetation Communities

The most evident change in upland vegetation communities is the increase in perennial grass composition. The change is reflected by the utilization mapping, the increased size of wild fires, and visual observations about the increasingly yellow color the uplands show after the grass cures. The reasons for this change are related to favorable forage years, voluntary non-use by livestock, and the grazing system implemented in 1980. Increasing the perennial grass component of upland range sites was one of the decisions in the Tuledad/Home Camp MFP in 1977.

Bitterbrush, the most important plant for mule deer and pronghorn on a yearlong basis, has not improved in the same universal manner as the perennial grasses. It is also a preferred browse by cattle and sheep in the summer and sheep in the fall. Bitterbrush form class, a reflection of the browsing use over several years, has improved greatly on a number of sites including Boot's Hole, Bald Mountain, Bare Creek, and Upper Tuledad. However, on areas that received the greatest demand for bitterbrush by wildlife, mainly deer, (the Coppersmith Hills, Buckhorn, and Cottonwood Mountain), the bitterbrush trend has been either static or down. On the Buckhorn, a substantial fraction of the mature bitterbrush plants have died for reasons not entirely clear, but may possibly be related to the natural life cycle of the shrubs and drought conditions on ashy soils. Cages and three way exclosures indicate that both livestock and mule deer are capable of heavily utilizing the bitterbrush on the key sites. The recent decline in deer numbers have enabled some bitterbrush populations to rebound. Young plants are relatively common on the Coppersmith Hills and Buckhorn areas, but total bitterbrush production remains below what was observed several decades ago.

Western juniper is continuing its expansion from rocky, fire safe sites into communities previously dominated by big sagebrush and perennial grasses. The cause of the expansion is not fully understood, but most likely involves a combination of reduced fire frequency associated with grazing and active fire suppression, increase in shrubs and optimal climatic conditions were likely the primary factors initiating the expansion. Approximately one half of the allotment currently has juniper cover greater than 10 percent with an estimated 20 percent of the allotment with cover at a level where understory shrub and grass communities are collapsing. The majority of the juniper sites occur on the western portion of the allotment.

Aspen stands are an uncommon but important upland plant community that occupy approximately 2% of the allotment. They are found on the coldest sites at high elevation and localized northern exposures. Aspen communities vary in size from less than an acre to a few acres, from a few mature trees to several hundred if multiple age classes are present. The stands are an extremely valuable component for wildlife habitat and plant diversity in the allotment. An inventory of aspen stands conducted in 1994 revealed that a high percentage of the stands did not contain the multiple age classes required to assure long term survival. Other observations indicate the area currently occupied by aspen stands is much less than the potential acreage. Factors that affect aspen health and stand size are grazing of the young aspen suckers, lack of fire that stimulate suckers and removes competing woody vegetation, and juniper expansion into existing stands. One area in which aspen stands are increasing is in the Boot Lake pasture. Young aspen suckers are evident on the perimeter of most stands. Many of these suckers are now taller than livestock or deer can browse suggesting that many will mature into trees. Additionally, a portion of this pasture was burned by BLM in 1997 and the burned stands show a strong sucker response to fire.

Mountain Mahogany stands inhabit approximately 10% of the allotment. This small tree/large shrub provides both high quality forage and cover for mule deer and other species. Observations and transects in mahogany stands reveals little successful reproduction. However, it is likely the current extent of mahogany stands reflects an abnormal condition that resulted from past heavy grazing and a decrease in fire frequency that allowed mahogany to move out from fire safe sites. Factors that influence mahogany stand health are livestock and wildlife browsing of young and seedling plants preventing them from maturing. Mineral soil is also required for seedling establishment as seedlings growing in organic matter will not survive. During the recent period of very low deer numbers, increasing numbers of seedling and young mahogany plants have been observed, but the long term trends are probably for less mahogany due to large wild fires and invasion of juniper into mahogany stands.

The ecological status of upland communities is only partly understood at this time. The field portion of an ecological status inventory was completed in 1994. However, the compilation of the data and summary has not been finalized pending completion of the updated soil survey and range sites descriptions by NRCS. The 1994 field inventory was based upon the original soil survey and the 24 ecological sites published in the survey. Since then, soil scientists and vegetation specialists from NRCS have spent the past two field seasons in the Tuledad area refining their data. The number of soils and soils associations have increased, but the most dramatic change has been in the number of range site descriptions (up from 24 to over 50). Several new sites have yet to be described in Tuledad and the field work for riparian sites is scheduled for 1999.

About 45% of the allotment is comprised of mountain big sagebrush/mountain brush stands above 5,500 feet elevation. Sagebrush is typically dense and decadent in most communities, and is limiting the vigor of both herbaceous species and palatable shrubs, such as bitterbrush. Of greatest concern at this time, is that 3/4 of the big sagebrush sites are susceptible to juniper encroachment leading to the eventual establishment of a juniper woodland. The potential loss of openings and habitat diversity especially important for sage grouse will be affected by the increase of juniper woodlands. As western juniper increases in both density and range, it is successfully competing with most herbaceous species, as well as bitterbrush, aspen, and mountain brush. Because of past livestock grazing and aggressive wildfire suppression, we can expect many sites to remain or progress towards a juniper woodland community.

About 25% of the allotment area is comprised of low sagebrush sites. Most sites are in satisfactory condition with a good diversity of shrubs and herbaceous species present. The shallowest, rockiest sites, and the heaviest clay soils support very little vegetation other than low sagebrush and gray rabbitbrush. Our concern at this time is with juniper encroachment and the potential loss of openings and habitat diversity especially important for antelope and sage grouse on these sites.

About 8% of the allotment is in desert shrub sites. Currently these sites are dominated by greasewood and

other shrubs, with little herbaceous vegetation present in the understory. These shrubs have largely replaced Great Basin wildrye and the other herbaceous vegetation that could be present on the loamy bottom sites. As a result, forage values for all large ungulates, especially in the spring, has been substantially reduced. On adjacent private lands within this same vegetation association, spraying with herbicides and several years of limited livestock use, has resulted in several stands of vigorous Great Basin wildrye and perennial forbs. In Duck Flat, opportunity exists to re-establish Great Basin wildrye by burning the loam bottom sites and limiting grazing to late season use.

The allotment's basins and breaks below 5,500 feet elevation are dominated by even-aged, mature Wyoming big sagebrush, and desert shrubs, with mostly cheatgrass and annual forbs in the understory (comprising about 10% of the allotment). Many sites have heavy clay soils that are subject to shrinking and swelling. These shrink-swell sites have high potential for conversion to medusahead following a wildfire or with improper grazing management. Opportunity exists to increase the vigor of existing perennial grasses through grazing management, especially in the high potential bottoms, and to maintain aggressive fire suppression to minimize the potential for conversion to cheatgrass following wildfire.

Riparian Vegetation Communities

Within the planning area, riparian areas include perennial, intermittent and ephemeral drainages, springs, seeps, wet to dry meadows and ephemeral lakebeds. Although riparian communities comprise only 3% of the vegetation landscape, they are among the most important by providing forage and habitat for a wide variety of species. Plant communities range from bluegrass/rush dominated communities to sedge/woody shrub dominated communities. A wide variety of forbs is also present in the majority of the riparian areas. Two factors appear to explain the existing plant communities, grazing intensity and season-of-use and stream channel type. The Bare Creek and Barber Creek systems, with A and B type channels (Rosgen) with gravel beds have become increasingly dominated by willows and water birch after a change to spring and early summer livestock use. Other systems with wider floodplains and heavier soils show increases in the amount of ground covered by native riparian species, but continue to be dominated by Kentucky and Nevada bluegrasses, Nevada and Baltic rushes, meadow barley, red top, and a variety of forbs.

Four streams contain cold water fisheries (Bare, Silver, North, and Emerson). The streams have been stocked occasionally with rainbow, brown or eastern brook trout. An additional stream, Barber Creek has no record of being a cold water fishery, but offers outstanding riparian values for wildlife species. Nearly half of the fisheries habitat provided within this planning area is privately owned. There is no recent evaluation of fishery conditions, however woody and herbaceous vegetation cover has increased from photos taken in the 1970's. Apparent trend in 1995-1998 is up sharply from prior years. This is in part due to the outstanding growing seasons; but in several cases, the presence of young willow increasing on gravel deposition areas indicates a longer term gradual upward trend. Silver, North, Upper Bare and Lower Bare Creeks supports an abundance of diverse vegetation.

The results from the riparian functional assessment for this area indicate that nearly all riparian areas are properly functioning condition hydrologically. However, some riparian areas such Little Tuledad and Upper Tuledad Canyon are functional-at-risk because of active bank scouring and small headcuts. Many riparian areas have less diverse vegetation and offer lower resource values than those which could be provided. On one system, a fence separates a bluegrass wildrye/willow community from a bluegrass/rush/forb community. The management differences are late fall/winter grazing and a recent fire on the wildrye/willow site compared to spring/summer grazing on the other site. Juniper is also increasing on many riparian sites and may be decreasing water flow into some systems.

Lakebeds support a variety of water tolerant plant communities, including forbs, sedges, rushes, grasses and silver sagebrush. Annual production varies tremendously depending on the amount of winter and spring

precipitation received. Currently, lakebeds are managed as part of the larger grazing pasture and are concentration areas for livestock, wild horses and antelope due to the availability of water and green forage during the summer/fall months.

