m 3/5/02

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Elko Field Office
3900 East Idaho Street
Elko, Nevada 89801-0611
http://www.nv.blm.gov

In Reply Refer To:
4130/4400.4 (NV-012)

MAR - 5 2002

CERTIFIED MAIL NO. 70000520002058459678
RETURN RECEIPT REQUESTED
Ellison Ranching Company
c/o DeLoyd Satterthwaite
HC-32, Box 240
Tuscarora, NV 89834

CERTIFIED MAIL NO. 70000520002058459685
RETURN RECEIPT REQUESTED
Hammond Ranches/Oro Vaca
c/o Roy Schurtz
PO Box 2148
Elko, NV 89803

CERTIFIED MAIL NO. 70000520002058459661
RETURN RECEIPT REQUESTED
Kenneth Buckingham
PO Box 10
Paradise Valley, NV 89426

Dear Sirs:

The Elko Field Office has completed an evaluation of monitoring data for the Little Humboldt, Jakes Creek and Tall Corral Allotments to determine whether changes in existing grazing management are necessary to ensure significant progress toward attainment of multiple use objectives and Standards for Rangeland Health. I have enclosed a copy of the allotment evaluation for your review. Due to critical resource issues, it will be necessary to provide only a 15 day comment period; therefore requests for extensions of time will not be approved. Comments must be received in this office no later than close of business on March 20, 2002. Comments may be faxed to (775) 753-0255, e-mailed to Kathy_McKinstry@nv.blm.gov or mailed to the address above.

Siting HMA vs HA?

weight average utilization - pg 27

Counting foals as full AUM's pg 32

newly created Castle Peak Pasture (HMA)

violation of LUP (RMP/ROD) ← pg 70

manage h's "in the established herd areas"

~~RPS objectives on livestock / wildlife etc "met or not met" h's? nothing~~

domestic h's w/in HA

remove sufficient # of h's below AML to gather again in 4 years pg 110

80 h AML

% below!

not VIABLE gene pool

(50)

3/22/02

KENNY C. GUINN
Governor

STATE OF NEVADA

CATHERINE BARCOMB
Administrator

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
COMMISSION FOR THE
PRESERVATION OF WILD HORSES
885 Eastlake Boulevard
Carson City, Nevada 89704
Phone (775) 849-3625 • Fax (775) 849-2391

March 22, 2002

Helen Hankins, District Manager
BLM Elko Field Office
3900 East Idaho St.
Elko, NV 89801-0611

Dear Ms. Hankins,

The Commission appreciates the opportunity to review and comment on the evaluation for Little Humboldt, Jakes Creek and Tall Corral Allotments. We realize your sense of urgency in completing these documents and are trying to work within your requested response time.

We would appreciate more lead time in the future for review and consultation of environmental documents, especially those with such critical issues as we have seen in this document. We did not receive this directly from the District, which should have been done as we are on the affected list for wild horse issues throughout the State. This is dated March 5th. The Clearinghouse received this and mailed it to our office on March 8th, a Friday. We received the document on the 11th, a Monday and you requested a reply no later than March 20th. That would be 8 working days. Yours is not the only document on our desk, I have approximately 40 other land use planning documents ahead of yours. That, in addition to travel for other meetings and days away from the office, allowed me less than 4 working days to review this. As required by law and NEPA, you did not allow the appropriate comment period on such a document as this. Please, in the future, insure appropriate comment time to adequately review and consult with your specialists on a document prior to responding so we may give you the best attention possible.

We have many concerns with the management in the Little Humboldt Allotment. Jakes Creek and Tall Corral are outside of the Herd Area (HA) so we will not be commenting on those areas.

INCONSISTENT WITH RMP/ROD

HERD AREA NOT HERD MANAGEMENT AREA

According to your planning documents, we cannot find where the Elko District has ever established the original "herd area" as a "herd management area". If we are in error, please provide to us the documentation that accomplished this transition.

CHANGING HERD AREA BOUNDARY

This evaluation suggests that wild horse use be restricted to approximately 1/3 of their original HA (Castle Ridge Pasture), and that AML be established at 80. We agree with the boundary recommendation as from the intermix of private versus public lands the management of wild horses in other area's would be prohibitive and not in their best interest. However, the BLM may not adjust their boundary in an allotment evaluation or multiple use decision, this will take a land use plan amendment. We support the District in first completing a LUP amendment and then subsequently establishing the AML through the MUD process.

You have mentioned managing for a horse free area, page 110, 6.8. This is a play on words. By managing for "horse free" areas you are in actuality deleting that acreage from their use. The District had previously deleted acreage from the Spruce Pequop herd area in the Wells Land Use Plan Amendment. How is this any different? If that was protocol at the time, why has the District changed in approach, no planning laws have changed.

By deleting that acreage from their use, the District is adjusting the boundary which is inconsistent with the existing management documents which state "manage horses in the existing herd areas". The District must back up two steps, amend the LUP and then establish AML through carrying capacity determinations. To do anything less would be asking for National attention and another lawsuit against the Bureau.

REMOVAL BELOW AML (page 110)

Under current restrictions of the lawsuit against BLM by the Fund for Animals, the District is prohibited from removal below AML without environmental planning documents. We find this document severely lacking in any planning for the wild horse herds. We would encourage the District to complete the planning documents necessary for the management of this herd prior to setting the AML. With a proposed AML of 80 horses, we have serious concerns for genetic diversity if the herd were to be removed to 40% below AML. The 40% below AML is being proposed solely to fit into the Bureau's proposed 4 year rotation gather schedule. Prior to that action the District must analyze the impacts completely to insure protection and longevity.

Again, this AML is being proposed with an adjusted area of use for the Castle Ridge Pasture only. Modification of the HA and creation of the HMA has not been accomplished at this point. Limiting the evaluation to that area is an assumption by the District that this will eventually become the HMA.

FENCING/RESTRICTED USE OF THE HERD AREA

It appears from management decisions that the public was not made aware of over the years that wild horses have been illegally restricted in their use of the established HA. This severely limited use to only a small NW portion of their HA. The Wild Horse and Burro Act guaranteed wild horses their freedom of movement within their legal area of use. According to your land use planning documents of record, they are to be managed "in their established herd area's", page 70. Since your ROD/RMP, you have not completed any decision documents to change the boundaries, the area shown in your existing documents delineate the entire 1971 area of use as their HA. It is your job to insure those laws are followed.

We realize the permittee has installed fencing of their private lands which is their option. However, BLM fencing had been installed previously and the permittee had requested to tie into that existing fencing. That request was granted by the BLM, Elko District, and the result was fencing the horses off from their HA and only allowing their use in the Castle Ridge Pasture area. Was an EA done on the action of restricting the horses from their HA, on water availability, etc. If so, I would like to request a copy of the EA completed that shows that the District thought ahead of the impact to the horses movements and needs prior to allowing the permittee to tie into the BLM fencing. This was not legal nor an option that the BLM should have skirted. This illegally eliminated approximately 2/3 or their HA from use. At a minimum, the Elko District should not have allowed the permittee to tie into that fencing, or should have dismantled the existing BLM fence that restricted their legal use of the HA, or put in openings that would allow the free ranging
movement of the horses.

Since this is a violation of your land use plan, we are requesting that this situation be modified immediately to allow their use of the HA until such time that legal planning documents are in place that modify their HA boundary.

WEIGHT AVERAGE UTILIZATION

The multiple use decision must determine the allotment's carrying capacity. Since wild horses are managed by the mere use of actual numbers, the calculation of available forage must consider the use and condition of key forage species. Using weight averaging of all use pattern mapping data eliminates the influence of key forage species. Therefore, we suggest that the heavy and severe use pattern mapping data be used to determine the desired actual use.

COUNTING FOALS AS FULL AUM'S FOR RESOURCE

The Elko Resource Management Plan has no specific definition for an animal unit month. Other land use plans (See Paradise/Denio DEIS, Glossary) make a clear distinction that one adult wild horse equals one animal unit month. This determination in the actual use portion of the carrying capacity estimation is significant. We suggest that BLM be consistent in its application.

In addition there was previously an instruction memorandum issues by BLM that states that foals will not be considered in use calculations prior to six months of age. Please readjust your calculations.

TRESPASS GRAZING NOT CONSIDERED IN THE EVALUATION

Although it has not been documented in this evaluation, we were informed during our conference call with the BLM that numerous trespass grazing violations have occurred. Those additional AUM's must be included in the calculations of use as they will affect the underlying carrying capacity and allocation of forage by offending animals. Again, please readjust your calculations.

CENSUS AND WILD HORSE USE PATTERN MAPPING

Throughout this document you've included Livestock Key Area Study Summaries, big game habitat ratings, wildlife habitat studies, stream habitat studies, etc. I can find no studies, census mapping, or use mapping that would show that wild horses use or needs have been considered at all. All other uses are considered for need as well as habitat protection. Please evaluate the needs of the horse herds based on past studies, critical area's of use both winter and summer, water availability, etc.

ALLOCATION OF FORAGE FROM PAST %'S IN THE LUP

The District has arbitrarily chosen to use past percentage of forage allocations from an old land use planning document. Please explain how this decision will promote better management of the range and isolate the offending animals of use as determined by use pattern mapping. The offending animal must be targeted and close attention paid to heavy severe use area's. By an arbitrary split of the forage, ignoring the heavy use area's and offending animals, and particularly by cutting their area's of use, the District is targeting the wild horse populations for all offenses.

Not only are you suggesting eliminating almost all of their acreage from the HA, you are arbitrarily cutting their AUM's from 1284 to 957. If they eventually are to be managed in the smaller Castle Ridge Pasture and other uses are absorbing the AUM's from their deleted HA....at a minimum, the horses should be allocated the entire 1284 AUM.

CONCLUSION

I would like to reserve the right to comment further but am trying to quickly note the obvious, especially with the shortened evaluation and comment period.

There is a multitude of problems here in addition to the other planning issues you are faced with. There is a solution here and it's a land use plan amendment. Don't misunderstand, in looking at the management issues facing horses given the scenario of fencing, LCT, and private lands among others.....we agree that the best solution for wild horse management is the Castle Ridge Pasture of the original HA.

However, given the fact that the District has already allowed horses to be restricted from their HA with fencing which is not legal by restricting the movement, the fact that the District is proposing actions in the evaluation that aren't consistent with the existing LUP's, the fact that the

District has not evaluated the appropriate monitoring for the horses (or at least it hasn't been documented and considered in this evaluation), used weight averaging, miscalculated foals, not included trespass AUM's, not directed the evaluation at determining the offending animals to protect the habitat, proposed 40% removal below an arbitrary AML that has been determined without legally established HMA boundaries, planned the 40% below removal in violation of current negotiations on the Fund for Animals lawsuit, and not completed the environmental planning to do that reduction of any other planning for the wild horses, to name a few.....we are trying to keep the District and all of BLM out of a lawsuit.

As discussed last week regarding the Rocky Hills planning process.....there are many groups on all sides of the issues that manage habitats through lawsuits. It is sad to see our lands managed by judges rather than the evaluation and planning process with knowledgeable people on the ground. We would wonder why the District would purposely draw such attention to violations of NEPA and land use planning and intentionally jeopardize a lawsuit that will take management out of all of our hands.

It is in all of our interest to follow the planning processes that have been established through NEPA, BLM instruction memorandums and BLM regs. Our caution then and now again on the Little Humboldt is to back up, amend the land use plan, and then initiate the appropriate planning documents to set your AML's and best manage the wild horse herds in your District. To jeopardize a lawsuit would not only affect the Elko District but all of Nevada as well as the entire wild horse program. Over the years many allotments (of much small significance in size) have been "managed for zero" or "temporarily" deleted from management never to come back. Or even, use Spruce Pequop that was the result of the Wells Amendment.....the previous checkerboard area was deleted from the HA with a new HMA created. Now, given the land exchanges since that time, should this be re-evaluated and the area given back to the horses.

Any of the above mentioned issues (with many more example program wide) could be re-opened with attention drawn to these two extreme examples of abuse being proposed. This would open up the door for many investigations into BLM practices and meeting required legal planning. I am sure the District would not want to bring such attention to the District by moving forward on these documents without proper planning.

In closing, with proper planning, we concur with newer area's of management for horses as proposed in conversations on Rocky Hills and in these planning documents for Little Humboldt. We strongly recommend that the District put both documents on hold, complete the required land use plan amendments on multiple issues and species, and then move forward with updated allotment evaluations through the final multiple use decisions.

I have been trying to work with your shortened time frame and would be available to meet with the District further on these matters. If you have any questions, please feel free to contact me.

Sincerely,

Cathy Barcomb

CATHERINE BARCOMB
Administrator

cc: Bob Abbey, Nevada State Director
Terry Woosley, Nevada State Office
Nevada State Clearinghouse

3/22/02

WHOA
WILD HORSE ORGANIZED ASSISTANCE
P.O. BOX 555
RENO, NEVADA 89504
(702) 851-4817

. . . a note from

Dawn Y. Lappin

March 22, 2002

To: Clinton R. Oke, Asst. Field Office Manager

From: Dawn Y. Lappin/WHOA

Re: Little Humbolt, Jakes Creek, and Tall Corral

Thank you for the opportunity to provide comments on the Allotment Evaluation for the above named allotments. I have already provided verbal comments so the actions that were time-based or directly related to the basin only, may go proceed; however, my verbal comments must not be construed to make the BLM believe that it is possible to go further with this document as it applies to horses, specifically the calculation of the AML based on an illegal boundary change.. Though I would have preferred the 30 days notice the law allows, I can understand how planning can crunch. However, you did not even give 15 days notice. The letter (4130/4400.4 (NV-012) is dated March 5, 2002, with the benefit of doubt of two days in mail, which I doubt, arrived on the 7th or 8th. Fifteen working days makes the 15 days notice due on March 28th, not the 20th as stated. It is not the 15 day notice that I take serious issue with as the following will show.

Nothing in all my records show that the Little Humbolt is an HMA, in fact all the documents refer to the four as herd areas. Herd areas are historical use, herd management areas are in the Land Use Planning Process, as evidently not done in Elko Resource Area. You cannot establish or change a herd boundary in an Allotment Evaluation.

In fact the tie-in onto the private land fencing could be construed as a violation of the LUP, as it did not analize the accumlative impacts of all those fences on the wild horses and their habitat. We are not saying that you could have stopped owners from fencing, but those fences on public lands "effectively" (your words) excluded them from their legal habitat. This is the second time in two weeks where your range people have totally disregarded the horses' habitat requirements before you drove a post. I can appreciate the difficulty in management of a wild

horse population given amount of private lands within a portion of the HA; frankly we tire of the horses being blamed, either because the horses were over their AML or because of damage caused by trespass cattle.

Secondly, at first we thought the fence an accident or oversight; but Table 13 on page 29 (#2) shows that there is no allocation of forage for wild horses in North or South Basin, or the Rim pastures. I am particularly angered that you can claim "horse free" areas within the herd area and still call it multiple use; yet at the same time reduce their habitat by 2/3 and still give the livestock the largest percentage of forage in Castle Ridge, their only remaining range, and still call it multiple use. Why not make Castle Ridge "cattle free?" Where is the fairness? How is it that "horse free" remains multiple use, but "cattle free" is not?

You cannot use weight averaging to establish a carrying capacity. Weight averaging is a slight of hand that uses areas of less use to add to areas of heavy use in order to justify a more moderate outcome and allow more animal units. I remember a District arguing before an ALJ about stocking levels based on weight averaging, it was upheld, too bad the manager was no longer there to witness the horses coming in in poor condition. How many cattle were trespassed and how does that trespass on already sensitive areas show up in calculations prior to the printing of this document? Nothing in this document indicates whether there was trespass during the times of this evaluation; yet the document more than distinguishes itself identifying over use by wild horses. If there are 5% of the horse herd fenced in then those who fenced them in has little room for complaint.

We cannot determine how the AUMs were calculated for wild horses, as the Table seems to indicate adult/foal counts; but we couldn't determine if the foals were the previous years foals that were now counted as adults, or whether the calculation of 1 AUM applied to an adult horse and a foal, equaling 2 AUMs. NSO assures me that foals are not added until the following year. I did not see anything indicating what the death loss was calculated to be or whether it was in that truly unbelievable 40% reproduction figure.

In conclusion, it is our opinion that your range people have been given full range to plan, develop and follow through with costly range improvements under the umbrella of livestock management. There is absolutely no evidence that wild horses were given even a second thought.
I see no humor at all in the suggestion by Oro Vada that BLM develop waters in Castle Ridge, not for the horses, but so that the livestock will manage themselves by being drawn up to water. But the fact that this trivia gave us some indication that the Herd Area you've allowed the horses to remain in isn't too well watered. Was BLM contemplating development of water for wild horses in what little remains of their herd area?

There is a solution, but it still requires a land use plan amendment. I will be more than happy to provide you with details should you be interested. I will give you fair warning that issues like the AML and percentages above and below are simple issues to understand and

there are some national groups that are looking to add to their gains; the herd boundaries are another simple issue, well protected by law. Elko painted a bullseye on its' chest when it sent out the Spanish Ranch and Andrae AE and the Little Humbolt, Jakes Creek, and Tall Corral AE's. Unfortunately the repercussions of your actions will vibrate throughout the entire horse program.

Sincerely,

Dawn Y. Lappin (Mrs.)

March 22, 2002

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Dawn Y. Lappin (Mrs.)

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c/o Roy Schurtz
PO Box 2148
Elko, NV 89803

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Also please find enclosed the Proposed Action for the South Fork of Little Humboldt Basin, Little Humboldt Allotment as prepared and submitted by Oro Vaca, Inc. This is being included at the request of Oro Vaca, Inc.

Sincerely,

CLINTON R. OKE
Assistant Field Office Manager
Renewable Resources

Enclosures: as stated above

cc: Barrick Goldstrike, Inc.
BLM - Winnemucca Field Office
Committee for Idaho's High Desert
Elko County Commissioners
Friends of Nevada Wildlife
Farm Credit Service
Fund for Animals - New York City, NY.
Fund for Animals - Jackson, WY.
Friends of Nevada Wilderness
Hawkwatch International, Inc.
Humboldt County Commissioners
Natural Resources Defense Council
National Audubon Society
Nevada Division of Wildlife - Elko
Nevada Division of Wildlife - Elko, Pete Bradley
Nevada Cattlemen's Association
Nevada State Clearing House
Nevada First Corporation
Nevada State Clearing House (12 copies)
Nevada Outdoor Recreation Assn.
Phyllis Jo Dean
Paul Bottari
Resource Concepts, Inc.
Red Rock Audubon Society
Roger McGinty
Sierra Club - Toiyabe Chapter, Rose Strickland
Sierra Club - Toiyabe Chapter, Marjorie Sill
Sierra Club - Washington D.C.
The Wilderness Society - San Francisco, CA
The Wilderness Society - Washington, D.C.
Trout Unlimited

US Fish and Wildlife Service
US Forest Service
Western Watersheds Project
WHOA
Wilderness Impact Research Foundation

3/2002

LITTLE HUMBOLDT, JAKES CREEK, AND TALL CORRAL ALLOTMENT EVALUATIONS

1.0 BACKGROUND/PURPOSE

1.1 Background

The Elko Resource Management Plan (RMP) established the multiple use goals and objectives which guide management of public lands in the Elko Resource Area. The Rangeland Program Summary (RPS, 1987) further identified specific objectives on an allotment by allotment basis. Because of the high resource values existing within the Little Humboldt Allotment, the Elko RMP designated this allotment as an "I" (Improve) category allotment.

The Jakes Creek and Tall Corral Allotments are physically within the Winnemucca Field Office area of jurisdiction; however, because of an inter-office agreement, they are administered by the Elko Field Office. The Paradise-Denio Management Framework Plan (MFP) and associated Record of Decision (ROD), approved in 1982, guide the management of these two allotments. These two allotments were classified as "C" (Custodial) allotments.

The three allotments are being evaluated as a complex because of the common permittee and historically unfenced boundaries between the allotments.

1.1.1. Little Humboldt Allotment

The Little Humboldt Allotment is in the western portion of the Elko Resource Area, north and west of the town of Midas (Map1). The southern, eastern and northern boundaries of the allotment are fenced with the exception of approximately 1.5 miles of natural barriers along the northwest boundary. Additional interior fencing has been constructed within the allotment on both public lands and on private lands for the following reasons: 1.) to manage and reduce livestock grazing impacts to the streams within the South Fork Little Humboldt River (SFLHR) Basin, and 2.) for rehabilitation of the impacts of the 2000 and 2001 wildfires on the Little Humboldt, Tall Corral and Jakes Creek Allotments. The total size of the Little Humboldt Allotment is 84,576 acres of which 67,871 acres are public lands and 16,705 acres are private lands. See Map 1 for fence locations, land status and allotment boundaries.

The Little Humboldt Allotment is characterized by flat to gently rolling terrain (4,570 to 5,700 foot elevations) along the southern end below the Owyhee Bluffs. The majority of the allotment is characterized by more mountainous terrain ranging from 5,500 feet to 8,000 feet in elevation. Vegetation is predominantly Wyoming big sagebrush *(Artemisia tridentata wyomingensis)*, Sandberg bluegrass *(Poa secunda)* and Bottlebrush squirreltail *(Sitanion hystrix)* in the lower elevations. The higher elevations of the allotment are primarily dominated by Mountain big sagebrush *(Artemisia vaseyana)*, Idaho fescue *(Festuca idahoensis)* and Bluebunch wheatgrass *(Agropyron spicatum)*. Numerous Aspen woodland complexes are also located in the higher elevations of the allotment.

The Little Humboldt Allotment encompasses the headwaters of the SFLHR, Sheep Creek, and Secret Creek, all of which provide habitat for Lahontan Cutthroat Trout (LCT) (*Onchorynchuys clarki henshawi*) streams. LCT are currently a federally listed threatened species. The allotment also encompasses the headwaters of the North and South Forks of Jake's Creek and Kelly Creek. Approximately 91% of stream bottoms along the South Fork of the Little Humboldt River, Sheep, Secret, and Oregon Canyon Creeks are private lands, with public lands on the ridges and areas away from the streams. The allotment also contains numerous seep and spring complexes which are scattered throughout the allotment on both public and private lands..

The southeastern ¼ of the Little Humboldt River Wilderness Study Area (WSA) is within the Little Humboldt Allotment. In addition, wild horses occur within the designated Little Humboldt Herd Area within the Little Humboldt Allotment.

1.1.2. Jakes Creek and Tall Corral Allotments

The Jakes Creek and Tall Corral Allotments are characterized by flat valley bottoms to +30% slopes. Elevations range from 4,560 feet to 6,234 feet above mean sea level (AMSL). Vegetation consists primarily of Great Basin wildrye, bluebunch wheatgreass, Sandberg's bluegrass, bottlebrush squirreltail, Wyoming big sagebrush, low sagebrush, shadscale, four-wing saltbush and cheatgrass. The total size of the Jakes Creek Allotment is 61,227 acres of which 31,452 acres are public lands and 29,775 acres are private lands; the Tall Corral has a total of 12,635 acres of which 10,176 acres are public lands and 2, 459 acres are private lands.

1.1.3. Recent Wildfire Occurrence

Significant portions of all three allotments have been impacted by the wildland fires which occurred in 1999, 2000 and 2001. A summary of the fires is listed in Table 8, Section 2.9.

Closures to grazing were implemented for these various fires either through agreement or decision. The amount of grazing use that was suspended and the specific rehabilitation actions taken following each fire are summarized in section 2.7.1. below. (Details are provided in the various Burned Area Emergency Stabilization and Rehabilitation Plans which are available for review at the Elko Field Office.)

1.2 Purpose

The purpose of this evaluation is to determine whether or not multiple use objectives established for these three allotments and the Standards and Guidelines for Rangeland Health for Northeastern Great Basin Area of Nevada are being met or if significant progress towards meeting them is being made. This evaluation includes technical recommendations proposing changes in management when needed. The evaluation period is from 1977 to 2001.

2.0 RESOURCES CONSIDERED

2.1. Livestock Use and Grazing System

A summary of permitted use outlined in the term grazing permits by allotment and permittee is listed in Table 1. below. The term permit for Oro Vaca, Inc., is based on the Final Decision Effective Upon Issuance dated March 31, 2000. This permit was issued for a two year period and will expire March 31, 2002.

Table 1. Permitted grazing use by allotment and permittee as outlined in their term grazing permits.

Permittee	Allotment	Livestock Number & Kind	Begin Period	End Period	%PL	Type Use	AUMs
Kenneth Buckingham	Jakes Creek	53 Cattle	4/1	7/31	98	Active	208
Ellison Ranching Company	Jakes Creek	3,667 Sheep	5/1	6/15	89	Active	987
	Little Humboldt	800 Sheep	4/16	5/31	N/A	Exchange of Use	242
Oro Vaca, Inc.	Jakes Creek	130 Cattle	4/16	11/15	34	Active	312
		25 Horses	4/16	10/15	34	Active	51
	Jakes Creek FFR	~~4 Cattle~~	4/01	2/28	100	Custodial Grazing	50
	Total						413
	Little Humboldt/Tall Corral	2,426 Cattle	3/16	6/30[1] (11/30)	97	Active	8,279

[1] As per the 3/31/2000 decision, livestock were to be removed from the entire Little Humboldt Allotment no later than 6/30 if certain fences were not constructed to prevent livestock from entering the South Fork Little Humboldt River Basin (SFLHRB). If the fences were constructed prior to 7/1 then the decision only required livestock to be removed from SFLHRB by 6/30 and could remain elsewhere in the allotment through the end of the grazing season. Ultimately, the fences were constructed and Oro Vaca, Inc., was authorized to graze in pastures other than the SFLHRB until the end of the grazing season.

Ellison Ranching Company has an Exchange of Use Agreement for 242 AUMs ~~of sheep use~~ within the Little Humboldt Allotment. Because of the presence of California bighorn sheep populations within the Owyhee Bluffs, domestic sheep use is restricted to ~~spring use only~~ and is confined to a small portion of the ~~Spring Creek Pasture of the~~ Little Humboldt Allotment to reduce the risk of mixing by domestic sheep and the wild sheep.

Currently there is no Allotment Management Plan (AMP), or formal long-term grazing system in effect on the three allotments. Historically, Tall Corral and Little Humboldt Allotments have been grazed season-long. Jakes Creek has typically been grazed in the spring and fall.

In the Little Humboldt Allotment, cattle are generally turned out in the lower portions of the allotment below the Owyhee Bluffs and in the lower elevational areas in the vicinity of the North and South Forks of Jake's Creek and Kelly Creek drainages around April 1 of each year. The cattle typically remain in the lower elevations of the allotment at this time. Around mid to late May the majority of the cattle drift into the higher elevation areas of the allotment including the SFLHR Basin area as the snow recedes. Access to these higher areas is dependent upon the amount and depth of snow accumulated over the winter months. Cattle which have entered the higher elevations typically remain through the summer months until mid to late October. At this time the cattle drift back down to the lower elevations due to colder temperatures and early winter storms where they remain until mid to late November.

For the Little Humboldt Allotment, interim changes in grazing management for the 2001 grazing season were implemented in an attempt to improve LCT habitat conditions on those streams contained within the SFLHR Basin after completing formal consultation with the United States Fish and Wildlife Service (USFWS), and after receiving a Biological Opinion (BO). However, the system as outlined was not fully implemented due to fence construction problems on private lands.

Typically in the Jakes Creek Allotment, cattle are turned out in the southwest corner near the Red House Ranch and trail towards the Tall Corral and Little Humboldt Allotments. Cattle return to the Jakes Creek Allotment in the fall and trail back to the ranch. Sheep are typically trailed in the spring from the eastern part of the Jakes Creek Allotment towards Jakes Creek and then out of the allotment towards the Squaw Valley Ranch.

2.2. Wild Horse Use

2.2.1. Historical Wild Horse Use in the Little Humboldt Herd Area

The Wild and Free-Roaming Horse and Burro Act became law on December 15, 1971. With the passage of this act, the authority to manage wild horses and burros on public land was assigned to the BLM and U.S. Forest Service. The Act proclaims that wild and free-roaming horses and burros are protected from capture, branding, harassment, or death. They are to be considered, in the areas where they were found in 1971, as an integral part of the natural system.

Wild horses are currently found in four herd areas (HAs) within the Elko Resource Area, as established by the Elko RMP. The RMP states that horses were to be managed in four herd areas, with a target population of 330 horses as follows:

HA	TARGET POPULATION	ALLOTMENT
Owyhee	58	Owyhee
Little Humboldt	107	Little Humboldt
Rock Creek	119	Rock Creek
Diamond Hills	46	Red Rock, Browne

Map 2 shows the Little Humboldt Herd Area boundary and the land ownership pattern. The Little Humboldt Herd Area is located solely within the Little Humboldt Allotment. There are no wild horse herd areas within either the Jakes Creek or Tall Corral Allotments.