Wildlife Indicator Species

The following species were selected as Indicator Species for this analysis: Mule deer, Pronghorn antelope, and Sage grouse. Each has relatively well known habitat requirements, was considered in the development of the goals for the allotment, and is known to use the areas to be affected by livestock use and the proposed projects. No non-game species were selected as an indicator species because their habitat use within the allotment is less understood and the key habitat important for the majority of non-game species is riparian systems which is already an issue for analysis. Several factors for all three species that are beyond the scope of this proposal are available water, predation, and hunting pressure.

Current mule deer and antelope population trends are down for the planning area. Populations of both species dropped during the seven year drought of the late 80's/early 90's and was compounded by a severe winter in 1992/1993. Populations have shown some indications of recovery, but the factors that limit population growth are complex and include such factors as long term habitat changes, predation, behavioral issues, and hunting pressure.

Habitat requirements for healthy Mule deer include forage and cover in roughly equal amounts. Cover includes topographic features as well as tall, dense vegetation. Quality forage for deer includes succulent brush from a variety of palatable and digestible species, a good component of forbs and a good selection of grasses during the early spring green up. At this time, available cover far exceeds forage on most sites. Late successional brush fields are the predominant feature across the landscape. On the western portion of the allotment, Western juniper is increasing and shrub/herbaceous communities are declining.

Habitat requirements for Pronghorn antelope, include large areas of flat to rolling terrain dominated by short vegetation. A good mix of high quality low shrubs, forbs and grasses are required. The ability of antelope to see long distances is also an important factor in habitat use. The allotment contains decreasing amounts of antelope habitat as increasing juniper density decreases forage quantity and quality as well sight distances. Stands of tall, mature brush reduces the ability of pronghorn to use small patches of short brush sites. Over dominance of shrubs combined with a striking increase in grasses decrease the availability of quality forbs.

Sage grouse populations are relatively stable but low. A variety of factors is affecting population trends including upland habitat conditions, meadow conditions, predation, hunting strategies. Habitat qualities necessary for healthy populations of sage grouse include mixed age stands of sagebrush with a understory of herbaceous vegetation greater than 7 inches, access to a variety of succulent forbs through the spring and summer, and availability of insects during the summer months. At the present time, total herbaceous production over most of the uplands is increasing, but mature stands of sagebrush are suppressing herbaceous vegetation and juniper is replacing both sagebrush and herbaceous vegetation in the uplands. Regular grazing of meadows by cattle and wild horses favors the production of succulent forbs but decreases the availability of insects during the summer months.

Wild Horses

In 1995, appropriate management levels for the Buckhorn and Coppersmith Herds were established through the evaluation of monitoring data. Management ranges of 59-85 wild horses for the Buckhorn HMA and 50-75 wild horses for the Coppersmith HMA were determined to be the populations necessary to lead to a thriving natural ecological balance.

In November of 1995, a total of 175 wild horses were gathered in the Buckhorn HMA. Of these, 49 head were

released back to the HMA bringing the population in the Buckhorn HMA to 64 animals. An aerial census in September, 1997 showed the population had increased to 125 animals. In October, 1997, a subsequent removal of 48 animals was conducted. It is currently estimated that there are 97 head in the HMA.

In November, 1995, 161 head were gathered in the Coppersmith HMA. After the older animals were returned to the range, it is estimated that 72 horses remained in the HMA. In September, 1997, 101 horses were counted in the HMA. During the October, 1997 gather, an additional 30 animals were removed. It is currently estimated there are 89 wild horses in the Coppersmith HMA.

Livestock Management

Permitted use for the allotment is:

- 1,484 cows from April 1 to September 30 annually.
- 3,000 sheep from March 26 to October 15 annually.

Permitted total active AUM's for the allotment is 9,516 of which 7,168 is for cows and 2,348 is for sheep.

Annual grazing authorizations, specifying numbers, season-of-use, and herding requirements, have been issued for livestock grazing in the allotment since 1996. The livestock operators are currently grazing approximately 1,100 cows and 2,000 sheep in the allotment. Half of the cows leave the allotment and go on to a Forest Service Allotment in mid July. Most of the sheep leave the allotment for a Forest Service Allotment in mid July, then return to the allotment in early October.

During this period, livestock grazing management has attempted to meet nine goals. Six of these goals were generally met. They include resting Boot Lake for a prescribed burn, managing wildfire areas, meeting turnout criteria and upland utilization standards, and minimizing livestock impacts in aspen stands and riparian exclosures. Three of these goals, including meeting key riparian and bitterbrush utilization standards and herding out of key bitterbrush areas after July 15, were met on the North Pasture, but not on the South and Cottonwood Mountain Pastures.

The topography of the allotment complicates livestock management in that it is not rugged enough to restrict livestock movement, but is rugged enough to make gathering and herding operations difficult and time-consuming. After mid-July, bitterbrush and riparian areas are natural concentration zones for wildlife, wild horses, and livestock.

The livestock operators are currently responsible for maintaining approximately 50 miles of fence. Much of this covers rocky, high elevation terrain which is subject to annual snow damage, wild horse pressure, and impacts from hunting and recreational users. Stock water is well distributed throughout the allotment. Most of the water comes from perennial and intermittent creeks, undeveloped and developed springs, or pit type reservoirs which require little effort to maintain. No additional water sites are needed to support the current grazing system.

During the last few years, several livestock and wild horse exclosures have been constructed to protect riparian areas and important cultural sites. Under the current system, several more small riparian exclosures will be required in the hot season use areas.

ENVIRONMENTAL CONSEQUENCES

Impacts on Upland Vegetation Communities

- **Proposed Action Alternative**

  In the short term, livestock utilization of all palatable species, including grasses, forbs, bitterbrush, aspen, and mahogany, would increase to moderate and locally heavy in the North Pasture (including Wire Lakes Key Bitterbrush Area) and Boot Lake. Utilization would continue to be light on Bald Mountain, moderate on Duck Flat, and moderate in Cottonwood Mountain (including the Key Bitterbrush Area), and would decrease to light in the South Pasture (including the Buckhorn Key Bitterbrush Area). In the Proposed Action, the South Pasture would be rested from livestock use, and the prescribed burning planned for the South Pasture would be completed.

  In the long term, perennial grass vigor and community composition would be maintained throughout the allotment. The prescribed burned areas in the South Pasture would return to diverse perennial grass, forb, and sprouting shrub communities. Vigor and reproduction of bitterbrush and aspen would improve somewhat on the higher potential sites. Vigor and reproduction of bitterbrush and aspen would decline somewhat on the lower potential sites in the North Pasture, including much of the Wire Lakes Key Bitterbrush area. Bitterbrush and aspen vigor and reproduction would be maintained in Boot Lake. Vigor and reproduction of bitterbrush and aspen would continue to be very good in Bald Mountain and poor in Cottonwood Mountain, including the Cottonwood Mountain Key Bitterbrush Area due to continuing moderate to heavy use by mule deer and the age of the shrub stands.

- **No Action Alternative**

  In the short term, livestock utilization of all palatable species, including grasses, forbs, bitterbrush, aspen, and mahogany, would be light on Bald Mountain and the majority of the North Pasture (including Wire Lakes Key Bitterbrush Area), moderate on Duck Flat and Cottonwood Mountain (including the Key Bitterbrush Area), and moderate and locally heavy in the South Pasture (except the Buckhorn Field) and Boot Lake. The South Pasture prescribed burns would not be completed; these areas would continue to support decadent and mature big sagebrush communities.

  In the long term, perennial grass vigor and community composition would be maintained throughout the allotment. Vigor and reproduction of bitterbrush and aspen would continue to improve on the higher potential sites in the North Pasture. Vigor and reproduction of bitterbrush and aspen would continue to decline on the lower potential sites in the South Pasture, except for the Buckhorn Key Bitterbrush Area. Bitterbrush and aspen vigor and reproduction would be maintained in Boot Lake. Vigor and reproduction of bitterbrush and aspen would continue to be very good in Bald Mountain and poor in Cottonwood Mountain, including the Cottonwood Mountain Key Bitterbrush Area.

- **Early Use Grazing Alternative**

  In the short term, livestock utilization on the allotment would be light to moderate on grasses and forbs and slight to light on bitterbrush, aspen, and mahogany. Prescribed burns could be completed in decadent and mature big sagebrush and aspen communities throughout the allotment.

  In the long term, perennial grass vigor and community composition would be maintained throughout the allotment. Vigor and reproduction of bitterbrush and aspen would continue to improve on the higher potential sites in the allotment. The prescribed burned areas would return to diverse perennial grass, forb, and sprouting shrub communities.

Impacts on Riparian Vegetation Communities

- **Proposed Action Alternative**

Riparian areas under the proposed action would be maintained in properly functioning condition with an upward trend. Impacts to riparian values would be less as designated hot season use areas are designed to result in few conflicts with livestock use. North Lake would be fenced to assist in establishing a potential or desired plant community for similar lakebeds in the allotment. Some riparian areas would still receive moderate to heavy use during the implementation period as prescribed burns are executed along with post treatment rest. Woody riparian vegetation would also be expected to increase under this proposal as late summer/fall use areas are designated. Some lakebeds could be used heavily such as Burnt Lake (designated hot season use area) and SOB Lake (wild horse concentration area) but the majority of the lakebeds should have sufficient residual forage left after the growing season. Project development includes 4 small meadow protection fences, 1 lakebed exclosure and 3-5 headcut stabilization structures.

- **No Action Alternative**

Under this alternative, the majority of the riparian areas would be expected to be maintained in properly functioning condition with a slight upward trend. Some areas would continue to receive moderate to heavy utilization levels in late summer/fall livestock use areas and in wild horse concentration areas. Others areas would receive very little use such as Silver Creek and early use areas/pastures as livestock would be using the uplands during this time. Woody vegetation would also be expected to increase slightly on systems with woody vegetation potential. Lakebeds would continue to be used heavily by both livestock and wild horses. Little residual vegetation would be left after the growing season on the majority of lakebeds in pastures with late summer/fall use by livestock and around wild horse concentration areas such as SOB Lake. Project development includes 4 small spring/wet meadow/aspen protection fences and 3-5 headcut stabilization structures.

- **Early Use Grazing Alternative**

The early use alternative would benefit riparian values the most by eliminating the majority of hot season by livestock. Riparian areas would be easily maintained in properly functioning condition with a definite upward trend if wild horses remain within the established AML for each herd. Woody riparian vegetation would also be expected to flourish without the heavy late season use from livestock, allowing for improvement in structural and species diversity in the riparian communities. Some lakebeds would still be used moderate to heavy depending on the amount of precipitation the allotment receives and when wild horse numbers are above AML's, especially in concentration areas. Due to the limited time of hot season use by livestock and the amount of time available for regrowth, it is expected the riparian areas and lakebeds will have plenty of residual forage left at the end of the growing season. Project development includes 7 juniper removal projects for riparian/aspen stand improvements and 3-5 headcut stabilization structures.

Impacts on Wildlife Indicator Species

- **Proposed Action Alternative**

Mule Deer

Implementation of the proposed action would have mixed impacts to existing Mule deer habitat that would be burned. This would involve about five percent of the deer habitat in the allotment. Because of the relatively small size of the proposed burn units, they would provide increased forage availability

at the expense of cover. Since cover is considered to be relatively more abundant than forage, this would initially slightly favor deer. As the burned areas change in vegetative composition, shrubs would over time become more abundant with the goal of maintaining roughly equal amounts of cover and forage. Implementation of a handful of aspen restoration projects would slightly benefit deer on very small areas of key deer habitat. The proposed grazing strategy would continue to provide bitterbrush in the three most important areas of summer/transition deer habitat. However, other deer forage in these areas would continue to remain dominated by shrubs, with little foreseeable increase in herbaceous vegetation, particularly forbs. Over all deer habitat would continue to decline in quantity and quality on the vast majority of the allotment due to the maintenance of old brush stands and juniper invasion.

Pronghorn Antelope
Implementation of the proposed action would have minimal impacts on Pronghorn antelope habitat. The areas targeted for prescribed burning would slightly increase the area occupied by short vegetation and forbs during the short term. Over the longer term, short term rest from livestock use, and the continued implementation of the grazing strategy would result in dominance of the site by bunch grasses at the expense of forbs. Over the longer term, Mountain big sagebrush would increase on the burns to a height that pronghorn would no longer actively use the burned areas. On the remainder of the allotment, continued seasonal use of meadows would keep them in early seral conditions that would benefit antelope by favoring forbs over grasses, rushes and sedges. In some cases that would prevent the establishment of willows that antelope would avoid. On the uplands, continued increases of juniper would slowly displace antelope from increasingly larger areas.

Sage Grouse
Implementation of the proposed action would have minimal impact on sage grouse habitat. Burning of small areas of Mountain big sagebrush would reduce nesting cover on localized areas, but slightly increase the over all amount of tall herbaceous vegetation by displacing livestock use to the burned areas. Implementation of the grazing strategy and continued wild horse use would maintain meadows in a condition favorable to the production of succulent forbs that sage grouse prefer, but decrease the total insect production on meadow sites. On the remainder of the allotment, over mature sagebrush would continue to suppress herbaceous vegetation and increasing juniper would continue to convert sagebrush steppe communities to juniper woodlands and hence non-sage grouse habitat.

- **No Action Alternative**

Mule Deer
Mule Deer habitat trends would not change from those currently occurring. The key stands of bitterbrush on the Buckhorn Road, Coppersmith Hills and Cottonwood Mountain would be available for mule deer, but would continue to be dominated by old brush plants and would not produce the browse the sites are capable producing. Overall deer habitat would decline due to juniper increases, emphasis on residual grass production and the increasing age of shrub stands.

Pronghorn Antelope
Antelope habitat trends would not change from those currently occurring. Old brush stands would continue to produce less forbs than the sites are capable of. Grazing management actions would continue to emphasize perennial grass production on upland sites and forb production on a few acres of wet and semi-wet meadows. Juniper would continue to decrease pronghorn use areas by converting grass/shrub communities to juniper woodlands. Overall pronghorn habitat would decline.

Sage Grouse
Habitat trends would continue to provide mixed benefits for sage grouse. Emphasis on perennial grass

production on the uplands would benefit nesting sage grouse by providing additional cover. Regular grazing by wild horses and cattle would continue a trend of increased forb availability on a few acres of wet meadows. These factors would be offset by decreasing forb production on uplands dominated by mature brush stands and a grass understory. Also, juniper is slowly eliminating areas as sage grouse habitat. Overall sage grouse habitat would slowly decline.

- **Early Use Grazing Alternative**

Mule Deer
Mule deer habitat would be improved somewhat under this alternative. The prescribed burns would result in the same impacts as described for the proposed action. However, it is anticipated that there would be increased levels of palatable browse species due to decreased competition with livestock on a portion of the summer and fall deer habitats. Aspen stand health and size would be expected to improve on a few tens of acres due to decreased summer grazing. Juniper increases and the mature and over-mature status of most brush fields would continue to decrease the quality of deer habitat over the long term.

Pronghorn Antelope
Antelope habitat would be expected to improve in localized areas under this alternative. The impact of the burning would be the same as described under the Proposed Action. Grazing by livestock prior to July 15th with the same forage harvest as now occurs in a longer season would shift regularly used sites toward increased forb production and less grass production. This would be a benefit to antelope on many areas. This grazing pattern would have positive benefits to antelope on the small area associated with spring meadows. Early grazing followed by regrowth and continued grazing by wild horses would increase the quantity and quality of the forb component. A few meadow sites would also be expected to increase the woody component of willows which would tend to decrease antelope use. These impacts would operate on a few tens of acres. The long term trend of increased juniper would continue to decrease habitat for antelope.

Sage Grouse
Implementation of this alternative would have mixed benefits to sage grouse. Impacts associated with prescribed burning would be as described for the Proposed Action. Increased spring livestock use on uplands would decrease herbaceous cover during the nesting season and it would also increase the proportion of forbs in many vegetative communities. These impacts tend to offset each other, and it is impossible to predict the overall impact on sage grouse. Spring use on meadows by livestock followed by regrowth has been shown on the Sheldon National Antelope Refuge to favor production and quality of forbs selected by sage grouse. The major factors affecting sage grouse on the allotment are, mature and over mature brush stands and the increase of juniper would continue to drive a long term decrease in sage grouse habitat.

Impacts on Wild Horses

Impacts to wild horses were developed with the assumption that under all alternatives, wild horses would be maintained at appropriate management levels. This would be done by conducting removals at approximately three year intervals.

- **Proposed Action Alternative**

In the short term, wild horses in the Buckhorn Herd Management Area (HMA) would benefit by the reduced competition with livestock during the time livestock use is shifted to the North Pasture to facilitate the prescribed burning. The same impact would be the case for wild horses in the

Coppersmith HMA during the period the bulk of the livestock use is shifted into the South Pasture to accommodate land treatments in the North Pasture. In the long term, there would be an overall positive impact to wild horses from the increase in herbaceous vegetation resulting from the prescribed burning. The Buckhorn Field Fence would be expected to have some impact on wild horses, however, their major concentration area is SOB Lake to the north. The proposed fencing of spring meadows and North Lake would have negative impacts on wild horses by further restricting their free roaming behavior.

- **No Action Alternative**

Under the no action alternative, wild horses would generally benefit by the removal of the 2 seeding fences in winter range. The prescribed burning would have very minimal impacts to wild horses due to the small areas proposed for treatment. The fencing of some aspen stands, bitterbrush areas and riparian areas would have negative impacts on wild horses by further restricting their free roaming behavior.

- **Early Use Grazing Alternative**

The elimination of hot season grazing by livestock would have beneficial impacts to wild horses by decreasing competition between the two animals during the summer and fall periods. This alternative provides for the prescribed burning of some 3,370 acres of big sage/juniper, which would result in increased herbaceous vegetation for the wild horse herds. The lack of any proposed fencing in this alternative would be a positive impact to the wild horses, as their movement would not be restricted. The Early Use Grazing Alternative would have the most favorable impacts to wild horses in the Buckhorn and Coppersmith HMAs.

Potential Impacts on Livestock Management

- **Proposed Action Alternative**

Short term - Intensive herding efforts would be required after July 15th to meet utilization standards on upland and riparian areas in the North Pasture, especially in the Wire Lakes Key Bitterbrush Area. Cattle would need to be moved out of Cottonwood Mountain and approximately 650 cows would need to be removed from the allotment during the hot season (July 15th). Cattle may have to come off the allotment prior to the scheduled off date depending on when allowable use levels are reached. The South Pasture would be rested during for pre- and post prescribed burn project implementation.