No complete counts of wild horses were made in the Elko District in 1971, the year the Act was passed. The first aerial census of wild horses occurred in 1975; however, numbers counted included numerous claimed domestic horses that were gathered prior to 1978. The first true wild horse census, after the claiming period, occurred in March 1978. Table 2. shows the results of the census for the Little Humboldt Herd Area.

When the BLM first began to conduct census flights of wild horses, detailed maps of horse locations were not kept; instead notes were taken during the flights and a memo was written to the files at a later date. However, since 1984 detailed distribution maps have been made during census flights.

Table 2. Census Data for the Little Humboldt Herd Area (HA), 1978-Summer 2001.

Date [1]	# Adults in HA	# Foals in HA	Total	Reproductive Rate [2]	Increase/ Decrease
3/1978 (W)	167	nd	167 [3]	nd	nd
?/1980	190	nd	190 [3]	nd	+ 23
2/1982	118	nd	118 [3]	nd	- 72
6/1984 (S)	91	16	107	18%	- 18
6/1986 (S)	92	26	118	28%	+ 11
3/1987 (W)	168	nd	168 [3]	nd	+ 50
6/1988 (S)	165	42	207	25%	+ 39
8/1989 (S)	115	28	143	24%	- 64
7/1991 (S)	142	32	174	23%	+ 31
2/1992 (W)	166	nd	166 [3]	nd	+ 8
5/1992 (SP)	246	45	291	18%	+ 125
9/1992 (F)	227	31	258	14%	- 33

Date [1]	# Adults in HA	# Foals in HA	Total	Reproductive Rate [2]	Increase/ Decrease
1/1993 (W)	144	18	162	13%	- 96
5/1993 (SP)	123	3	126	2%	- 36
8/1993 (S)	145	4	149	3%	- 23
1/1994 (W)	122	0	122	nd	- 27
8/1994 (S)	115	46	161	40%	+ 39
3/1995 (SP)	197	9	206	nd	+ 45
9/1995 (F)	176	21	197	12%	- 9
2/1997 (W)	211	1	212	nd	+ 35
2/1998 (W)	301	11	312	nd	+ 100
6/1999 (S)	nd	nd	389	nd	+ 77
8/2000 (S)	279	64	343	23%	- 46
6/2001 (S)	nd	nd	574	22% [4]	+ 231

1 W = Winter, SP = Spring, S = Summer, F = Fall

2 Average Reproductive Rate = 18.3% (Reproductive rate calculated by the following formula: animals 0-1 years of age ÷ animals over the age of 1.)

3 Data are available only for total number of horses. In some years horses were not aged due to time of year, weather conditions, or time constraints during the flight.

4 Reproductive rate is based on those groups where foals were counted.

2.2.2. Herd Area Use Patterns

Wild horses in the Little Humboldt Herd Area have always exhibited an unusual distribution pattern. The herd area is at least 75% higher elevation "summer country" (7590' ASL) yet during every census for the past 20 years, the majority (95%) of the horses are found in the northeast corner of the herd area (5940' ASL). This type of distribution would be considered normal in the winter months, but it does not seem normal for the spring and summer months. The horses are not tied to the water at Castle Spring because the entire herd area is well watered. Forage consists of bluebunch wheatgrass and Idaho fescue at the upper elevations while lower areas around Castle Spring, Sandbergs bluegrass and bottlebrush squirreltail comprise almost all of the understory. One would predict that horses would winter from Oregon Flat northward and spend their summers around Kelly Creek and Jakes Creek Mountain. This would provide access to better forage, cooler temperatures, relief from biting insects and abundant water. However, the horses seem to stay year round on Castle Ridge and north of Castle Spring. Aerial distribution maps are available for review at the Elko Field Office.

2.2.3. Appropriate Management Levels

The initial management level for wild horses, as specified in the Elko RMP Rangeland Program Summary (RPS) issued in July 1987, was to provide forage to sustain 1,284 AUMs of wild horse use which equates to 107 head of horses in the Little Humboldt Allotment and Little Humboldt Herd Management Area. This decision came from the Elko RMP/Record of Decision (ROD) dated September 30, 1986. Under the preferred alternative of the RMP, wild horses were to be managed at existing numbers (March 11, 1981) as a starting point for monitoring purposes.

Since the ROD/RPS were issued, the Interior Board of Land Appeals (IBLA) rendered a decision (IBLA 88-591,88-638, 88-648, and 88-679) which clarified that a wild horse herd size is to be established based on the concept of maintaining a thriving ecological balance. Therefore, the objective for managing wild horses has been reworded as follows:

> "Manage for a wild horse herd size which will maintain a thriving ecological balance consistent with other multiple uses while remaining within the wild horse herd area."

Through this evaluation process, it will be determined how many horses can properly be supported and managed in the Little Humboldt Herd Area.

2.2.4. Removals

In February 1974, the BLM opened the claiming period allowing those with branded horses and off-spring of branded horses to claim and gather their animals. Claimants were notified that any animals left on the range after the claiming period ended would be declared wild and free-roaming horses protected under the Wild and Free-Roaming Wild Horse and Burro Act of 1971. Published reports indicate that between February 1974 and February 1978, at least 3,918 horses were gathered by claimants in the Elko Resource Area. Because the claiming period lasted for four years, more horses were gathered than originally claimed; this may be due to the natural accretion of horse herds. Within the Little Humboldt and Tall Corral Allotments, Hammond, Inc., claimed 35 private horses.

In March, 1978 the first complete helicopter census after the closure of the claiming period was conducted. In the three herd areas contained in the formerly designated Tuscarora Planning Unit, 370 horses were found as follows: 175 in the Owyhee Herd Area, 28 in the Rock Creek Herd Area and 167 horses in the Little Humboldt Herd Area.

In 1981, 100 excess wild horses were gathered from the Little Humboldt HMA. Records indicate that an additional 122 horses were gathered between September and December of 1990. There have been no further removals of wild horses in the Little Humboldt since 1990.

2.3 Wildlife -Little Humboldt

2.3.1 Mule Deer (*Odocoileus hemionus*):

2.3.1.1 Existing Numbers: As shown in Table 3 for 774 AUMs.

2.3.1.2 Reasonable Numbers: As shown in Table 4 for 1,550 AUMs.

Reasonable and existing numbers by habitat and season of use as stated in the 1986/87 Elko Resource Management Plan/Environmental Impact Study (RMP) are provided in Table 3. Season of use information updated after consultation with the Nevada Division of Wildlife (NDOW) for the same reasonable and existing numbers and AUMs are provided in Table 4. Mule deer AUM demand is provided for analysis purposes only and does not affect AUMs estimated for livestock on the allotment.

Table 3. 1986/87 RMP existing and reasonable numbers and AUMs by habitat and season of use.

Habitat & Season of Use	Existing Numbers	Reasonable Numbers	Existing AUMs	Reasonable AUMs
Crucial Deer Summer (CDS) 3/16-11/15	165	330	261	521
Deer Summer (DS) 3/16-11/15	235	470	371	743
Deer Yearlong Summer (DYS) 3/16-11/15	17	35	27	55
Crucial Deer Yearlong (CDY)	22	44	35	70
Deer Yearlong Winter (DYW) 11/16-3/15	45	91	36	72
Crucial Deer Yearlong Winter (CDYW) 11/16-3/15	56	113	44	89

Table 4. 1987 RMP existing and reasonable numbers/AUMs by habitat and season of use (As updated by NDOW and BLM).

Habitat & Season of Use	Existing Numbers	Reasonable Numbers	Existing AUMs	Reasonable AUMs
Crucial Deer Summer 3/16-11/15	439	879	694	1,389

Habitat & Season of Use	Existing Numbers	Reasonable Numbers	Existing AUMs	Reasonable AUMs
Crucial Deer Winter 11/15-3/15	101	204	80	161

2.3.1.3. Critical Management Areas

The allotment provides mule deer crucial summer and winter habitat within Management Area 6, Unit 066 as designated by NDOW (Map 3). Important crucial deer winter habitat in the eastern portion of the Little Humboldt Allotment was negatively affected by wildfires that burned approximately 1,978 acres in 1984 (part of Lander Fire), 1,300 acres in 1990 ("Black Sheep Fire"), 1,000 acres in 1991 ("Midas Fire") and 1,336 acres in 1995 (Midas Complex Fire). In 2000, the upper elevation portion of the 37,716 acre Kelly Fire affected crucial deer summer habitat. In an effort to reestablish browse, native perennial vegetation including Wyoming big sagebrush, four-wing saltbush and forage kochia, an exotic perennial half shrub, were seeded on portions of the burned areas as the Midas EFR and Little Humboldt Seedings. This browse seed was planted in addition to native and exotic perennial forbs and grasses. However, most lower elevation range sites in these areas are currently dominated by exotic annual plants that have little value to mule deer in its current state. Other wildfires have burned portions of the Owyhee Bluffs within crucial winter habitat in the last 20 years (1999 Clover Fire); lower elevation range sites in these areas are currently dominated by annual exotic vegetation (i.e. cheatgrass).

Table 5 shows estimated acreage and the percent of the Little Humboldt Allotment where the most seasonal use in available habitat occurs by a reasonable number of deer based on 1995 information. Mild winters could allow yearlong use in crucial summer habitat and some summer use in winter habitat. Some summer use and winter use (based on a 2/6/02 observation) also occurs on Castle Ridge.

Table 5. Distribution of seasonal mule deer habitat in the Little Humboldt Allotment.

Habitat	Percentage of Allotment	Acres
Crucial Deer Summer	50	38,018
Crucial Deer Winter	49	36,807
Intermediate Deer	1	518

2.3.2. Pronghorn Antelope (*Antilocarpa americana*)

2.3.2.1. Existing numbers (1986 RMP): 6 pronghorn (11 AUMs)

2.3.2.2. Existing numbers (NDOW 1995 Est.): 20 Pronghorn (37 AUMs)

2.3.2.3. Reasonable numbers (1986 RMP): 12 Pronghorn (23 AUMs)

2.3.2.4. Critical Management Areas

No critical pronghorn management areas have been documented on the Little Humboldt Allotment. The pronghorn population on the allotment is managed by NDOW as part of Management Area 6, Unit 066. Although use in the allotment could occur yearlong during mild winters, most use occurs from the March 15 to November 15 period in areas delineated on Map 4. Higher density summer use occurs on Castle Ridge. Lower density use occurs on suitable summer habitat between Castle Ridge and the east side of Jakes Creek Mountain north to the vicinity of Pole Creek Ridge. As of 2000, the eastern portion of the allotment below the Owyhee Bluffs is providing habitat for a small number (less than 50) of pronghorn. This number has increased from isolated sightings of animals in 1992-93 to common sightings of individual and small groups (18+) of animals in 2000. Seasonal pronghorn movements might occur into the allotment from lower elevations in surrounding allotments (Little Owyhee, Bullhead, Squaw Valley, Spanish Ranch and Owyhee Allotments) during periods of drought or during the late summer as pronghorn seek succulent forage and perennial water sources. Existing numbers, as stated for 1995, are higher than reasonable numbers stated in 1986; this increase is not necessarily due to better habitat conditions, but rather reflects an increase in knowledge gained during the 1986-95 period regarding Unit 066 pronghorn populations and habitat, and natural population expansions from surrounding areas into the allotment.

2.3.3. California Bighorn Sheep (*Ovis canadensis californiana*)

2.3.3.1. Existing Numbers (1987 RPS): 18 bighorn (34 AUMs)
Existing Numbers (1995 NDOW estimate): 72 bighorn (137 AUMs)
Existing Numbers (1999 NDOW estimate): 80 bighorn (152 AUMs)
Existing Numbers (2000 NDOW estimate) 90 bighorn (171 AUMs)

2.3.3.2. Objective Numbers (1987 RMP/ROD): 140 AUMs bighorn
Reasonable Numbers (National Environmental Policy Act (NEPA) documentation for the Reintroduction of Bighorn Sheep into the Little Humboldt Allotment): 90 bighorn (171 AUMs)

2.3.3.3. Critical Management Areas

Bighorn have been reintroduced into the Little Humboldt Allotment from 1985 to 1995. As of 2001, approximately 45,232 acres of crucial bighorn yearlong habitat have been identified within the Little Humboldt (36,883 acres), Tall Corral (3,520 acres) and Jakes Creek (4,829 acres) Allotments.

In 1985, the habitat evaluation within the NEPA documentation for the reintroduction stated that, "anticipated bighorn sheep use areas" included approximately 13,800 acres of suitable habitat within the Little Humboldt, Jakes Creek and Tall Corral Allotments. Absolute reasonable numbers for 13,800 acres in the three allotments during "Year 1" (1986) was 15-25 bighorn (28-47 AUMs); by "Year 10" (1995) reasonable numbers were 90 bighorn (171 AUMs). As of the spring of 2001, the population estimate for the entire management unit was 90 sheep (171 AUMs). This includes bighorn sheep in the adjoining Bullhead Allotment to the north.

2.3.4. Other Terrestrial Wildlife

The diversity of habitat within 27 documented ecological sites on the Little Humboldt Allotment provide habitat for a variety of nongame bird, mammal and reptile species, as well as other game species on a seasonal or yearlong basis (Appendix 1). Approximately 7% of the allotment was delineated in 1985 during an ecological status inventory as being comprised of ecological sites where quaking aspen is the potential dominant overstory vegetation (see Section 2.3.1. - Management Evaluation for Mule Deer). This would equate to about 4,915 acres of aspen woodland-dominated habitat that is important to many species of wildlife.

Cliff areas in the vicinity of all major drainages, the Owyhee Bluffs, and woodland-dominated habitat (See Section 2.3.1. - Management Evaluation for Mule Deer) afford nesting, perching and hunting sites for many raptor species.

The chukar partridge population remains at high densities (30-50/square mile) from year to year in suitable habitat on the allotment.