Long term - Intensive herding efforts to minimize livestock use in prescribed burn areas, and to meet utilization standards on upland and riparian areas would continue through the life of this plan. Less intensive efforts would be required once the prescribed burning projects planned for the North and South Pastures are completed and reach post management objectives set for the burned areas. Cattle may have to come off the allotment prior to the scheduled off date depending on when allowable use levels are reached.

- **No Action Alternative**

Short term - Intensive herding efforts would be required after July 15th to meet utilization standards on upland and riparian areas, and in the Wire Lakes and Buckhorn Key Bitterbrush Area. Cattle would need to be moved out of Cottonwood Mountain and approximately 650 cows would need to be removed from the North Pasture during the hot season (July 15th). Cattle may have to come off the allotment prior to the scheduled off date depending on when allowable use levels are reached.

Long term - Intensive herding efforts to meet utilization standards on uplands and riparian areas would continue through the life of this plan. Current vegetation trends in the majority of the more productive, summer use areas on the allotment are for denser big sagebrush/perennial grass communities and an increase of juniper woodland communities. The dense big sagebrush/perennial grass communities will eventually burn in hot, large-scale wildfires which will require extensive rest to recover plant vigor. The dense juniper woodland communities will produce much less forage for livestock and will result in fewer AUM's available for livestock use. Cattle may have to come off the allotment prior to the scheduled off date depending on when allowable use levels are reached.

- **Early Use Grazing Alternative**

Spring and early/mid summer livestock use could be made on the entire allotment with very little herding efforts. Tuledad and Worland Seeding fences could be removed reducing fence maintenance by 17 miles. Four of the six active cattle operators in the allotment would need to find alternative late summer and fall pasture for approximately 550 cows. All cattle would need to be removed from the allotment on or before July 15th.

Mitigation

No site-specific mitigation measures were identified as a result of this environmental analysis.

Unavoidable Adverse Impacts

Mature even aged sagebrush and juniper trees on about 4,000 acres would be temporarily lost through burning and mechanical removal. Construction of fences would also require a small amount of brush and trees to be removed. Based on the small amount of new fence required, this would be a minor impact. The primary adverse impact on livestock grazing would be an increase in the amount of time and manpower spent for herding livestock into designated hot season use/pasture areas. Fence maintenance would also increase. There would be potential for wild horses to collide with or become entangled in the North Lake Exclosure and the Buckhorn Field fences. Based on the small amount of new fence required this would also be a minor impact.

Irreversible and Irretrievable Commitment of Resources

There are no irreversible and irretrievable commitment of resources identified. The grazing system and proposed projects would be revised if future evaluations indicate another course of action is needed. The proposed grazing strategy is short-term in nature, and a new environmental analysis will be conducted in order to address implementation of prescribed burn and other projects needed to meet landscape goals and resource objectives in the North Pasture, or other locations within the allotment.

Cumulative Impacts

Implementation of the Proposed Action (including a new grazing system with designated hot season use/pasture areas, fencing, mechanical treatments and prescribed burning) is designed to improve upland and riparian resource values and is expected to have few short term impacts to the natural resources within the Tuledad Allotment. The short term impacts to the permittees would mainly be in the amount of time and manpower spent for herding livestock into designated hot season use areas during prescribed burning implementation and post treatment rest. There is also potential that livestock may have to come off the allotment ahead of the scheduled off date, requiring the permittees to utilize their private lands earlier than in the past or to lease additional forage. Over the long term, both the uplands and riparian communities are expected to improve toward potential natural communities as described in NRCS range site descriptions. This long term change would benefit both the resource values of the allotment and the economic well being of the permittees.

Once prescribed burn projects have been completed in the South Pasture, roughly another 4,000 acres of

precribed burning would be considered for implementation within the North and Cottonwood Mountain pastures.

CONSULTATION

The Proposed Action has been developed over a three year period extending from about September 1995 through December 1998. During that time the Bureau has worked in close consultation, cooperation and coordination with the livestock permittees, the Tuledad TRT representatives, and the affected interests. This environmental analysis is the culmination of a planning effort which began initially in 1992.

The proposed action was subsequently reviewed by the Modoc/Washoe Experimental Stewardship Committee, Modoc County Land Use Committee, Northeastern California Resource Advisory Council, the California Department of Fish and Game, Nevada Division of Wildlife, the Nevada Commission for the Preservation of Wild Horses, the California Native Plant Society, Ormsby Sportsman Association, California Mule Deer Association, Mountain Lion Foundation, Sierra Club-Toiyabe Chapter, and the Natural Resources Defense Council.

Consensus was reached about the landscape goals and resource objectives as well as the possible management actions considered. However, consensus could not be reached as to the extent and priority for prescribed burn projects. Also, the livestock operator's concerns about the possibility that they might need to come off the allotment ahead of the scheduled off date (due to reaching their allowable utilization levels) could not be resolved.

LIST OF PREPARERS

Alan Uchida, Watershed Specialist
Roger Farschon, Ecologist/Wilderness Specialist
Tara deValois, Rangeland Management Specialist
Hugh Bunten, Cultural Resources/Recreation Specialist
Rob Jeffers, Supervisory Resource Management Specialist/Wild Horse Specialist

APPENDIX A
Tuledad/Home Camp Management Framework Plan (1977)

Summary of Applicable Land Use Plan Objectives, and Decisions		
Resource Issue	**Objectives**	**Decisions**
Range Management	Manage land which is suitable for livestock grazing in such a manner that within 20 years all plant communities are on an upward trend toward site potential. Site potential by soil associations are described in the soil survey for the Surprise Valley-Home Camp area by Summerfield and Bagley (USDA, SCS, 1965). Increase livestock production from the present 44,334 AUM's to 79,325 AUM's as forage becomes available. Stabilize the local economy which is dependent upon livestock production on public lands. Increase canopy cover of rushes, sedges, and grasses, to 90 to 100 percent within six years on all wet meadows and riparian communities. Demonstrate a statistically significant increase in perennial grass basal cover within 12 years on study plots located in each pasture. Demonstrate a statistically significant increase in vegetative cover (litter included) within six years.	Initiate systematic livestock management plans on the Tuledad Allotment. The initial stocking rates will not exceed the present active preference. Consider large-scale cultural treatments after an environmental assessment has been prepared for sites identified as having potential for successful treatment. Forage increases should be first allocated to meet wildlife habitat objectives or other multiple use objectives. Subsequent forage increase should be allocated to meet Class I demands of the permittee(s).
Wildlife	Provide high quality deer habitat. Double Pre-MFP antelope populations to reach levels of 2,500 antelope on summer ranges and 2,000 antelope on winter ranges by 1990. Maximize nesting opportunities and improve waterfowl habitat for spring-fall use by improving existing water bodies and creating seasonal marshlands on all potential habitat by 1983.	Provide high quality deer habitat capable of supporting deer populations of 3,000 deer in the Warner/Cottonwood Mountain range by 1990. Change monotypic stands of mountain mahogany on deer summer/yearlong ranges to an interspersion of about 50% brush/fields, 50% mixed brush/grass types by brush control techniques such as prescribed burning or brush crushing. Develop a grazing management plan that will provide for leader growth and reproduction of bitterbrush.

Summary Of Applicable Land Use Plan Objectives and Decisions		
Resource Issue	**Objectives**	**Decisions**
Wildlife (cont'd)	Maintain and improve existing raptor nesting habitat and expand nesting range by 25% by 1985. Maintain at least 20% of each native vegetative type in a natural or near-natural condition and improve non-game bird habitat on all range improvement projects. Improve watershed condition and stream quality to allow expansion or development of fisheries in Bare Creek, Alaska Creek, Selic Creek, Wall Canyon and Emerson Creek and develop a fishery in Boot Lake by 1985 if feasible. Improve 75% of sage grouse habitat during the next 15 years.	Manipulate areas of tall sage in antelope winter range where site analysis shows succeeding forage will be superior to the brush removed. Monitor results Artificial nesting areas and improved shoreline vegetation should be provided to improve waterfowl production Exclude vegetative manipulations within a three mile radius of any eagle, peregrine, or prairie falcon eyrie. Grazing management systems should be designed to improve riparian vegetation on streams throughout the unit. Fence streams where management is unable to improve riparian habitat. Achieve maximum reproduction, survival and growth of riparian vegetation on 75% of this vegetative type within 10 years. Provide year-round water, at ground level for wildlife on all livestock water developments. Prohibit all vegetation manipulation within two miles of sage grouse strutting areas and within 100 yards on any meadow or stream.
Wild Horses	Protect and manage wild free-roaming horses and burros as components of the public land in a manner to achieve ecological balance with other uses. Provide adequate habitat to sustain not less than 100 wild and free-roaming horses on the Tuledad Allotment.	Manage and protect a viable, self-sustaining horse population. Develop Herd Management Activity Plans for each herd management area. Consider horse use areas when fencing. Establish an observation point near SOB Lake. Restrict development to interpretive signing and gravel parking area.
Forestry	Manage the juniper woodlands for maximum production of wood products including firewood, fence material and chips. Utilize the timber resource to enhance the aesthetic values of the Boot Lake area.	Allow for utilization of juniper and mahogany for firewood, post , poles and chips consistent with site plans. Allow logging in the Boot Lake area only when the health of the timber stands dictate a need.
Lands	Identify public lands which are available for land tenure adjustments or public purposes.	Consider exchanging scattered parcels near deeded lands to allow agricultural development.