2.4 Wildlife - Jakes Creek and Tall Corral Allotments

2.4.1 Mule Deer (*Odocoileus hemionus*):

2.4.1.1 Jakes Creek Existing Numbers: 24 AUMs.
Tall Corral Existing Numbers: 48 AUMs

2.4.1.2 Jakes Creek Reasonable Numbers: 75 AUMs
Tall Corral Reasonable Numbers: 90 AUMs

2.4.1.3. Critical Management Areas

Jakes Creek

The allotment is within Management Area 6, Unit 066; and Management Area 5, Unit 051 as designated by NDOW (Map 3). Approximately 7,093 acres are designated as crucial mule deer winter range within the Jakes Creek Allotment. Habitat management emphasis is for winter range on the allotment. A large portion of the allotment was affected most recently by the 2001 Ranch Fire. Seeding efforts to rehabilitate winter range burned by the Ranch Fire include

approximately 3,956 acres on the Jakes Creek Allotment, and a portion of 1,501 acres on both the Jakes Creek Allotment and the Little Humboldt Allotment. The lack of winter habitat with an intact overstory brush component is a critical limiting factor. Some limited use as intermediate range and summer range also occurs.

Tall Corral

The allotment is within Management Area 6, Unit 066; and Management Area 5, Unit 051 as designated by NDOW (Map 3). Approximately 5,927 acres are designated as Crucial Mule Deer Winter Range within the Tall Corral Allotment. Habitat management emphasis is for winter range on the allotment. A large portion of the allotment was affected most recently by the 2000 Kelly Fire. Mule deer could benefit from the 4,465 acre shrub/forb seeding in the Knolls area and the 5,429 acre drill/overseeding (both rehabilitation measures implemented for the Kelly Fire). The lack of winter habitat with an intact overstory brush component is a critical limiting factor. Some limited use as intermediate range and summer range also occurs.

2.4.2. Pronghorn Antelope (*Antilocarpa americana*)

2.4.2.1. Jakes Creek Existing Numbers: No numbers were provided in the MFP
Tall Corral Existing Numbers: No numbers were provided in the MFP

2.4.2.2. Jakes Creek Reasonable Numbers: No numbers were provided in the MFP
Tall Corral Reasonable Numbers: No numbers were provided in the MFP

2.4.2.3. Critical Management Areas

Tall Corral

No critical pronghorn management areas have been designated on the allotment. The pronghorn population on the Tall Corral Allotment is managed by NDOW as part of Management Area 6, Unit 066; and Management Area 5, Unit 051. Habitat management emphasis is for summer range. Pronghorn have been observed on the allotment by BLM personnel since 2000 while completing work associated with the Kelly Creek Fire rehabilitation. Overall, pronghorn numbers have increased in the area during the last nine years likely as a result of; population expansion from adjoining areas, seeding efforts in the herd unit areas and mild winter conditions. Pronghorn could benefit from forage diversity afforded by the Kelly Fire seeding efforts on both The Knolls area (4,465 acres) and the Kelly Creek Seeding North, which included portion of 5,429 acres drill seeded and overseeded with half-shrub (forage kochia) and native forb (Western yarrow).

Jakes Creek

No critical pronghorn management areas have been designated on the allotment. The pronghorn population on the allotment is managed by NDOW as part of Management Area 6, Unit 066; and Management Area 5, Unit 051. Habitat management emphasis is for summer range; however, the lower elevation areas in the Kelly Creek Seeding South, the Flat Pasture and the Ranch

Seeding Pasture provide winter range. Pronghorn have been observed on the allotment by BLM personnel since 2000 while completing work associated with the Kelly Creek Fire and the 2001 Ranch Fire rehabilitation efforts. Overall, pronghorn numbers have increased in the area during the last nine years likely as a result of population expansion from adjoining areas, seeding efforts in the herd unit areas, and mild winter conditions. Efforts to seed several thousand acres of affected pronghorn range that include mixtures of shrubs and half-shrubs (forage kochia) should help to rehabilitate summer and winter range.

2.4.3. California Bighorn Sheep (Ovis canadensis californiana) - Jakes Creek and Tall Corral Allotments

2.4.3.1. Existing Numbers: No AUMs were listed for bighorn sheep in the 1982 Paradise-Denio MFP.

2.4.3.2. Reasonable Numbers: No AUMS were listed for bighorn sheep. Please see Section 2.3.3.

2.4.3.3. Critical Management Areas

The allotment provides California bighorn sheep habitat. Please see Section 2.3.3.3. for background information. Approximately 1,500 acres were seeded within a 3,000 acre block on the Jakes Creek Bench as part of 2000 Kelly Creek fire rehabilitation efforts. This seeding and seed mixture emphasized rehabilitation of bighorn sheep habitat.

2.4.4. Other Terrestrial Wildlife - Jakes Creek and Tall Corral Allotments

Raptors - Cliff areas in the vicinity of all major drainage afford nesting, perching and hunting sites for many raptor species.

Upland Game - The Chukar partridge population remains at high densities (30-50/mile^2) from year to year in suitable habitat on the allotments. Mountain quail have historically inhabited suitable habitat on the allotment. California quail inhabit suitable habitat in close proximity to lower elevation riparian areas on the allotments.

Other Game and Nongame Species - The allotments are primarily located within desert shrub and big sagebrush vegetation types. Spring areas with associated riparian habitat, meadow areas, and perennial and intermittent drainage areas can also be found within the allotments. Overall, there are approximately 100 bird species, 70 mammal species and several reptile and amphibian species that can be found in sagebrush habitats on the allotment with many more additional species also found in desert shrub habitats, and in the vicinity of riparian and meadow habitats on a seasonal or yearlong basis. The Jakes Creek and Tall Corral allotments provide habitat for many of these species.

2.5. Special Status Species - Little Humboldt Allotment

2.5.1. Sage Grouse (*Centrocerus urophasianus*)

2.5.1.1. Reasonable Numbers: No estimates available

2.5.1.2. Existing Numbers: No estimates available

Sage grouse were designated by BLM as a BLM Sensitive Species in 1997. The allotment contains preferred upland habitat areas that are interspersed with meadow areas associated with numerous creeks, springs and seeps. Small numbers of sage grouse are commonly observed in upper elevation areas during the summer period by BLM personnel. A 2001 NDOW Job Progress Report indicated that sage grouse populations are considered to be at low to moderate levels in NDOW-delineated Region II, which includes the Little Humboldt Allotment.

2.5.1.2. Key Management Areas

Strutting Habitat - As of 1995, two strutting grounds (leks) have been documented on the Little Humboldt Allotment in the vicinity of Summit Creek near Midas. There are 12 additional leks located outside of the northern boundary of the allotment. These leks are within two miles of the Little Humboldt Allotment boundary. See Map 6 for location of leks.

Nesting/Brood-rearing Habitat - Nesting and brood-rearing activities occur in suitable habitat associated with the two leks on the allotment and the 12 leks near the allotment. The leks outside of the allotment are located in the vicinity of Winters Creek-Pole Creek (Bullhead Allotment), near a portion of Castle Ridge in the Spanish Ranch Allotment, and near the headwaters of Frazer Creek in the Squaw Valley Allotment.

Winter Habitat - One wintering area has been documented above the headwaters of Evans Creek near Midas.

These key habitat areas are by no means all inclusive; other key habitat areas potentially exist in other portions of the allotment but have yet to be documented. See Map 7 for nesting, summer and winter habitat locations.

Large scale fires during the past 15 years have resulted in either all or large portions of the fire burning in a complete pattern with little to no overstory cover. This extensive loss of overstory has affected, and will continue to affect, sage grouse habitat. The time period in which the specific areas will be affected will depend on success of rehabilitation efforts, exotic annual vegetation control management and livestock management.

Other Special Status Species

Mountain quail is a BLM sensitive species that may inhabit suitable habitat on the allotment. The current population is considered to be at a very low level due to critical habitat loss associated with degraded riparian areas. With progress being made regarding riparian habitat restoration efforts on the South Fork Little Humboldt River in the adjoining Bullhead Allotment (Winnemucca Field Office area) and concerns about low quail numbers, a population augmentation was completed by NDOW on the Little Humboldt Allotment in 1994.

A number of special status animal species have either been documented or are considered likely to be present in the Little Humboldt Allotment (Appendix 2, Table 1). The bald eagle (*Haliaeetus leucocephalus*) and Lahontan cutthroat trout are listed as threatened by the U.S. Fish and Wildlife Service. While BLM has legal obligations to manage habitat for the benefit of listed species under the Endangered Species Act of 1973, it is also BLM policy to ensure its management actions conserve and enhance candidate and sensitive species and their habitats.

2.6. Threatened, Endangered, Candidate, and BLM Sensitive Species of Plants and Animals - Jakes Creek and Tall Corral Allotments

2.6.1. Sage Grouse (*Centrocerus urophasianus*)

2.6.2 Jakes Creek Existing Numbers: No estimates available.
Tall Corral Existing Numbers: No estimates available.

2.6.3. Jakes Creek Reasonable Numbers: No estimates available.
Tall Corral Reasonable Numbers: No estimates available.

A 2001 NDOW Job Progress Report indicated that sage grouse populations are considered to be at low to moderate levels in the NDOW delineated Region I (Unit 051) and Region II (unit 066) which are within both Jakes Creek and Tall Corral Allotments.

2.6.4. Key Management Areas

The allotments provide early (upland area emphasis) brood-rearing and late (meadow-riparian area emphasis) brood-rearing habitat areas. Intact sagebrush areas help provide winter and nesting habitat and brood-rearing areas. Fire affected areas were seeded in 2000, 2001 and 2002 to help rehabilitate several thousand acres of wildlife habitat, including sage grouse habitat.

These habitat areas are by no means all inclusive; other key habitat areas potentially exist in other portions of the allotments but have yet to be documented.

Other Special Status Species
The allotments provide potential habitat for golden eagles, ferruginous hawks, Swainson's hawks and burrowing owls which are State of Nevada Listed Species. In addition, the allotments provide habitat for several bat species (see Appendix 1). Nevada BLM policy is to provide State

of Nevada Listed and BLM Sensitive Species with the same level of protection as is provided for candidate species to prevent further listings as threatened or endangered.

2.7. Fisheries/Riparian Habitats

2.7.1. Stream Habitat

The Little Humboldt Allotment supports some of the most important fisheries habitat in the Elko District. The headwaters of the SFLHR and two of its tributaries (Sheep and Secret Creeks) support populations of Lahontan cutthroat trout (LCT)(*Onchorynchus clarki henshawi*), while the headwaters of the North and South Fork of Jakes Creek and Kelly Creek have populations of brook trout (*Salvelinus fontinalis*) and/or rainbow trout (*Onchorynchus mykiss*). Electrofishing studies have not been completed on Oregon Canyon and Brush Creeks although minimal flows and very poor habitat conditions probably limit fish occurrence. LCT have been observed at the confluence of Oregon Canyon Creek with the SFLHR, and in the headwaters of Pole Creek. No information is available for the portion of Tall Corral Creek located within the Little Humboldt Allotment.

The LCT is a federally listed threatened species protected under the authority of the Endangered Species Act of 1973, as amended (ESA). The SFLHR, as well as Sheep and Secret Creeks, are included in the LCT Recovery Plan and all three have been identified as having populations best suited for recovery in comparison to other streams in the Little Humboldt River subbasin (U. S. Fish and Wildlife Service 1995). LCT occur in an estimated 18.6 miles of the SFLHR, Sheep Creek, Secret Creek, and Pole Creek within the Allotment (Table 6).

All or significant portions of these streams are located on private land owned primarily by Nevada First Corporation (91%) and grazed by Oro Vaca, Inc. However, in the absence of fencing, these areas have historically been grazed in conjunction with BLM permitted use on adjacent public lands. Grazing on private lands fenced within the basin are independent from that authorized on public lands by BLM. Private lands fencing was mostly completed in 2001 on the Pole Creek pasture area and the Oregon Flat pasture area. In addition, in 2002 Oro Vaca proposed to complete 2.5 miles of fencing on Sheep Creek which would remove 200 acres of private land from the North basin pasture, and add about 3/4 mile of gap fencing on Secret Creek, which would exclude livestock use on most of the stream, except near its confluence with the SFLHR and 3 other water gap areas (Oro Vaca 2002 letter). As a result of this fencing activity, about 5.25 miles of the18.25 miles of LCT streams within the basin (28%) will be in areas not managed by BLM, an additional 1.75 miles (10%) are in areas generally inaccessible to livestock. The balance of the 18.5 miles of LCT streams within the basin remain outside the area encompassed by private lands fencing, some of which generally has only seasonal flows, but are used by LCT for migration. Another 9.98 miles of unfenced permanent and ephemeral stream do not currently support LCT. These reaches are considered important for recovery of the riparian community and as a consequence important for recovery of the LCT over the long-term. In addition, the Allotment riparian and wetland areas need to be, at a minimum, in Proper

Functioning Condition (PFC), or management practices need to be making significant progress towards PFC and specific desired plant community objectives to meet the Standards and Guides for the Northeastern Great Basin Resource Advisory Council.

Table 6. Perennial stream miles and fish species documented for streams in the Little Humboldt Allotment.

STREAM	STREAM MILES		FISH/MILE[1]			
	Total	Public	LCT	RBT	BRT	LSD
S. F. Little Humboldt[2]	7.6	0.5	119	None	None	None
Secret Creek	4.0	0.0	106	None	None	None
Sheep Creek	5.5	1.0	493	None	None	None
Brush Creek	1.0	1.0	nd[3]	nd	nd	nd
Oregon Canyon Creek (both forks)	6.3	1.7	nd	nd	nd	nd
S. F. Jakes Creek	9.0	5.0	None	None	1,109	None
N. F. Jakes Creek	19	2.5	None	343	792	10,138
Kelly Creek	8	1.0	None	838	264	None
Tall Corral Creek	1.7	0.2	nd	nd	nd	nd

[1]LCT=Lahontan cutthroat trout; RBT=rainbow trout; BRT=brook trout; LSD=Lahontan speckled dace. Fish per mile figures are based on the 2001 Electrofishing data obtained by Nevada Department of Wildlife (NDOW).
[2]Total stream miles are for Little Humboldt Allotment, the remainder of the stream is located within the Bullhead Allotment, administered by Winnemucca District.
[3]nd=No data.

Fish population surveys conducted by the Nevada Division of Wildlife (NDOW) show a decline to static trend in LCT numbers at specific sample sites from 1977 to 2001. LCT numbers in the SFLHR are down from 1977 and 1996 at comparable sites, while Sheep Creek numbers are slightly higher than 1977 and significantly higher than 1996. Secret Creek numbers are lower in 2001 than they were in 1977, but higher than observed in 1996. No statistically significant conclusions concerning population trends can be made using this fish population sampling data because of low sampling size, single pass sampling procedure, which may not capture all the fish, and sampling sites which are about 1 mile apart, and may not be representative of an entire reach (Table 6). NDOW observed 4 age classes of LCT in the SFLHR, 2 age classes in Secret Creek, and 3 age classes in Sheep Creek during 2001. Additional data shows dead LCT in the SFLHR at Oregon Flat in 1994 (Coffin 1994), and dead LCT were observed in the upper reaches of the

SFLHR during the summer of 2000 by NDOW biologists (John Elliott, NDOW Field trip Report 2000). Data on Table 7 shows LCT population survey data for the SFLHR basin streams.