APPENDIX B

BLM - SURPRISE FIELD OFFICE
Tuledad Allotment #0802

DOCUMENTATION FORM FOR DETERMINATIONS:
ACHIEVEMENT OF FALLBACK RANGELAND HEALTH STANDARDS, CONTRIBUTING FACTORS AND APPROPRIATE ACTION PRIORITIES

■■■■■■■■■■■■

THIS FORM DOCUMENTS, FOR THE INDICATED AREA: (1) DETERMINATIONS AND SUPPORTING RATIONALE REGARDING IF FUNDAMENTAL RANGELAND HEALTH CONDITIONS CITED IN 43 CFR 4180.1 EXIST IN THESE AREAS; (2) DETERMINATIONS, IN CASES WHERE ONE OR MORE CONDITIONS OF FUNDAMENTAL RANGELAND HEALTH DO NOT EXIST, REGARDING THE STANDARD(S) THAT IS (ARE) NOT ACHIEVED; (3) DETERMINATIONS, IN THOSE CASES WHERE ONE OR MORE STANDARDS ARE NOT ACHIEVED, REGARDING THE CONTRIBUTING FACTOR(S) THAT IS (ARE) PREVENTING STANDARD(S) ACHIEVEMENT OR IS (ARE)PREVENTING SIGNIFICANT PROGRESS TOWARDS ITS (THEIR) ACHIEVEMENT; AND, (4) THE INFORMATION THAT WAS EXAMINED THAT SUPPORT THESE DETERMINATIONS.

■■■■■■■■■■■■

Indicate the date(s) or period the information review occurred: **1995 - 1998 Grazing Season**

PART I - IDENTIFICATION OF RELEVANT AREA

A. Indicate area where these determinations and rationale apply:

1. ☐ **Site** (Specific Geographic Area) within Management Unit (allotment or pasture):
   Allotment name/no.:
   Place name:
   Legal location (if needed to ID site):
   Approximate size in acres:

2. ■ **Management Unit: Tuledad Allotment #0802**
   Approximate size in acres: **Total: 160,400 ac., Public 142,756 ac. and Private 17,644 ac.**

3. ☐ **Landscape:**

4. ☐ **Other Stratification:**

PART II - IDENTIFICATION OF INFORMATION REVIEWED

The following information (e.g. monitoring, literature, personal communication, etc.) was considered to determine standards attainment and, if applicable, contributing factor(s) to their non-achievement and failure to make significant progress towards their achievement. (If more room is needed to document the type of information reviewed, label and attach sheets as needed)

A. Information relevant to the Fallback **SOILS HEALTH STANDARD:**
FALLBACK (43 CFR 4180.2(f)(1)(i)):
Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.

Indicator(s) Observed — Information Reference (i.e. identify the information source used by type and date)

Comments / Remarks: **Answers to the following were based on professional judgement along with 10 years of management and observations on the Tuledad Allotment.**

Criteria

1. IS ground cover (vegetation, litter, and other types of ground cover, such as rock fragments) sufficient to protect sites from accelerated erosion? **Yes, utilization over the past 4 years were noted on the uplands as slight/light on the majority of the allotment. Some areas near water sources (Lakebeds, drainage, springs and seeps ect.) received moderate/heavy use but was restricted to 1/2 - 1 mile radius of the sources. This slight/light utilization levels has resulted in more residual forage being left after the grazing season providing sufficient ground cover to protect sites from accelerated erosion.**

2. IS evidence of wind and water erosion, such as rills and gullies, pedestalling, scour, or sheet erosion, and deposition of dunes either absent or, if present, does not exceed what is natural for the site? **Yes**

3. IS vegetation vigorous and diverse in species composition and age class, and does it reflect the PNC or PC for the site? **Yes, for the upland sites and No for the low and most of the mid elevation sites. The allotment contains vigorous and diverse perennial species in many of the upland sites. The majority of the low elevation sites are occupied by salt desert shrub community with little herbaceous understory and the mid elevation sites are occupied by Wyoming sage with cheatgrass understory. The allotment is in a upward trend on the high elevation sites.**

B. Information relevant to the Fallback **STREAM HEALTH STANDARDS:**
FALLBACK (43 CFR 4180.2(f)(1)(iii):

Stream channel morphology (including but not limited to gradient, width/depth ratio, channel roughness and sinuosity) and functions are appropriate for the climate and landform.

Comments / Remarks: **Answers to the following were based on professional judgement, RFA on 75% of the allotment, fisheries habitat evaluation on some the creeks in 1996, along with 10 years of management and observations on the Tuledad Allotment.**

Criteria

1. ARE gravel bars and other coarse textured stream deposits successfully colonized and stabilized by woody riparian species? **No, not all gravel bars are colonized and stabilized with woody species, but many do have a herbaceous cover and young willows are also starting to become established on many sites.**

2. Is the stream bank vegetation vigorous and diverse, mostly perennial, and holds and protects banks during high stream flow events? **Yes, all the perennial streams and most of the intermittent stream have sufficient vegetation or are well armored to protect banks during high stream flow events.**

3. DOES the stream water surface have a high degree of shading, resulting in cooler water in summer and reduced icing in winter? **No, most stream in the Tuledad Allotment do not have a high degree of shading. Although, with the increase of woody vegetation and the amount of over hanging herbaceous vegetation this criteria is improving.**

4. ARE portions of the primary floodplain frequently flooded (inundated every 1-5 years)? **Yes**

\C. Information relevant to the Fallback **RIPARIAN AND WETLAND SITES STANDARD:**
FALLBACK (43 CFR 4180.2(f)(1)(ii) and SUSANVILLE RAC (Standard 4):

Riparian and Wetland areas are in properly functioning condition.

Comments / Remarks: **Answers to the following were based on professional judgement, RFA on 75% of the allotment along with 10 years of management and observations on the Tuledad Allotment.**

Criteria

1. IS riparian vegetation sufficiently vigorous, mostly perennial, and sufficiently diverse in species composition, age class and life form to stabilize stream banks and shorelines? **Yes, most of the riparian vegetation is vigorous, perennial and diverse in species composition and is stabilizing the stream banks, although the majority is herbaceous vegetation in early to mid seral stage. Lakebed shorelines show no evidence of instability and are either well vegetated or rock armored.**

2. IS riparian vegetation and large woody debris well anchored and capable of withstanding high streamflow events? **Yes, during the RFA inventory very little bank scouring or down cutting was observed. Silver Creek is the only example where large woody debris is a factor and can stand high streamflow events.**

3. IS accelerated erosion (as a result of human related activities) evident? **Yes, in some areas where livestock watering facilities are located along with wild horse concentration areas. A few roads next to or in riparian areas is also a problem. The majority of the allotment does not show signs of accelerated erosion.**

4. ARE age class and structure of woody riparian and wetland vegetation appropriate for the site? **Yes, for most of the perennial stream and No, for most of the intermittent streams, although woody vegetation is increasing under current management.**

D. Information relevant to the Fallback **BIODIVERSITY STANDARDS:**

FALLBACK (43 CFR 4180.2(f)(1)(iv)):

Healthy, productive and diverse populations of native species exist and are maintained.

Indicator(s) Observed	Information Reference (i.e. identify the information source used by type and date)
■ community diversity	**BLM and NRCS inventories 1994-1998, professional observations 1980 to present, photo monitoring.**
■ community structure (layers)	
■ exotic plants (or invaders)	**BLM, Nevada Division of Agriculture and Modoc County Noxious Weed Inventory and Eradication Program 1997-1998.**
■ plant vigor (production, mortality, decadence)	
■ diversity of age classes	
■ recruitment	
■ wildlife life forms present (obligate)	
■ special status species	**BLM inventories since 1970's.**

Comments / Remarks:

Criteria

1. DO wildlife habitats include seral stages, vegetation structure, and patch size to promote diverse and viable wildlife populations? **Yes, Tuledad has a complex topography and soils pattern that naturally leads to plant community diversity supporting diverse wildlife populations typical of the Great Basin. Seral stages on many upland steppe communities are often less diverse than desirable, but prescribed and wild fires are beginning to increase seral stage diversity. On the other hand, juniper invasion poses a risk of decreasing diversity by converting shrub steppe communities to juniper woodlands over the next few decades. Also, riparian communities are improving, but do not currently provide the diversity that is expected from these sites.**

2. ARE a variety of age classes present for most species? **Yes, implementation of a simple grazing system and multiple high precipitation years have contributed to establishment of new bunch grass and shrubs. The Boot Lake Field currently has an outstanding new class of young aspen suckers.**

3. IS vigor adequate to maintain desirable levels of plant and animal species to ensure reproduction and recruitment of plants and animals when favorable events occur? **Yes, as discussed previously, seedlings of grasses and shrubs are common across the landscape. There are many locations in which young willows are evident.**

4. DOES the distribution of plant species and their habitats allow for reproduction and recovery from localized catastrophic events? **Yes, the complex topography and soils patterns virtually guarantee that wildfire cannot become so large that recolonization of fire sensitive species will not occur. However, the continued invasion of juniper has the potential to eliminate some of the diversity and increase the magnitude of catastrophic events which may change the plant community dynamics in the future.**

5. ARE natural disturbances, such as fire, evident, but not catastrophic? **Yes, since the implementation of the grazing system, median fire size has been less than 2 acres, mostly juniper tree individuals or clumps, with only one fires burning more than 500 acres. BLM has burned an additional 850 acres in a prescribed burn in the Boot Lake Field in 1997.**