Table 7. NDOW Lahontan cutthroat trout population monitoring data for 1977, 1996 and 2001 for LCT streams in the Little Humboldt Allotment.

SURVEY PARAMETERS	NDOW LCT POPULATION SURVEY (Nonstatistical) (for the same sampling sites)		
	1977	1996	2001
South Fork Little Humboldt River (Little Humboldt Allotment)			
LCT/Mile Estimate	745	185	119
Number Age Classes	5	4	4
Secret Creek (Little Humboldt Allotment)			
LCT/Mile Estimate	120	66	106
Number Age Classes	5	2	2
Sheep Creek (Little Humboldt Allotment)			
LCT/Mile Estimate	475	53	493
Number Age Classes	4	2	3

2.7.2. Non-stream Riparian Sites

The Little Humboldt Allotment supports numerous seeps, springs, upland meadows and aspen (*Populus tremuloides)* stands. One hundred and thirteen seeps and springs were identified on public land within the allotment during a Bureau of Land Management (BLM) water inventory conducted in 1982 and 1983. Although no acres are available, aspen stands are extensive in some areas including the upper reaches of the SFLHR, Secret and Sheep creeks, and Jakes and Kelly Creek drainages. Smaller, more isolated stands are common in the eastern half of the allotment. Upland meadow habitats are limited, however, seasonally moist areas supporting meadow vegetation occur in association with seeps and springs. Aspen and willow are locally abundant along the streams, but show evidence of heavy livestock grazing for an extended period of time, and are in poor ecological condition, except where individual aspen or stands are protected by physical barriers. There are no live aspen stems in large areas that were once fully stocked, and some stands are now extinct. Beaver activity 30 to 40 years ago combined with season long livestock use appear to have contributed to the decline of some aspen stands along the SFLHR. Some time about 20 years ago there was an aspen regeneration event that produced some moderate size trees along the streams that are still present (Kay 2001 In Press).

2.8. Water Quality

2.8.1. Classified Waters

The South Fork of the Little Humboldt River is a Class A water within the Little Humboldt allotment. The State of Nevada has defined these water quality standards in NAC 445A.124: Class A waters: Description; beneficial uses; quality standards (Appendix 3). The Class A beneficial uses within the Little Humboldt watershed include aquatic life, propagation of wildlife, recreation involving contact with the water and watering of livestock. These beneficial uses have criteria listed in NAC 445A.119 Criteria for Water Quality for Designated Beneficial Uses (Appendix 3). The criteria are water quality characteristics based upon available scientific information and are to be used as guidelines in establishing water quality standards (NDEP 1997).

Other streams within this watershed that are tributary to the South Fork of the Little Humboldt River are also Class A waters. These tributaries include Sheep Creek, Oregon Canyon Creek, and Secret Creek.

2.8.1.1 Thermal Monitoring

Temperature thresholds have been established for trout in general and have been proposed for LCT specifically. The State of Nevada establishes an upper limit of 20°C (68°F) for Class A waters (Nevada Water Quality Regulations, 1997). Dunham (1999) recommends that water temperatures for LCT not exceed a daily maximum of 22°C (72°F) in order to minimize risk of mortality and sublethal stress based on experimental data showing LCT begin to synthesize detectable amounts of heat shock proteins immediately at 26°C (79°F), and within 24 hours of chronic exposure to temperatures of 24°C (75°F). Heat shock proteins are major indicators of stress in vertebrates.

2.8.2. Unclassified Waters

Other waters in Little Humboldt, Tall Corral and Jakes Creek allotments which are not tributary to Little Humboldt River or do not have a hydrologic connection to other classified streams are unclassified waters. These include Kelly Creek, Kenny Creek and Jakes Creek. Springs and seeps in the Little Humboldt, Tall Corral and Jakes Creek allotments are also unclassified waters. Unclassified waters are waters which the State of Nevada has not designated beneficial uses, and therefore has not established specific water quality standards. Unclassified waters have minimum standards found in NAC 445A.121: Standards applicable to all waters (Appendix 3).

2.9. Wildland Fire

The Jakes Creek, Little Humboldt and Tall Corral Allotments have had a moderate number of wildfires. Data from fire records show that approximately 50% of these allotments has burned in

the period of 1980 to the present (see Map 8). Most of these fires have started outside of the allotments in the cheatgrass flats and have run through the allotments. These allotments are located in an isolated part of the district, so there are probably additional fires that have burnt small acreage and went out prior to discovery. Due to the lengthy response time of fire suppression resources and the fuel types present, most of the documented fires were from 10 to 50 acres. Thirty-five percent of the fires were over 375 acres, averaging approximately 1,720 acres each.

Table 8 .

Fire Name	Jakes Creek				Tall Corral				Little Humboldt			
	Acres & % Allot. Burned				Acres & % Allot. Burned				Acres & % Allot. Burned			
	Public	Pvt	Total	%	Public	Pvt	Total	%	Public	Pvt	Total	%
Lander (1984)	1,783	1,638	3,420	6	806	68	879	7	33,184	1900	36,943	44
Midas (1984)	0	0	0	0	0	0	0	0	2,283	208	2,491	3
Midas Road (1985)	0	0	0	0	0	0	0	0	764	474	1,238	1
Black Sheep (1990)	0	0	0	0	0	0	0	0	980	15	995	1
County (1991)	0	0	0	0	0	0	0	0	103	8	111	‹1
Castle Spring (1995)	0	0	0	0	0	0	0	0	411	0	411	‹1
Oregon (1996)	0	0	0	0	0	0	0	0	2,604	661	3,265	4
Clover (1999)	0	0	0	0	0	0	0	0	4,360	250	4,610	5
Kelly Creek (2000)	5,667	4,608	10,275	17	6,367	1,365	7,732	70	11,142	4,404	15,546	18
Upper Clover (2001)	0	0	0	0	0	0	0	0	347	40	387	<1
Ranch (2001)	8,857	4,452	13,308	22	0	0	0	0	2,217	138	2,355	3

2.9.1. Wildland Fire Rehabilitation and Stabilization

Following wildfires, an inter-disciplinary team evaluated each fire to determine rehabilitation and/or stabilization needs. Based on these evaluations, a Burned Area Rehabilitation Plan (BAER Plan) was prepared. Following approval and funding, actions were implemented. Depending on fire severity and plant composition, many areas do not need re-seeding, rather they are managed for native release. The majority of the rehabilitation action implemented from 1999-2001 were primarily, but not limited to, aerial seeding, drill seeding, and reconstruction of existing fences and construction of new fences to either protect seeded areas or areas managed for natural release. In addition, grazing closures were implemented where necessary to protect the seeded areas or areas managed for native release. The specific rehabilitation actions and grazing closures and suspension of grazing use are summarized in Table 9 and 10, respectively.

Table 9. Rehabilitation actions implemented on the Little Humboldt, Jakes Creek, and Tall Corral Allotments.

Fire/ Allotment	Rehabilitation Action Implemented				
	Aerial Seeding (Acres)		Drill or Disk/Drill Seeding (Acres)		Miles of Fence (Miles)
Clover Fire (1999)					
Little Humboldt	Rangeland	1,667		0	
Kelly Creek Fire(2000)					
Little Humboldt	Bighorn sheep habitat			0	
Tall Corral	Sage grouse habitat Wildlife habitat Bighorn sheep habitat	1,500 39 530	Disk/drill rangeland	243	
Jakes Creek	Wildlife habitat Sage grouse habitat	806 276	Drill rangeland Disk/drill rangeland	2,984 935	
Ranch Fire (2001)					
Little Humboldt	Yarrow & grass/wildlife Watershed stabilization Kochia/wildlife	1,566 132 650		0	
Jakes Creek	Kochia/wildlife Wildlife habitat Kochia/wildlife Yarrow & grass/wildlife	5,310 917 850 3,360	Drill rangeland	5,310	

Table 10. Proposed Livestock Non-Use or Suspended Use and Proposed Active Use for the Jakes Creek Allotment by Pasture and Permittee. (Note: the fire closure agreements/decisions for the Ranch Fire have not yet been completed.)

Proposed Livestock Non-Use or Suspended Use and Proposed Active Use for the Jakes Creek Allotment [1] by Pasture and Permittee						
Pasture	Non-use or Suspended AUMs [2]			Active Use AUMs		
	2002	2003	2004	2002	2003	2004
Kenneth Buckingham						
Flat				77	77	0-77
Kelly Sdg North				0	0	0
Kelly Sdg South				0	0	0
Ranch Seeding				0	0	0-210
Total	133	133	0-76	77	77	77-210
Ellison Ranching Company						
Flat				373	373	373-490
Ranch Seeding				0	0	0
Divide & Drift Thru				0	0	0-497
Total	614	614	0-614	373	373	373-987
Oro Vaca, Inc.						
Flat				244	244	204
Ranch Seeding				0	0	0-139
Kelly Sdg North				0	0	274
Kelly Sdg South				0	152	152
Divide				0	0	0-132
Drift Thru				108	108	54
FFR	0	0	0	50	50	50
Total	587	587	0-587	402	514	734-1059

Proposed Livestock Non-Use or Suspended Use and Proposed Active Use for the Jakes Creek Allotment [1] by Pasture and Permittee						
Pasture	Non-use or Suspended AUMs [2]			Active Use AUMs		
	2002	2003	2004	2002	2003	2004

[1] Based on fences constructed, the allotment boundaries are recommended to be changed for the Little Humboldt, Jakes Creek, and Tall Corral Allotments. Therefore, total permitted use for the newly described Jakes Creek Allotment would be revised from current permitted use due to changed acreages for the allotment. Grazing suspensions and closures for the Little Humboldt Allotment are detailed in fire closure agreements and decisions issued in 2000 and 2001.

[2] The actual length of time that grazing use will be suspended will be based on meeting establishment criteria for seedings and native release following fires.

2.10 Wilderness Study Areas

The southeastern 1/4 of the Little Humboldt River Wilderness Study Area (WSA) is within the Little Humboldt Allotment (Map 9). The Bureau's WSAs are managed under the *Interim Management Policy for Lands Under Wilderness Review, Update Document, H-8550-1* (IMP). The objective of the IMP is "to continue resource uses on lands under wilderness review in a manner that maintains the area's suitability for preservation as wilderness". The IMP remains in effect, regardless of whether the area is recommended as suitable or unsuitable as wilderness, until Congress designates an area as wilderness or releases the area to multiple use management. The IMP allows the "continuation of grazing, ... in the same manner and degree in which these uses were being done on October 21, 1976, as long as they do not cause unnecessary or undue degradation of the lands."

Any proposed actions in WSAs would be evaluated according to the policies and procedures detailed in H-8550-1 - Interim Management Policy for Lands Under Wilderness Review (Rel. 8-67, 7/5/95). The policies detailed in IM No. NV-96-008, New, Permanent Livestock Developments in Wilderness Study Areas, and IM No. 97-169, Alternative to Fencing Riparian Zones within Wilderness Areas, would also be followed. If an environmental analysis finds that an action would enhance wilderness values, cause no surface disturbance, be substantially unnoticeable, and not require motorized access, the action may be approved. The cumulative effects of multiple actions or proposals must be evaluated. (IM No. NV-89-313)

The 42,213-acre Little Humboldt River WSA was evaluated in the Elko Final Wilderness Environmental Impact Statement (1987). The Bureau has recommended 29,775 acres for wilderness and 12,438 aces for nonwilderness. No legislative action as been take on this recommendation. IMP management will continue until Congressional action is taken.

3.0 SUMMARIES OF STUDIES DATA

3.1 Livestock Grazing

3.1.2. Actual Use

Actual use by livestock and wild horses is displayed in Appendix 4 by allotment and key area.

Hammond Ranches, Inc./Oro Vaca

Since 1981, actual use data has been submitted annually by the permittee for the Little Humboldt, Jakes Creek, and Tall Corral Allotments. However, since 1986 actual use and licensing for Tall Corral and Little Humboldt Allotments has been combined since these two allotments are not separated by any fencing. Actual use for the Little Humboldt and Tall Corral Allotments has ranged from a low of 5,415 cattle AUMs to a high of 7,656 cattle AUMs. The average actual use is 6,624 AUMs which is approximately 80% of the current permitted active use.

Average actual use on the Jakes Creek Allotment has ranged from a low of 87 AUMs to a high of 675 cattle AUMs. (Fenced Federal Range is not included in this average actual use.) The average actual use is 291 AUMs which is 81% of current permitted active use.

Ellison Ranching Company

Since 1991, actual use data has been submitted annually by the permittee for sheep use in the Little Humboldt Allotment. Actual use for the allotment has consistently been 99 sheep AUMs. Average actual use by sheep is 99 AUMs.

Ellison Ranching Company grazes sheep on the Jakes Creek Allotment. Average actual use on the Jakes Creek Allotment has ranged from a low of 0 AUMs to a high of 245 AUMs. The high use is 25% of active permitted use. The average actual use for those years Ellison grazed on the Jakes Creek Allotment is 179 AUMs which is 18% of current permitted active use.

Kenneth Buckingham

Since 1981, actual use data has been submitted annually by the permittee for cattle use in the Jakes Creek Allotment. Actual use for the allotment has ranged from a high of 215 AUMs to a low of 0 AUMs. Average actual use when cattle are turned out has been 203 AUMs, but Buckingham has taken non-use for 12 years of the last 21 years. His average actual use when he did graze is 97% of his active permitted use.

3.1.3 Utilization

3.1.3.1. Key Areas

Key monitoring sites were established in 1982 within the Little Humboldt Allotment and 1983 within the Jakes Creek Allotment. The location of the key areas are shown on Map 1. Utilization data have been generally taken at these established sites during the years 1982 to 1998, and are summarized in the Range Appendices, Data Summary Tables. The utilization data reflects combined use by both livestock and wild horses within those portions of the Little Humboldt Allotment which are grazed by both classes of animals(key areas #1 and #4). Although Jakes Creek Allotment is not within a herd management area, use by wild horses was noted during utilization readings in the late 1980's and early 1990's. This may be due to the unfenced boundary between the Little Humboldt, Jakes Creek, and Tall Corral Allotments.