6. ARE non-native plant and animal species present at acceptable levels? **Yes, Medusahead is increasing on clay loam sites near Snake Lake, with a series of experimental treatments planned to attempt to manage its area of occupancy. Cheatgrass is the most common understory species on the lower slopes surrounding Duck Lake. Observations indicate that native species are slowly reestablishing themselves on the most productive cheatgrass sites. Small populations of Scotch Thistle, Russian knapweed and Perennial pepperweed have been located on the allotment. The noxious weeds have been GPS and treated in 1997 and 1998.**

7. ARE habitat areas sufficient to support diverse, viable, and desired populations, AND are they adequately connected with other similar habitat areas? **Yes, the allotment is a large area connecting coniferous forests with low salt desert shrub communities. The topography and soils provide and discontinuous, patchy community structure that support overlapping populations of a wide variety of Great Basin and montane species.**

8. IS adequate organic matter (litter and standing dead plant material) present for site protection and decomposition to replenish soil nutrients and maintain soil health? **Yes, average utilization on the vast majority of the allotment has decreased to where the vast majority of herbaceous growth remains on site as litter and standing dead. Additionally, periods of rest and deferment provide opportunities for the concentration areas to create organic materials for soil nutrients.**

PART III - SUMMARY OF STANDARDS ACHIEVEMENT DETERMINATION AND RATIONALE

A. DETERMINATION ON STANDARDS ACHIEVEMENT

As of the date of the completion of this form, an examination of the information listed in Part II and recent field visits, if applicable, indicate the following with regard to standards achievement for the area identified in Part I:

Standard	Determination on Standard Achievement (check appropriate box for each standard)
Soils Health	■ Met / ☐ Not met but progressing towards / ☐ Not met and not progressing towards / ☐ N/A
Stream Health	☐ Met / ■ Not met but progressing towards / ☐ Not met and not progressing towards / ☐ N/A
Riparian/Wetland	■ Met / ☐ Not met but progressing towards / ☐ Not met and not progressing towards / ☐ N/A
Biodiversity	■ Met / ☐ Not met but progressing towards / ☐ Not met and not progressing towards / ☐ N/A

B. RATIONALE SUPPORTING STANDARDS ACHIEVEMENT DETERMINATION (if additional room is needed, attach and label additional sheets):

Professional judgement along with 10 years of management and observations on the Tuledad Allotment was used in the determination on the above "Standards Achievement".

PART IV - FOR THOSE STANDARDS NOT ACHIEVED, SUMMARY OF CONTRIBUTING FACTOR(S) DETERMINATION AND SUPPORTING RATIONALE

A. DETERMINATION ON CONTRIBUTING FACTORS

As of the date of the completion of this form, an examination of the information listed in Part II and recent field visits, if applicable, indicate that the following are contributing factors for failing to achieve the standards as indicated in Part III for the area identified in Part I:

Non-achieved Standard (s) (from Part III): **Stream Health: Hot season livestock use, yearlong wild horse use, road placement.**

PART V - BLM STAFF WHO REVIEWED THE INFORMATION AND RECOMMENDED PRIORITY FOR DEVELOPMENT AND IMPLEMENTATION OF APPROPRIATE ACTION TO MAKE SIGNIFICANT PROGRESS TOWARDS ACHIEVING THE STANDARD(S)

The following staff have participating in examining the information listed in Part II and in making the standard(s) achievement and contributing factor determination(s).

Roger Farschon, Ecologist
Alan Uchida, Watershed Specialist
Tara deValois, Rangeland Management Specialist
Rob Jeffers, Sup. Natural Resource Specialist/Wild Horse Specialist

SIGNATURES:	TITLES:
Roger Farschon	Ecologist
Alan M. Uchida	Watershed Specialist
Tara M. deValois	Rangeland Management Specialist
Robert L. Jeffers	Sup. Natural Resource Specialist/Wild Horse Specialist

Appendix C
Resource, Monitoring and Implementation Objectives

Resource Objective	Monitoring Objective	Implementation Objective
Manage Duck Flat to establish Great Basin wild rye on loamy bottom sites.	Measure greater than 50 percent correspondence between NRCS range site descriptions and measured vegetation compositions on established monitoring sites.	Construct 4.5 miles of fence to establish a 1500 acre field to provide late summer/early fall forage on Great Basin wildrye sites.
Increase the vigor of existing perennial grasses, especially in the high potential bottoms using very site specific, and low risk practices. Maintain aggressive wildfire suppression to prevent large areas from burning.	Allowable use on upland herbaceous species is 40-60% by weight.	Double burn 300 acres of medusahead and graze with goats to deplete annual forage and reduce seed production. Maintain aggressive wildfire suppression to prevent large areas from burning.
Treat mature stands of mountain big sagebrush to create mosaics, increase vegetation diversity, structure, and provide mixed age classes of brush.	Monitor to determine when site has recovered post-burn to 80% of original herbaceous production.	Prescribe burn 3920 acres of mountain big sagebrush communities with juniper to retain shrub-steppe communities.
Conduct small-scale bitterbrush treatments to determine the best practices or combination of practices for successful bitterbrush regeneration in the Cottonwood Mountain, Buckhorn, and Coppersmith Hill areas.	A maximum of 15% use of bitterbrush when livestock leave Cottonwood Mountain. A maximum of 40% use of bitterbrush when livestock leave the Coppersmith Hills Area. The Buckhorn Field will be rested.	Construct 3.3 miles of fence to establish an 850 acre Buckhorn field to provide opportunities for bitterbrush regeneration studies, differential utilization monitoring. Implement small test plots to experiment with techniques for bitterbrush and other palatable shrub establishment in the Buckhorn Field.
Reduce the density of juniper on sites that retain an understory of desirable grasses, forbs, and shrubs. Removal of juniper in and around riparian areas is a high priority.	Refer to objectives for mountain big sagebrush stands above.	
Manage aspen stands to prevent stand loss and to enhance stands where feasible.	Within each treated stand, suckers will be allowed to reach greater than 6 feet in height before allowing grazing by cattle.	Use hand tools to remove competing juniper and sagebrush from 5 sites in the Coppersmith Hills and Cottonwood Mountain.

PART VI - DOCUMENTATION OF THE INVOLVEMENT OF PERMITTEES, STATE AGENCIES AND THE INTERESTED PUBLIC IN MAKING STANDARDS CONFORMANCE DETERMINATION AND CONTRIBUTING FACTORS DETERMINATION

Indicate the occurrence of public participation (e.g. permittee, interested public, other Federal or State /local agency), or opportunities for public participation that pertains to the review of standards achievement and contributing factors (who, when, and conversation or meeting summary): **This documentation form was completed by BLM staff.**

Public Participation included the following:

BLM and NRCS inventories 1994-1998, professional observations 1980 to present, photo monitoring.

Tuledad TRT 1995-1998, Permittees, USDA-ARS, NDOW, Wild Horses, UC Extension, Sportsmen, NV Environmental.

PART VII - AUTHORIZED OFFICER'S DETERMINATION AND PRIORITY FOR APPROPRIATE ACTION DEVELOPMENT AND IMPLEMENTATION

I have reviewed and concur with the determinations and supporting rationale regarding the achievement or lack thereof of rangeland health standards documented herein and, in the cases where standards are not achieved, the determination and rationale regarding the contributing factor(s) for failure to achieve the standards. I have determined that the priority for developing and implementing appropriate action to achieve significant progress to achieve standards for the area identified in Part I is (check one)

■ high ☐ medium ☐ low .

Susan J. Stahl — 12/17/98

SURPRISE FIELD MANAGER — DATE

COMMENTS: **The Tuledad Allotment Grazing Strategy and Related Projects decision should help in assuring that the Stream Standard is met in the near future.**

APPENDIX D
Summary of Historic Conditions for the Tuledad Allotment

Upland Vegetation Communities

Mid-19th Century

Prior to European settlement, the vegetation landscape was mostly dominated by herbaceous plant communities with scattered shrubs. Higher elevation uplands were comprised of bunchgrasses and scattered sagebrush. Bitterbrush was relatively rare, limited mainly to the very best sites. Juniper and mountain mahogany was confined mainly to rock rims or talus slopes where protected from fire. The size and density of sagebrush was largely dependent on fire frequency. Aspen was common at upper elevations on north slopes and below snow catchment areas. Younger age classes were well represented due to a relatively high fire frequency and vigorous resprouting.

Lower elevation uplands were also dominated by bunchgrass and scattered sagebrush. Sagebrush size and density varied based on fire intervals, with some of the drier sites having relatively old stands of Wyoming sagebrush. The fire interval in this type was often greater than 50 years.

Low sagebrush communities were characterized by a wide mix of herbaceous grasses and forbs, with varying densities of low sagebrush and rabbitbrush. Juniper was rate, mainly found within rock outcrops. Alkali bottoms were comprised of bunchgrass mixed with desert shrubs on the driest sites. Sand dune areas were dominated by Indian ricegrass and needlegrass. Extensive stands of basin wildrye were present on the deepest soils.

Past Century

With the advent of heavy cattle and sheep grazing in the 1870's, bunchgrasses declined and sagebrush cover increased significantly in density. The reduction of fine fuels through heavy grazing pressure and the subsequent decrease in fire frequency, set the stage for juniper to spread out from fire sage sites onto open slopes. Bitterbrush spread into the disturbed sites, increasing in both range and density.