Some key monitoring sites within the Little Humboldt Allotment were not measured when snowfall was too great to access the area or accurately measure utilization levels.

Within the Little Humboldt Allotment, the RPS utilization objective of 50% was exceeded five times out of seven readings at key area #1, seven times out of ten readings at key area #2, one time out of eleven readings at key area #4, and the utilization objective was not exceeded at key area #5 in which there were six readings. Table 11 below shows the level of utilization for those years in which the RPS utilization objective was exceeded.

Table 11. Utilization levels for those years in which the RPS utilization objective level was exceeded.

Key Area	Year	Key Species	Utilization Level
Little Humboldt			
1	1990	Idaho fescue	68%
1	1991	Idaho fescue	78%
1	1992	Idaho fescue	86%
1	1997	Idaho fescue	56%
1	1998	Idaho fescue	59%
2	1986	Idaho fescue	69%
2	1987	Idaho fescue	58%
2	1989	Idaho fescue	66%
2	1990	Idaho fescue	59%
2	1992	Idaho fescue	57%
2	1997	Idaho fescue	54%
2	1998	Idaho fescue	53%

Key Area	Year	Key Species	Utilization Level
Little Humboldt			
4	1997	bluebunch wheatgrass	54%
Jakes Creek			
1	1986	bottlebrush squirreltail	severe
1	1987	bottlebrush squirreltail	53%
1	1997	bottlebrush squirreltail	63%

As stated previously, there have been several wildfires that have occurred within the Jakes Creek, Tall Corral and Little Humboldt Allotments since 1980. Key area #3 within the Little Humboldt Allotment has been burned by two wildfires and key area #1 in the Jakes Creek Allotment has also been burned by at least one wildfire. As a result of these wildfires the vegetative community below the Owyhee Bluffs and the majority of the Jakes Creek Allotment have been changed to one dominated almost entirely by cheatgrass *(Bromus tectorum)* and tumble mustard *(Brassica spp.)*. Prior to the rehabilitation efforts of 1999, 2000 and 2001, these areas were primarily used in the early spring when the cheatgrass is most palatable and water is most available. Currently, large portions of the Jakes Creek, Tall Corral and Little Humboldt Allotments are under fire closures and are not available to livestock grazing until rehabilitation criteria are met. If rehabilitation efforts are successful, large portions of this former cheatgrass dominated area will be converted to a mix of various species of wheatgrass and wildrye, overseeded with forage kochia (in areas that were drill seeded) and a mix of native shrubs, forbs and grasses (in areas that were aerially seeded).

3.1.3.2. Use Pattern Mapping

Use pattern maps were completed for the years 1987, 1994 and 1997 within the Little Humboldt Allotment and for the years 1986 and 1987 for the Jakes Creek Allotment. The percent of the allotments mapped in each use category (slight, light, moderate, heavy and severe) by year can be found in Appendix 4.

In 1987, 1994 and 1997, use along the South Fork of the Little Humboldt, Sheep Creek, Secret Creek and Oregon Canyon was heavy to severe. In 1987, use along Jakes Creek was also mapped as being heavy to severe.

Most of the upland portions of the Little Humboldt Allotment in 1987 received moderate to heavy use with some slight and light use areas. Use in the uplands in 1994 was primarily light to moderate, and in 1997 was primarily moderate to heavy. In 1994, only 63% of the allotment was mapped, and in 1997 only 70% of the allotment was mapped.

The slight and light use areas primarily occurred in the steeper areas of the allotment (particularly the Owyhee Bluffs) or areas of the allotment where water availability is limited.

3.1.3.3 . Estimated Carrying Capacity

Little ~~Humboldt/Tall Corral~~ Allotments

Weighted average calculations using all categories of use, were made for use pattern maps made ~~in 1987, 1994,~~ 1997. Calculation for weighted average utilization is as follows. The area (by percentage) within a utilization category is multiplied by the mid-point of the utilization category, (for example the mid-point of the slight utilization category is 10%.) An example using actual use data and use pattern mapping within the Little Humboldt Allotment for 1997 is shown below:

1997 = (9% of area mapped x 10% mid-point slight utilization) + (18% of area mapped x 30% mid-point of light utilization) + (27% of area mapped x 50% mid-point of moderate utilization) + (40% of area mapped x 70% mid-point of heavy utilization) + (6% of area mapped x 70% mid-point of severe utilization)
= 0.9% + 5.4% + 13.5% + 28.0% + 5.4% = 53.2%

In 1987 use pattern mapping was completed on 9/25/1987. During 1994, use pattern mapping was conducted on 10/26-27/1994. Use pattern mapping was conducted in 1997 on 10/29/1997. Actual use by livestock and wild horse to the dates of use pattern mapping was used to calculate estimated carrying capacity (see Appendix 4 for use pattern maps).

A utilization/actual use calculation was then made using the weighted-average utilization levels by year and the objective or desired utilization level of 50%. The formula used is:

$$\frac{\text{Actual Use}}{\text{Actual Utilization}} = \frac{\text{Estimated carrying capacity}}{\text{Objective/desired utilization}}$$

Table12. Weighted average utilization using categories from use pattern maps for the Little Humboldt Allotment.

Little Humboldt Allotment								
Year	Actual Use AUMs	% of Allotment Mapped in each Utilization Category					Weighted Average Utilization	Estimated Carrying Capacity
		Slight (0-20%)	Light (21-40%)	Moderate (41-60%)	Heavy (61-80%)	Severe (81-100%)		
1997 [1]	5,495 c 1,694 wh 7,189	9 %	18 %	27 %	40 %	6 %	53.2%	6,757
1994 [2]	6,167 c 1,049 wh 7,216	10 %	36 %	36 %	13 %	5 %	43.4%	8,313
1987	6,368 c 1,154 wh 7,522	7 %	10 %	48 %	28 %	7 %	53.6%	7,017
Average								7,362

[1] 1997 percentage of allotment not mapped = 30%
[2] 1994 percentage of allotment not mapped = 37%

Jakes Creek Allotment

Use pattern mapping was completed on the Jakes Creek Allotment in 1986 and 1987. However, the entire allotment was not mapped in either 1986 and 1987. The area that was mapped coincides with the area burned in the Kelly Creek 2000 and Ranch 2001 wildfires. In addition, utilization data were collected five times from 1984 to 1998 at the key area. The key area was also burned. Based on the substantial amount of fire rehabilitation seedings that have been implemented over the last two years, permitted use on the Jakes Creek Allotment will not be modified based on utilization and use pattern mapping data at this time. Carrying capacities were established by proposed pasture for the Jakes Creek allotment using current permitted use and the adjudication summaries. Actual use and utilization data will be collected in the Flat Pasture. Actual use, utilization, and forage production data will be collected within the fire rehabilitation seedings over the next five years to develop carrying capacity for each pasture.

Estimated Carrying Capacity for Little Humboldt and Jakes Creek Allotments

Estimated carrying capacity developed from the use pattern maps for the Little Humboldt and Tall Corral Allotments was then pro-rated by pasture based on the adjudication map relative carrying capacities. Current permitted use for the Jakes Creek Allotment was pro-rated by pasture based on the adjudication map relative carrying capacity. Table 13 below shows carrying capacity by pasture for the newly defined Jakes Creek and Little Humboldt Allotments. The pro-rated carrying capacity shown in Table 12 above is different than shown in Table 13 due to the

proposed boundary changes. (Refer to Technical Recommendation 6.1 for discussion about proposed allotment boundary changes and Map 12 for locations.)

Table 13. Carrying Capacity by Pasture Little Humboldt and Jakes Creek Allotments with Revised Boundaries.

Allotment/Pasture	Estimated Carrying Capacity
Jakes Creek Allotment [1]	
The Flat	694
Ranch Seeding	349
Kelly Creek Seeding South	152
Kelly Creek Seeding North	258
Divide	575
Drift Thru	108
TOTAL	2,136
Little Humboldt Allotment	
Jakes Creek	1,809
1993 EFR Pasture	296
Oust/Sawtooth Spring Seeding	479
Spring Creek	244
Rim	267
Castle Ridge [2]	2,455
Basin North	444
Basin South	792
TOTAL	6,786

[1] Grazing capacity for the Jakes Creek Allotment will be allocated to Oro Vaca, Inc., Kenneth Buckingham, and Ellison Ranching Company.

[2] Grazing capacity for the Castle Ridge Pasture includes capacity allocated to wild horses.

3.1.4. Key Area Ecological Status and Trend

Production (weight-estimate) transects were completed at all five key areas within the Little Humboldt Allotment in 1982 and at the key area within Jakes Creek in 1983 to determine the ecological status. No re-reads have be conducted in the Jakes Creek Allotment, but all five key areas within the Little Humboldt Allotment were re-read in 1987. Four of the five key areas were again re-read in 1994 and again in 1997. These data were used to determine the ecological condition at the key areas. Ecological condition data at the key areas are displayed below in Table 14, and in Appendix 4.

Table 14. Key area ecological condition data.

Key Area	Range Site	1982 Seral State (Rating)	1987 Seral State (Rating)[1]	1994 Seral State (Rating)[1]	1997 Seral State (Rating)[1]
Little Humboldt					
1	Loamy Slope 12-16"	Mid-Seral (39)	Late Seral (62)	Mid-Seral (36)	Mid-Seral (47)
2	Loamy Slope 12-16"	Mid-Seral (35)	Mid-Seral (34)	Mid-Seral (36)	Mid-Seral (33)
3	Loamy 8-10"	Early Seral (5)	Early Seral (9)	No Data	No Data
4	Loamy 8-10"	Mid-Seral (45)	PNC (80)	Late Seral (59)	Late Seral (55)
5	Loamy Slope 12-16"	Mid-Seral (46)	Mid-Seral (47)	Mid-Seral (35)	Late Seral (50)
Jakes Creek					
1	Droughty Loam 8-10"	Early Seral (19)	No Data	No Data	No Data

Refer to the individual key area studies summary matrices in Appendix 4 for frequency results. In addition, refer to Table 15 below for a summary of frequency results by key area and significant or non-significant changes for the Little Humboldt Allotment. Frequency data were collected in 1982, 1987, 1994 and 1997 for key areas 1, 2, 4, and 5.

Table 15. Key area frequency results expressed in percentages. Little Humboldt Allotment

Key Area	Key Species (Frame Size) (inches)	First Reading (1982)	Second Reading (1987)	Third Reading (1994)	Fourth Reading (1997)	Change
1	FEID (10) AGSP (30)	38.00ab[1] 24.50a	41.00a 21.00ab	27.00bc 17.00b	23.00c 33.00a	-S +NSC

Key Area	Key Species (Frame Size) (inches)	First Reading (1982)	Second Reading (1987)	Third Reading (1994)	Fourth Reading (1997)	Change
2	FEID (10) AGSP (30)	16.00ab 0.50b	11.00b 7.50a	18.00a 0.00b	11.00b 10.00a	-NSC +S
4	AGSP (10)	38.50a	43.50a	26.50b	32.00b	-S
5	FEID (3)	45.00ab	47.50a	33.00c	39.50bc	-NSC

(-) decrease (+) increase (S) Significant Change (NSC) No Significant Change
Example: (-NSC) This implies that there was a slight decrease in the frequency of occurrence of the species; however, it was not a significant change.
(-S) This implies that there was significant decrease in the frequency of occurrence of the key species.

[1] Numbers that are followed by the same letter are not significantly different at the 0.10 level. For example, 38.00 and 41.00 for FEID in 1982 and 1987 are not significantly different as indicated by the "a" following each number.

3.1.5. Ecological Status Inventory

An ecological status inventory of public land was completed for the Little Humboldt Allotment in 1985. 12,816 acres (19% of public land) were in early-seral status; 25,210 acres were in mid-seral (37% of public land); 22,218 acres were in late-seral (33% of public land); 871 acres were in potential natural community (1% of public land), and 6,756 acres were unclassified (10% of public land). The dominant range site descriptions and status are identified below (Table 17).

Ecological status is not available for the Jakes Creek or Tall Corral allotments. However, the Winnemucca Office classified lands within these allotments based on livestock vegetation condition rating. This rating was determined through plant species composition according to their palatability to cattle, sheep and wild horses. Specific information on how these ratings were determined can be found in the Paradise-Denio MFP. 100% of the Jakes Creek and Tall Corral Allotments was found to be in livestock condition class "poor" in a rating system of "good", "fair" and "poor". In addition, broad vegetative type communities were mapped by allotment. Vegetative communities by allotment are displayed below.

Table 16. Vegetative Communities in Tall Corral and Jakes Allotment.

Vegetative Community	**Tall Corral Allotment**	**Jakes Creek Allotment**
Sagebrush	90%	25%
Greasewood	0%	33%
Saltbush	10%	40%

Vegetative Community	Tall Corral Allotment	Jakes Creek Allotment
Grass	0%	2%

Table 17. Dominant range sites by condition and public acres from the 1985 ecological status inventory; Little Humboldt Allotment.

Range Site	Range Site #	Early-Seral	Mid-Seral	Late-Seral	PNC	%Allot.
Loamy 8-10" P.Z.	025XY019NV	3,761	4,980	2,808	0	17
Loamy 10-12" P.Z.	025XY014NV	3,764	741	3,329	0	12
Mountain Ridge	025XY024NV	0	2,090	6,181	0	12
Claypan 12-16" P.Z.	025XY017NV	0	3,623	4,068	0	11
Loamy Slope 12-16" P.Z.	025XY012NV	10	2,621	3,186	871	10
Loamy Slope 16+" P.Z.	025XY004NV	0	4,780	47	0	7
Aspen Woodland	N/A	UNCLASSIFIED (4,915 acres)				7
Total Acres		7,535	18,835	19,619	871	76

3.2. Wild Horse Use

3.2.1. Actual Use

With the exception of the years 1992 through 1995, the Elko BLM aerially censused each herd management area once per year or as funding allowed. In 1992 extra funding was given to each District to intensively census the HMAs to collect not only counts but to determine seasonal movements of the horses within the HMAs. The best available actual use data for the years 1978 through 1991 is the total number of horses observed within the HMA during one flight multiplied by 12 months. Actual use data (AUMs) for the Little Humboldt HMA for wild horses from 1992 to 1995, is derived from the total number of horses (adults and foals, foals included in counts as per IBLA 92-241) observed in the allotments from 3/1 to 2/28 using wild horse numbers from census to census. After 1995, The BLM returned to census flights once per year, with no flight conducted in 1996. Table 16 displays the actual use for wild horses in the Little Humboldt HMA.