At lower elevations, heavy livestock use especially during the spring, fall and winter, resulted in decreased bunchgrass, increased sagebrush cover and conversion on many sites to an annual understory such as cheatgrass. Within alkali bottoms, perennial grasses were largely replaced with a mixture of alkaline tolerant shrubs (such as greasewood) and annual weeds. Mahogany also expanded from fire sage sites with extensive stands developing on loamy soils. Aspen clones changed from a dominance of young trees to mature trees and browsing pressure on suckers was heavy. Overall, aspen clones declined in size and some stands have been lost.

Riparian Vegetation Communities

Mid-19th Century

Riparian communities were extensive in almost all large drainage systems, with large wet meadow complexes occurring on lower gradient sites. Flows were often perennial due to properly functioning riparian system, and a diversity of vegetation was present.

Past Century

The severe grazing of the late 1970's, lead to substantial impacts within riparian systems. Headcutting in many areas lead to the loss of water table and paved the way for juniper and sagebrush encroachment into former wet meadow areas. Many drainages became intermittent or ephemeral. Riparian vegetation, especially woody vegetation, became less abundant, diverse, and vigorous.

Resource Objective	Monitoring Objective	Implementation Objective
Increase woody vegetation or maintain upward trend on the following streams/meadows: • Emerson, Silver, North and Bare Creeks (cold-water fisheries). • Barber, Upper Boot Lake, Worland Canyon (perennial streams). • Ant Spring, Post Canyon, Chalk Hills drainage, Express Canyon, Snake Lake drainage, and Lower Bud Brown (intermittent streams). • Pryor Spring, Bud Brown complex, Mattress Spring, Windy Flat, Deer Spring, and West Garden lake spring complex (meadow systems).	*Key Cold Water Fish and Perennial Streams:* Less than 30% maximum allowable use of key woody species. *Other Riparian Area with Woody Vegetation Potential:* A maximum of 50% allowable use of key woody species. A maximum of 65% allowable use on herbaceous vegetation (in the interim only, to facilitate project implementation). At a minimum, maintain riparian areas in properly functional condition. Reassess riparian functionality every ten years.	Livestock will be moved into the next scheduled use area or off the allotment, when maximum allowable use has been met.
Move the following riparian areas into properly functional condition as a minimum: Bryant Spring drainage (perennial stream). Little Tuledad Canyon, Upper Tuledad Canyon, Red Rock Creek and Cedar Canyon (intermittent streams).	Allowable utilization will meet the requirements outlined above. Reassess riparian functionality every 5 years for riparian systems currently functional at risk.	Stabilize existing headcuts (3-5) within the next 2-3 years.
Determine a potential or desired plant community for lakebeds within the allotment.	Document long-term changes in vegetative species composition.	Construct 3.0 miles of fence and create a 300 acre North Lake field.
Evaluate forage kochia (an introduced species) in low production, low rainfall sites which are presently cheatgrass monocultures.	Assessment and evaluations will be done a yearly basis in cooperation with UC Cooperative Extension, Ag Research Service, and others.	Establish small experimental test plots (less than 5 acres each) to evaluate forage kochia for rehabilitating low elevation cheatgrass dominated sites adjacent to Duck Flat.

Existing Vegetation Communities

The planning area is comprised of seven major vegetation associations as shown below.

Vegetation Associations within the Tuledad Planning Area
(Selic-Alaska, Red Rock Lake and Tuledad Allotments)

Association	Plant Community	Acres	%	Description
Mountain Big Sage Mountain Brush Juniper (Upland Loams - 14 to 16 inches precipitation)	Mix of mountain big sage, bitterbrush, juniper, mountain mahogany, aspen, mountain brush, low sage, perennial bunchgrasses and wet-dry meadows.	76,992	45	Above 5,500' elevation. Loamy soils, moderately deep to deep, varying degrees of surface/subsurface stoniness. Variable productivity, especially dependent on winter precipitation.
Low Sagebrush (Clay Loams)	Low sagebrush, rabbitbrush, black sagebrush, perennial grasses.	43,529	25	Found at all elevations, except Duck Flat which is alkaline. Soils shallow clay loams, with Black sage found on more calcareous soils. At lower elevations, high risk for conversion to naturalized annuals (cheatgrass/medusahead) following wildfire. In the absence of fire, juniper is increasing in density.
Desert Shrubs (Duck Flat) (> 8" annual precipitation)	Big sagebrush, desert shrub and greasewood communities.	13,517	8	Soils are fine sand and loam, varying in alkalinity. Are periodically ponded or have seasonally high water tables.
Wyoming Big Sage Desert Shrubs Juniper (Alkaline slopes - >12" annual precipitation)	Wyoming big sagebrush, desert shrubs dominant with low sage, rabbitbrush and juniper communities.	16,311	10	Found at elevations below 5,500'. Soils variable, ranging from fine sand, clays to cobbly loams. Rock outcrops, rubbleland also present. Soils vary in alkalinity and depth to water table; mostly moderately steep to steep, with moderate to severe erosion hazard ratings based on slope.
Riparian (Various)	Perennial and intermittent streams, springs, seeps and wet-dry meadows.	1,995	1	Plant communities range from bluegrass and rush dominated communities to sedge and woody shrub dominated communities. A wide variety of forbs is also present.
Lakebeds (Various)	Water tolerant shrubs and herbaceous species including silver sagebrush, mat muhly, dock, sedges, and a variety of perennial grasses and forbs.	2,833	2	Production is dependent on winter precipitation and varies widely. Soils are typically deep, rock-free, shrink/swell clays. Water is ponded late into the season following high precipitation winters but are often dry and cracked to a depth of several feet.
Mountain Mahogany	Inclusion in other plant communities.	18,000	10	Many of these sites are decadent with little regeneration occurring.
Aspen	Inclusion in other plant communities.	3,500	2	As above.
Total for Planning Area		176,677	103	

Wildlife and Fish

Mule deer populations were low prior to European settlement, increasing to a peak of about 15,000 deer for the East Lassen area in the late 1950's/early 1960's. Current overall population trend for mule deer is downward, at less than 4,500 head.

Prior to 1840, antelope populations in California were estimated at 500,000 head. By 1923, the population had declined to about 1,000 head, mostly in northeastern California. Pronghorn numbers have gradually increased to about 11,000 in 1990 for the region. Since 1990, the overall trend has been downward with the current regional population estimated at about 7500 head.

Historically, sage grouse were tremendously abundant in Nevada with market hunting occurring in the Reno area during about 1910-1930. Since that time, populations have mostly declined. In 1993, sage grouse hunting season was closed in Washoe County, Nevada because of concerns over low populations. Within California, numbers have been relatively stable (low) for the past decade.

Wild Horses

With the passage of the Wild Horse and Burro Protection Act in 1971, the Bureau was charged with management of wild horses. The earliest counts estimated numbers at about 220-290 for this planning area. By the late 1970's, wild horse numbers had increased to well over 300 head.

In 1983, a Stewardship technical group established herd numbers at 50-75 head each for the Coppersmith and Buckhorn Herd Management Areas (100-150 head for the planning area). Since that time, periodic gathers of excess horses following selective herd management principles have maintained herd numbers at or near established herd size.
Recent court decisions have held that the Bureau must establish appropriate management levels for horses through monitoring data. In accordance with this direction, the Bureau completed an environmental analysis which reviewed monitoring data during Fall 1995, and established the current appropriate management levels of wild horses, at 59-85 head and 50-75 head, for the Buckhorn and Coppersmith Herds, respectively.

Livestock Grazing

Grazing began more than 130 years ago, with the first sheep and cattle use recorded in about 1864. Domestic livestock numbers (sheep, cattle, and horses) increased sharply through the 1870's. In the Tuledad area alone, thousands of cattle and hundreds of thousands of sheep were herded and allowed to graze season long. With the severe winters of the 1880, livestock use declined. Even so, range conditions by the late 1890's were badly deteriorated due to unregulated livestock use and fierce competition for forage.

In 1934, with enactment of the Taylor Grazing Act, priority for 23, 909 AUM's of use was recognized for public lands in the Tuledad, Selic/Alaska and Red Rock Lake areas. This use was reduced to 10,585 AUM's (actual carrying capacity) though adjudication in the early 1950's and 1960's.

The Bureau completed the Management Framework Plan and Grazing EIS for the Tuledad-Home Camp area in 1977/78. Both documents established future management direction for the area. To implement the direction in the MFP/EIS, an Allotment Management Plan was developed for the Tuledad Allotment in 1980. Management was changed from season long, continuous grazing to more intensive management.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Surprise Field Office
P.O. Box 460
602 Cressler Street
Cedarville, CA 96104
(530)279-6101 - (530)279-2171 FAX

In Reply Refer to:
4130 (CA-370) P

December 18, 1998

Cathy Barcomb
Commission for the Preservation of
Wild Horses
123 West Nye Lane, Suite 248
Carson City, NV 89706-0818

Re: Tuledad Allotment Grazing Strategy and Related Projects

Dear Cathy:

Enclosed please find **Appendix D** for **Environmental Assessment CA-370-99-03,** which I forwarded to you on December 17, 1998. Due to a photocopying error, pages 32 and 33 (the first two pages of Appendix D), were not copied. I sincerely apologize for the error.

You should now have a complete Environmental Assessment to review.