Table 18. Wild Horse Actual Use for the Little Humboldt Herd Area, 1978-2001.

Year/ Period of Use [1]	Number of Wild Horses	Wild Horse Actual Use (AUMs)
1978	167	2,004
1980	190	2,280
1982	118	1,416
1984	107	1,284
1986	118	1,416
1987	168	2,016
1988	207	2,484
1989	143	1,716
1991	174	2,088
1992		
3/1/1992 - 5/28/1992	166	486
5/29/1992 - 9/6/1992	291	966
9/7/1992 - 2/28/1993	258	1,484
	Total	2,936
1993		
3/1/1993 - 5/18/1993	258	670
5/19/1993 - 8/3/1993	126	319
8/4/1993 - 2/28/1994	149	1,024
	Total	2,162
1994		
3/1/1994 - 8/24/1994	122	710
8/25/1994 - 2/28/1995	161	995
	Total	1,705
1995		
3/1/1995 - 3/13/1995	161	69
3/14/1995 - 9/13/1995	206	1,246

Year/ Period of Use [1]	Number of Wild Horses	Wild Horse Actual Use (AUMs)
9/14/1995 - 2/28/1996	197	1,088
	Total	2,403
1996 [2]	232	2,784
1997	212	2,544
1998	312	3,744
1999	389	4,668
2000	343	4,116
2001	574	6,888
Average Actual Use		2,332

[1] Where more than one census was conducted during a year, actual use was calculated based on the periods of use between census flights and the numbers observed.

[2] A census was not conducted this year; numbers were estimated based on the average reproductive rate of 18%.

3.2.2. Key Area Utilization Data

Attempts have been made to collect pre-livestock turnout utilization data, but this has proven difficult due to the fact that historically livestock moved into the higher country of the allotment as the snow recedes. Therefore, livestock are making use at the key areas before BLM personnel can physically get to the key areas. However, Key Area #4, located near Castle Springs represents almost solely wild horse use due to the fact that water is seldom available to the cattle. The reliable water within this pasture is at Castle Springs and wild horses are very territorial over this water source and have been observed running cattle off the spring.

Wild horse utilization prior to entry of livestock has not been collected in the Little Humboldt HMA; therefore, utilization data represents combined use by wild horses and livestock. Utilization data can be found in the Livestock Appendices, Data Summary Section.

3.2.3. Establishing Appropriate Management Level

The Little Humboldt HMA has many resource conflicts such as the threatened Lahontan cutthroat trout, extensive sage grouse habitat, a history of large-scale wildland fires and an extensive amount of intermingled private land. The BLM is required by law to manage and/or improve habitat for the delisting of endangered or threatened species and to prevent the listing of candidate or sensitive species. The permittee has constructed fencing on private lands within the HMA to segregate privately held riparian areas. These fences coupled with several miles of

BLM constructed fence have effectively reduced the HMA to the newly created Castle Ridge Pasture. It is important to note, that according to census and distribution data, less than 5% of the herd is ever found west of Oregon Flat (i.e., outside of the newly created Castle Ridge Pasture).

The BLM has looked at several options for setting AML. The land use plan allocated 1284 AUMs (107 head) to wild horses and 7,656 AUMs to livestock. This is a 14% wild horses/86% livestock proportion. Because of a lack of monitoring data, the BLM is proposing to use land use plan proportions to allocate forage within the Castle Springs pasture. Intensive monitoring would be initiated to determine if further adjustments are needed. It will be easier to collect pre-livestock turnout data because of the newly created pasture. There will be a definite "on" date for livestock in the pasture, rather than the "drift" that used to occur. It should be possible for BLM personnel to get to the key area before livestock to collect utilization data. The BLM is proposing to set a combined utilization limit of 50% by the end of the livestock grazing season and 60% utilization by the end of winter dormancy.

3.3. Wildlife Use - Little Humboldt

In the Little Humboldt Allotment, seven Big Game Habitat Condition Study transects were established and monitored per BLM-Nevada State Office Manual Supplement #6630 to evaluate the condition of crucial mule deer summer habitat. One habitat study transect (CDS-LH-92-02) was monitored to help evaluate the condition of forage areas associated with crucial bighorn sheep yearlong habitat. One transect was monitored to evaluate pronghorn summer habitat conditions. See Map 1 for transect locations. Observations of habitat conditions were also made from 1983 to 1998. Five of the transects were established and monitored on August 10, 1987; three transects were established and monitored on July 21 and July 23, 1992. All transects, except one remote transect (CDS-T-87-37), were monitored again in 1997. As pertinent, data obtained from these studies were also used to evaluate the condition of sage grouse habitat. Data collected at all sites included percent plant composition by cover (line intercept), browse form and age class evaluation (key browse condition), and height of vertical cover (vertical cover analysis).

Livestock forage production data collected during four years from 1982 to 1997 were used to help evaluate vegetative composition at the four transects in this range site that are dual wildlife/livestock key areas.

Water distribution factors and documented disturbance or interference factors that are judged by the evaluator to negatively influence big game habitat are taken into consideration in the overall habitat rating system for a given key area. Point values for disturbance or interference factors and a brief statement regarding the rating system, as listed in the 6630 - Big Game Studies Manual, are shown in Appendix 5. Stream inventory monitoring and water inventory data were used to evaluate riparian habitat conditions associated with crucial deer summer range, pronghorn summer range, and key sage grouse habitat areas.

Although not used in the 6630 rating system, absolute shrub foliar canopy cover data extrapolated from line intercept measurements were used to help determine if shrub cover was excessive for given vegetation types at the key areas. Absolute shrub foliar cover is the percentage of ground covered by a vertical projection of the natural cover of foliage of shrubs.

3.3.1 Mule Deer

3.3.1.1 Crucial Summer Habitat

Table 19 below displays the habitat condition ratings for mule deer crucial summer habitat on the allotment by range site. Vegetative species composition is based on basal cover of all species collected from a line intercept transect.

Table 19. Crucial mule deer summer habitat Condition Rating Summary - Little Humboldt Allotment

Transect #/ Livestock Key Area # (Locale) Key Browse Species	Habitat Condition Rating[1] - Date Evaluated	Species Composition[2]			Key Browse Age Class [3]	Key Browse Form Class [3]	Vertical Cover	Diversity Index [3]	Shrub Foliar Cover
		Shrubs	Grasses	Forbs					
Loamy Slope 12-16" p.z. Range Site									
CDS-T-87-33 LKA #1 (Brush Creek) Mtn big sagebrush	Good - 8/10/87	92.0%	6.5%	1.5%	S	S	S	.78 (Poor)	41%
	Good 8/20/97	77.2%	19.2%	4.4%	S	S	S	.795 (Poor)	53%
CDS-T-87-34 LKA #2 (SF Little Humboldt) Bitterbrush	Good - 8/10/87	95.7%	3.0%	1.3%	U	U	S	1.05 (Ex.)	37%
	Good - 8/21/97	92.1%	6.6%	1.6%	S	S	S	0.969 (Good)	39%
CDS-T-87-36/LKA #5 (Jake Cr. Mtn) Mtn big sagebrush	Good - 8/10/87	72.6%	21.6%	5.7%	S	S	S	1.04 (Ex)	28%
	Good - 8/21/97	60.9%	23%	16%	U	S	S	0.854 (Fair)	32%

Transect #/ Livestock Key Area # (Locale) Key Browse Species	Habitat Condition Rating[1] - Date Evaluated	Species Composition[2]			Key Browse Age Class [3]	Key Browse Form Class [3]	Vertical Cover	Diversity Index [3]	Shrub Foliar Cover
		Shrubs	Grasses	Forbs					
CDS-T-87-37 (NF Jake Cr.) Snowberry	Good - 8/10/87	93.5%	5.2%	1.3%	S	S	S	0.72 (Poor)	36%
CDS-LH-92-02 (Owyhee Bluffs) Mtn big sagebrush	Good - 7/23/92	75.7%	8.5%	16%	S	S	S	0.798 (Poor)	33%
	Good - 8/21/97	80.5%	12.6%	7.1%	U	S	S	0.896 (Fair)	36%
CDS-LH-92-03 (Secret Creek) Snowberry	Good - 8/9/92	90.7%	9.1%	0.2%	S	S	S	0.92 (Good)	42%
	Good - 8/21/97	75.7%	21.6%	2.7%	S	S	S	0.748 (Poor)	49%
Loamy Slope 16"+ p.z. Range Site									
CDS-LH-92-01 (Oregon Canyon), Snowberry	Excellent 7/22/92	89.6%	9.8%	0.8%	S	S	S	1.015 (Ex)	39%
	Good - 8/21/97	88.4%	8.7%	3.0%	S	S	S	0.953 (Good)	55%

1 Based on the following scale per NV 6630-6 form: 81-100=Excellent; 61-80=Good; 51-60=Fair; 10-50=Poor.

2 Species composition is based on line intercept data except for Key Areas LH-01, LH-02, and LH-05 in 1977 where livestock forage production data were used. Numbers may not add to 100% due to rounding.

3 U= Unsatisfactory, S = Satisfactory, Ex = Excellent

Overall, habitat condition ratings for crucial mule deer summer habitat in the Little Humboldt Allotment are "Good". Although the overall rating was good, some habitat components could be improved which would enhance wildlife habitat. For example, with the numerical rating system, a good habitat condition rating can be obtained even with poor forage diversity (which occurred at two of five transects read in 1997); and/or poor key browse age and form class (1987 at CDS-T-87-34 bitterbrush transect).

Table 20 displays vegetative composition at transect Based on data collected from production studies. Data for production studies were collected using the double-weight estimate method.

Table 20. Plant species composition obtained from 1982 to 1997 livestock forage production data collection on combined livestock/mule deer key areas. Loamy Slope 12-16" Ecological Site.

Transect/ General Location	Livestock Forage Production (%Species Composition)			Date Evaluated
	Shrubs	Grasses	Forbs	
CDS-T-87-34/ LKA #2 (SF L. Hmbldt River)	84.2 ..... 87.1 ..... 89.5 ..... 92.2	7.5 ..... 8.5 ..... 9.7 ..... 6.5	8.3 ..... 4.4 ..... 0.9 ..... 1.3	8/6/82 ..... 7/13/87 ..... 7/14/94 ..... 8/21/97
CDS-T-87-36/ LKA #5 (Jake Cr. Mtn)	69.5 ..... 73.9 ..... 84.8 ..... 60.9	16.4 ..... 18.5 ..... 9.2 ..... 23.1	14.1 ..... 7.6 ..... 6.0 ..... 16.0	8/12/82 ..... 7/15/87 ..... 7/14/94 ..... 8/20/97
CDS-T-87-33/ LKA #1 (Brush Creek)	84.7 ..... 60.0 ..... 90.0 ..... 77.3	11.8 ..... 26.2 ..... 6.3 ..... 18.5	3.5 ..... 13.9 ..... 3.7 ..... 4.2	8/5/82 ..... 8/10/87 ..... 7/15/94 ..... 8/20/97

3.3.1.1.1. Species Composition

With the exception of areas recently burned during wildfires, aspen woodland sites, or riparian areas monitoring at study transects indicate that upper elevation range sites in the mountain big sagebrush vegetation type on the allotment are characterized by heavy foliar canopy and heavy composition of mountain big sagebrush with limited growth of grasses, forbs or other shrubs. Therefore, forage diversity was lower than desired. This is further supported by the diversity indices outlined in Table 19.

The Natural Resource Conservation Service (NRCS) site description for the Loamy Slope 12-16" p.z. range site indicates that potential vegetative composition is about 60% grasses, 15% forbs, and 25% shrubs. The NRCS site description for the Loamy Slope 16+" p.z. range site indicates that potential vegetative composition is about 50% grasses, 15% forbs, and 35% shrubs. Although potential vegetative composition is not needed to meet allotment objectives, data for

the study transects again indicate that uplands are dominated by heavy shrub composition that affects forage diversity.

3.3.1.1.2. Shrub foliar cover

Foliar cover is the percentage of ground covered by a downward vertical projection of the aerial portion of plant foliage. Shrub foliar cover, was consistently excessive at all key area transects where mountain big sagebrush or mountain big sagebrush-bitterbrush is the potential dominant overstory vegetation. Desired shrub cover for the mountain big sagebrush vegetation type is 20% or less (Winward 1991).

It is likely that when shrub foliar cover exceeds 20-30%in the mountain big sagebrush/bitterbrush (Key Area LH-02) and mountain big sagebrush-mountain brush vegetation types (Key Area LH-01 and CDS-LH-92-01), grass and forb cover decreases due to shrub composition. The 20-30% or less shrub foliar cover considers the relatively open canopy of bitterbrush and other mountain brush species in satisfactory form class.

Monitoring again indicates that most sites are characterized by heavy canopy of mountain big sagebrush with limited growth of grasses and forbs or other shrubs. Absolute shrub foliar cover was generally excessive at key area transects where mountain big sagebrush, mountain brush, or combined mountain big sagebrush-mountain brush comprise the dominant overstory vegetation. Absolute shrub canopy cover was excessive (37% in 1987 and 39% in 1997) at CDS-T-87-34 where mountain big sagebrush and bitterbrush are the dominant overstory vegetation.

3.3.1.1.3 Key Browse Condition

Cole Browse Method data collected at South Fork Little Humboldt (CDS-T-87-34), indicated that age and form class of bitterbrush were in unsatisfactory condition in 1987 and improved to satisfactory condition by 1997. The unsatisfactory form class in 1987 was due to severe hedging. The unsatisfactory age class was due to: (1.) an absence of seedling and young age class plants likely due to factors that include chronic overutilization prior to the critical seed dispersal period and (2.) a high percentage of decadent plants. Moderate (55%) and Heavy (80%) utilization of bitterbrush were recorded in 1986 and 1987, respectively. Moderate to heavy use of key perennial grasses occurred in 1987 and 1992, respectively.

3.3.1.1.4. Disturbance/Interference Factors in Crucial Summer Habitat - Fences

It is unknown if the wire spacing configuration of allotment boundary fences constructed in the 1968-70 period could act as potential barriers to deer movements. Since that time, new fence specifications have been developed that consider the behavior and abilities of wildlife. The special conditions section of the Cooperative Agreement for the Garvey-Hammond Allotment Fence (JDR #4077), specifies "standard 4-strand barbed-wire fence". No wire spacing

configurations are shown in the Cooperative Agreement for the Garvey-Hammond No. 2 Fence (JDR #4085). If the "standard" four-strand fence was constructed with a 12-inch wire spacing configuration, deer movements could be impeded. Other allotment fences that were constructed during periods when deer use occurred but was not considered, could have fence spans that might act as barriers to deer movements.