Please let me know if you have any questions. Thanks and best wishes.

Sincerely,

Susan T. Stokke
Surprise Field Manager

APPENDIX D
Summary of Historic Conditions for the Tuledad Allotment

Upland Vegetation Communities

Mid-19th Century

Prior to European settlement, the vegetation landscape was mostly dominated by herbaceous plant communities with scattered shrubs. Higher elevation uplands were comprised of bunchgrasses and scattered sagebrush. Bitterbrush was relatively rare, limited mainly to the very best sites. Juniper and mountain mahogany was confined mainly to rock rims or talus slopes where protected from fire. The size and density of sagebrush was largely dependent on fire frequency. Aspen was common at upper elevations on north slopes and below snow catchment areas. Younger age classes were well represented due to a relatively high fire frequency and vigorous resprouting.

Lower elevation uplands were also dominated by bunchgrass and scattered sagebrush. Sagebrush size and density varied based on fire intervals, with some of the drier sites having relatively old stands of Wyoming sagebrush. The fire interval in this type was often greater than 50 years.

Low sagebrush communities were characterized by a wide mix of herbaceous grasses and forbs, with varying densities of low sagebrush and rabbitbrush. Juniper was rate, mainly found within rock outcrops. Alkali bottoms were comprised of bunchgrass mixed with desert shrubs on the driest sites. Sand dune areas were dominated by Indian ricegrass and needlegrass. Extensive stands of basin wildrye were present on the deepest soils.

Past Century

With the advent of heavy cattle and sheep grazing in the 1870's, bunchgrasses declined and sagebrush cover increased significantly in density. The reduction of fine fuels through heavy grazing pressure and the subsequent decrease in fire frequency, set the stage for juniper to spread out from fire sage sites onto open slopes. Bitterbrush spread into the disturbed sites, increasing in both range and density.

At lower elevations, heavy livestock use especially during the spring, fall and winter, resulted in decreased bunchgrass, increased sagebrush cover and conversion on many sites to an annual understory such as cheatgrass. Within alkali bottoms, perennial grasses were largely replaced with a mixture of alkaline tolerant shrubs (such as greasewood) and annual weeds. Mahogany also expanded from fire sage sites with extensive stands developing on loamy soils. Aspen clones changed from a dominance of young trees to mature trees and browsing pressure on suckers was heavy. Overall, aspen clones declined in size and some stands have been lost.

Riparian Vegetation Communities

Mid-19th Century

Riparian communities were extensive in almost all large drainage systems, with large wet meadow complexes occurring on lower gradient sites. Flows were often perennial due to properly functioning riparian system, and a diversity of vegetation was present.

Past Century

The severe grazing of the late 1970's, lead to substantial impacts within riparian systems. Headcutting in many areas lead to the loss of water table and paved the way for juniper and sagebrush encroachment into former wet meadow areas. Many drainages became intermittent or ephemeral. Riparian vegetation, especially woody vegetation, became less abundant, diverse, and vigorous.

Existing Vegetation Communities

The planning area is comprised of seven major vegetation associations as shown below.

Vegetation Associations within the Tuledad Planning Area
(Selic-Alaska, Red Rock Lake and Tuledad Allotments)

Association	Plant Community	Acres	%	Description
Mountain Big Sage Mountain Brush Juniper (Upland Loams - 14 to 16 inches precipitation)	Mix of mountain big sage, bitterbrush, juniper, mountain mahogany, aspen, mountain brush, low sage, perennial bunchgrasses and wet-dry meadows.	76,992	45	Above 5,500' elevation. Loamy soils, moderately deep to deep, varying degrees of surface/subsurface stoniness. Variable productivity, especially dependent on winter precipitation.
Low Sagebrush (Clay Loams)	Low sagebrush, rabbitbrush, black sagebrush, perennial grasses.	43,529	25	Found at all elevations, except Duck Flat which is alkaline. Soils shallow clay loams, with Black sage found on more calcareous soils. At lower elevations, high risk for conversion to naturalized annuals (cheatgrass/medusahead) following wildfire. In the absence of fire, juniper is increasing in density.
Desert Shrubs (Duck Flat) (> 8" annual precipitation)	Big sagebrush, desert shrub and greasewood communities.	13,517	8	Soils are fine sand and loam, varying in alkalinity. Are periodically ponded or have seasonally high water tables.
Wyoming Big Sage Desert Shrubs Juniper (Alkaline slopes - >12" annual precipitation)	Wyoming big sagebrush, desert shrubs dominant with low sage, rabbitbrush and juniper communities.	16,311	10	Found at elevations below 5,500'. Soils variable, ranging from fine sand, clays to cobbly loams. Rock outcrops, rubbleland also present. Soils vary in alkalinity and depth to water table; mostly moderately steep to steep, with moderate to severe erosion hazard ratings based on slope.
Riparian (Various)	Perennial and intermittent streams, springs, seeps and wet-dry meadows.	1,995	1	Plant communities range from bluegrass and rush dominated communities to sedge and woody shrub dominated communities. A wide variety of forbs is also present.
Lakebeds (Various)	Water tolerant shrubs and herbaceous species including silver sagebrush, mat muhly, dock, sedges, and a variety of perennial grasses and forbs.	2,833	2	Production is dependent on winter precipitation and varies widely. Soils are typically deep, rock-free, shrink/swell clays. Water is ponded late into the season following high precipitation winters but are often dry and cracked to a depth of several feet.
Mountain Mahogany	Inclusion in other plant communities.	18,000	10	Many of these sites are decadent with little regeneration occurring.
Aspen	Inclusion in other plant communities.	3,500	2	As above.
Total for Planning Area		176,677	103	

Wildlife and Fish

Mule deer populations were low prior to European settlement, increasing to a peak of about 15,000 deer for the East Lassen area in the late 1950's/early 1960's. Current overall population trend for mule deer is downward, at less than 4,500 head.

Prior to 1840, antelope populations in California were estimated at 500,000 head. By 1923, the population had declined to about 1,000 head, mostly in northeastern California. Pronghorn numbers have gradually increased to about 11,000 in 1990 for the region. Since 1990, the overall trend has been downward with the current regional population estimated at about 7500 head.

Historically, sage grouse were tremendously abundant in Nevada with market hunting occurring in the Reno area during about 1910-1930. Since that time, populations have mostly declined. In 1993, sage grouse hunting season was closed in Washoe County, Nevada because of concerns over low populations. Within California, numbers have been relatively stable (low) for the past decade.

Wild Horses

With the passage of the Wild Horse and Burro Protection Act in 1971, the Bureau was charged with management of wild horses. The earliest counts estimated numbers at about 220-290 for this planning area. By the late 1970's, wild horse numbers had increased to well over 300 head.

In 1983, a Stewardship technical group established herd numbers at 50-75 head each for the Coppersmith and Buckhorn Herd Management Areas (100-150 head for the planning area). Since that time, periodic gathers of excess horses following selective herd management principles have maintained herd numbers at or near established herd size.
Recent court decisions have held that the Bureau must establish appropriate management levels for horses through monitoring data. In accordance with this direction, the Bureau completed an environmental analysis which reviewed monitoring data during Fall 1995, and established the current appropriate management levels of wild horses, at 59-85 head and 50-75 head, for the Buckhorn and Coppersmith Herds, respectively.

Livestock Grazing

Grazing began more than 130 years ago, with the first sheep and cattle use recorded in about 1864. Domestic livestock numbers (sheep, cattle, and horses) increased sharply through the 1870's. In the Tuledad area alone, thousands of cattle and hundreds of thousands of sheep were herded and allowed to graze season long. With the severe winters of the 1880, livestock use declined. Even so, range conditions by the late 1890's were badly deteriorated due to unregulated livestock use and fierce competition for forage.

In 1934, with enactment of the Taylor Grazing Act, priority for 23, 909 AUM's of use was recognized for public lands in the Tuledad, Selic/Alaska and Red Rock Lake areas. This use was reduced to 10,585 AUM's (actual carrying capacity) though adjudication in the early 1950's and 1960's.

The Bureau completed the Management Framework Plan and Grazing EIS for the Tuledad-Home Camp area in 1977/78. Both documents established future management direction for the area. To implement the direction in the MFP/EIS, an Allotment Management Plan was developed for the Tuledad Allotment in 1980. Management was changed from season long, continuous grazing to more intensive management.

February 5, 1999

Ms. Susan Stokke
BLM-Surprise Field Office
PO Box 460
Cedarville, CA 96104-0460

RE: Tuledad Allotment Assessment

Dear Susan,

Thank you for the opportunity to review and respond to the Tuledad Allotment assessment and proposed decision. We apologize for the delayed response, but holiday schedules and completion of the Nevada Wild Horse Plan for the Nevada Legislative Session schedules are difficult when trying to attain limited time frame responses.

An appropriate management level for the Buckhorn Herd was established under the basis of the survival level of the 1993 drought and severe winter. Land use planning has established the necessary criteria for monitoring and future adjustments in wild horse numbers.

We fail to find adequate assessment of monitoring data to either validate the appropriate management level for this herd to meet a thriving natural ecological balance on te allotment. Furthermore, prescribed burning on the allotment without clear post-project objectives may create an arbitrary response to wild horse use of prescribed burns. Too often horses must be reduced to minimum levels to protect burn areas from any use.

We suggest all data be assessed to support the proposed action.

Sincerely,

CATHERINE BARCOMB
Administrator