3.3.1.1.5. Riparian Habitat, Nonstream Riparian Habitat, and Woodland Habitat Associated with Crucial Deer Summer Habitat

The evaluation of streams on public lands in the Little Humboldt Allotment indicate that the trend in riparian habitat condition is downward between 1977-80 and 1986-88 (See Riparian/Fisheries Section). Observations during stream surveys from 1977 to 1992 have documented a loss of quaking aspen in drainage areas throughout the allotment with regeneration generally occurring only in isolated and protected areas in grazable areas. Ocular surveys and photographs from the 1977 to 1995 period also indicate that nonstream riparian habitat (upland springs, seeps and meadows) and range sites with aspen or willow-dominated overstory in grazable areas include areas where stands are in poor condition (See Riparian/Fisheries Section). These areas have been negatively impacted by continuous season-long livestock grazing.

Approximately 7% of the allotment was delineated in 1985 by BLM during ecological site inventories as being comprised of ecological sites where quaking aspen is the potential dominate overstory vegetation. This would equate to about 4,915 acres of aspen woodland-dominated habitat that is important as fawning and fawn-rearing cover, hiding cover, thermal cover and cover in close proximity to associated forage areas. In regard to cover associated with crucial deer summer habitat, ocular surveys on the allotment from 1992 to 1998 indicate that most quaking aspen stands at upper elevations are generally in good condition and support adequate regeneration. However, loss of quaking aspen has occurred, and continues to occur, on suitable range sites within its historic range. Localized aspen loss has occurred in low to mid gradient grazable areas that are heavily utilized (See livestock use pattern mapping) during the hot summer months by livestock. The loss of aspen is attributed to the combination of chronic overutilization of regenerating aspen stems and saplings, soil compaction, bank instability that has caused a drop of the water table, and to a minor extent in some isolated areas, these factors coupled with former depredation by beavers. The poor health of aspen stands in heavily used areas also makes both mature and younger age class trees more susceptible to diseases. The retreat of stands (loss of potential stand size) in upland and riparian areas is attributed to overutilization of aspen suckers and years of use as shade by livestock (Appendix 6). This situation is likely in these areas where continuous season-long livestock grazing occurs and livestock concentrate in aspen groves to minimize energy expenditures and seek cooler places during the heat of the day.

Willow stands along grazable riparian areas have the chronic symptoms of minimal regeneration, root exposure due to streambank instability, and basal crowning caused by soil erosion associated

with livestock hoof-action and use as shade. Willow cover values for deer have been negatively impacted to the same extent as those range sites where aspen loss has occurred.

3.3.1.2. Crucial Winter Habitat

Crucial winter habitat conditions were not rated; no transects have been established to monitor habitat conditions. The Loamy 8-10" p.z. range site at lower elevations in crucial winter habitat is in poor condition due to factors that include repeated wildfires, documented heavy to severe livestock use, and current dominance by exotic annual plants.

3.3.2. Pronghorn antelope

Summer pronghorn habitat was rated at Livestock Key Area #4 of Castle Ridge (Loamy 8-10" p.z. range site). The general use period for summer is March 16 to November 15. Vegetative forage production data was used to help rate pronghorn habitat conditions for the summer period. Summer habitat condition was rated as Fair in 1987 data, Good in 1994 data, and Fair in 1997. (Appendix 7).

3.3.2.1. Vegetative Quality and Diversity

In 1987, the plant species composition was 41.4% shrubs, 52.1% grasses and 6.5% forbs. Shrub species were Wyoming big sagebrush and Douglas rabbitbrush. The grass species were bluebunch wheatgrass, Great Basin wildrye, Sandberg's bluegrass, Nevada bluegrass and cheatgrass. The forb species were Hood's phlox, daisy, and hawksbeard. Cole Browse Method data indicated that age and form class of Wyoming big sagebrush were in satisfactory condition (this information is not used as part of the rating).

In 1994, the plant species composition was 26% shrubs, 46% grasses and 28% forbs. Shrub species were Wyoming big sagebrush and Douglas rabbitbrush. The grass species were bluebunch wheatgrass, bottlebrush squirreltail, Sandberg bluegrass, Great Basin wildrye, and Thurber's needlegrass. The forb species were daisy, tapertip hawksbeard, Hood's phlox, milkvetch, wild onion and common dandelion.

In 1997, the plant species composition was 59.8% shrubs, 30.6% grasses and 9.6% forbs. Shrub species were Wyoming big sagebrush and Douglas rabbitbrush. The grass species were bluebunch wheatgrass, bottlebrush squirreltail, Sandberg bluegrass, Great Basin wildrye, and cheatgrass. The forb species were daisy, milkvetch, tapertip hawksbeard, Hood's phlox, milkvetch, wild onion and lupine. Cole Browse Method data indicated that age and form class of Wyoming big sagebrush were in satisfactory condition (this information is not used as part of the rating).

For comparison of range site potential, NRCS site description for the Loamy 8-10" p.z. range site indicates that potential vegetative composition is about 65% grasses, 5% forbs, and 30% shrubs.

Data for the study transects indicate that forage diversity is variable and that forb composition, a major component for improved habitat conditions, is well represented for this range site.

3.3.2.2. Shrub Foliar Cover

Although not part of the Manual Supplement #6630 habitat rating system for pronghorn, absolute shrub foliar cover (extrapolated from line intercept data) was 20% in 1987 and 16% in 1997. These values are above the key area objective of 15% or less where Wyoming big sagebrush is the dominant overstory vegetation. Shrub cover measurements were not completed in 1994. Shrub cover exceeding 15% in the Wyoming big sagebrush vegetation type generally limits herbaceous understory growth due to competition (Winward 1991).

3.3.2.3. Vegetative Height

The vegetative height, as obtained from an average of density board readings in 1987, was satisfactory averaging 19.8 inches; the same average height was used in the 1994 rating. In 1997, the average was 16.7 inches.

3.3.2.4. Water Availability

Water availability was rated as satisfactory averaging two to four miles apart; however, spring sources are in poor condition and competition with feral horses and domestic livestock is keen. The Castle Spring system (spring source, outflow and associated developed reservoir and functional portion of pipeline) is an important source of water for pronghorn in the allotment.

3.3.2.5. Limiting Factors

It is unknown if the Garvey-Hammond No.2 (JDR #4085) allotment boundary fence, which is located on Castle Ridge within summer habitat, has wire spacing configurations that would pose as barriers to pronghorn movements. This fence was constructed in 1970; no wiring spacing configurations are designated in the special conditions section of the Cooperative Agreement for fence construction/maintenance.

The Little Humboldt - Spanish Ranch allotment boundary fence was checked on July 31,1997 along the lower Castle Springs road. This four-strand fence was acceptable for pronghorn movements at 16"-8½"-8"-9½" wire spacing from the ground up.

3.3.3. California bighorn sheep

California bighorn sheep habitat within the Little Humboldt, Jakes Creek and Tall Corral Allotments is designated as Crucial Yearlong Habitat. No habitat condition rating was made for bighorn sheep; however, a mule deer habitat condition study transect (CDS-LH-92-02) on the Little Humboldt Allotment in the Owyhee Bluffs was used to help evaluate habitat conditions in

potential bighorn foraging areas. The transect is representative of rolling benchland immediately adjacent to escape cover (cliffs and steep escarpment). Bighorn use is likely within the area represented by the transect. Information obtained from habitat surveys, use pattern mapping, ecological status inventories, key area utilization, and water inventories were also used to evaluate habitat conditions for this species.

3.3.3.1. Key Forage Condition

Cole Browse utilization data indicated that form class of mountain big sagebrush was in satisfactory condition in 1992 and 1997. The age class was satisfactory in 1992 and unsatisfactory in 1997. Utilization of Idaho fescue averaged 48% at the transect on 7/23/1992. No utilization data was available for buckwheat in 1992.

The species composition obtained from line intercept data was 75.7% shrubs, 8.5% grasses and 16.1% forbs in 1992, and 80.4% shrubs, 12.6% grasses and 7.1% forbs in 1997. The vegetative height, as obtained from an average of density board readings, averaged 21.5 inches.

As per BLM Technical Report PNW-159, regarding bighorn sheep in the Great Basin, on a yearlong basis more grass was consumed (59%) than forbs (32%) and shrubs (8%). The report goes on to say that this is noteworthy because a diet primarily of grass was selected from a cold desert where shrubs predominated. In addition, the report states that bighorn sheep avoid extensive forage areas with shrub or canopy cover in excess of 25% and shrubs about two feet high on mild slopes. This compares with 36% shrub foliar cover observed in 1997 and fair forage diversity for mule deer where an increase in perennial forbs and grasses would help improved forage diversity for both species.

3.3.3.2. Water Availability

Water availability, as assessed by a 1983 aerial water inventory, was satisfactory with dependable sources averaging one to two miles apart throughout crucial habitat.

3.3.3.3. Limiting Factors

As noted during ground surveys in 1992 in the vicinity of Sawtooth Spring, a high composition of cheatgrass exists on some range sites in crucial habitat. Repeated wildfires, documented moderate to severe livestock use, and historic season-long livestock grazing have been factors that have likely reduced native perennial grass seedbanks in low-gradient grazable areas. However, much of the Owyhee Bluffs area which is classified as crucial bighorn sheep habitat is not severely grazed and the fires have resulted in release of native perennial grasses.

3.4 Wildlife Use - Jakes Creek and Tall Corral Allotments

Key areas have not been established for wildlife on either the Jakes Creek or Tall Corral Allotments. However, virtually all of the crucial mule deer winter habitat, pronghorn summer range, bighorn sheep habitat, and seasonal sage grouse habitat have burned in the Kelly Creek 2000 and Ranch 2001 Fires. Rehabilitation actions have been implemented to improve conditions for wildlife species.

3.5 Special Status Species - Little Humboldt Allotment

3.5.1. Sage grouse

Condition ratings for sage grouse habitat were not made during the evaluation period. However, information obtained from big game habitat and livestock monitoring studies transects, ecological status inventories and trend studies, stream surveys and aerial water inventories were used to evaluate nesting and brood-rearing/summer habitat, and foraging/resting areas associated with leks in the vicinity of established key areas (see Map 6 and 7).

Sage Grouse Nesting Cover Studies - Information obtained from a 1994 sage grouse nesting habitat study in Oregon (Gregg et al 1994) indicated that the following factors significantly improved sage grouse nesting success within a three-foot radius of nests in the Wyoming big sagebrush vegetation type:

1) an average of 8-12% shrub canopy cover that averages 16-32 inches in height, and,
2) an average of 18% basal cover of tall residual grasses with height greater than 7 inches.

Understory production provides lateral herbaceous cover for active nest sites. These cover and height values are in accordance with 2000 Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada.

Sagebrush Steppe Studies - Herbaceous cover associated with nest sites could be limited by excessive shrub canopy cover. Specific to the evaluation, when shrub canopy cover [foliar cover] exceeds 15% in the Wyoming big sagebrush vegetation type (Key Area LH-04) and 20% in the mountain big sagebrush vegetation type (Key Area LH-01), grass and forb cover decreases due to shrub competition (Winward 1991). For management purposes using this information specific to the evaluation, it is likely that when shrub foliar cover exceeds 20-30% in the mountain big sagebrush/bitterbrush (Key Area LH-02) and mountain big sagebrush-mountain brush vegetation types (CDS-LH-92-01), grass and forb cover decreases due to shrub competition. This considers the relatively large open canopy of bitterbrush and other mountain brush species in satisfactory form class. On the Little Humboldt Allotment, the amount of herbaceous cover is lacking on established key areas where shrub foliar cover is excessive. Efforts to manage ecological sites with sagebrush overstory within the cover values shown above are in accordance with 2000 Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada.

Rangeland research conducted by Winward (1991) on similar vegetation types as those found on the Little Humboldt Allotment, suggests that any past and/or current abusive livestock grazing management practices are one of the causal factors contributing to the depletion of understory species and establishment of dense stands of sagebrush. Modern fire suppression efforts, coupled with any past and/or current abusive livestock grazing practices that contribute to establishment of dense stands of sagebrush and heavy shrub foliar cover has likely exacerbated the current poor forage diversity found at many key study areas on the allotment.

Vegetative canopy cover and height available for nesting cover at four key areas were compared, in part, with cover and height data collected at successful nesting sites found during studies conducted in the state of Oregon in the Wyoming big sagebrush vegetation type and rangeland studies regarding shrub canopy cover .

In 1997, the ecological status was mid-seral at Key Areas LH-01 (Brush Cr.) and LH-02 (SF Little Humboldt) and late seral at LH-04 (Castle Sp). Late seral ecological condition of upland areas, coupled with a mosaic of habitat in early to mid successional stages (early, mid, or late seral status) as a result of natural or prescribed disturbances, is desirable for sage grouse habitat. Forage production data indicated a drop in forb composition between 1982 and 1997 and an increase in shrub composition at key area LH-02. Forbs are an important part of the diet of sage grouse particularly in the spring and summer.

3.5.1.1 Nesting Cover

Utilization of lateral herbaceous cover (by livestock, wild horses and wildlife) for the season-of-use periods referenced (Appendix 4) indicated that utilization of Idaho fescue exceeded the objective level of 50% four out of six readings at key area LH-01. Utilization on Idaho fescue at key area LH -02 exceeded the 50% objective seven out of ten readings; and utilization on Bluebunch wheatgrass at key area LH-04 exceeded the 50% objective level once out of eleven readings. Idaho fescue utilization was estimated at 65% at big game key area CDS-LH-01-92 on July 22, 1992. Use levels below 50% would help to allow adequate residual herbaceous cover (stubble and ungrazed plants) associated with overstory shrub species at sites selected for nests during the following spring period. Sage grouse nesting success would be expected to increase with the availability of adequate lateral herbaceous cover (both ungrazed plants and new spring growth) due to factors that include a potential decrease in nest predation by both terrestrial and avian predators and protection from the elements. It is unknown if the average height of understory vegetation and understory basal cover is adequate prior to and during the nesting season.

Information obtained from studies conducted in Oregon and elsewhere regarding shrub cover on western rangelands indicated that shrub canopy cover specific to vegetation types, (8-15% to 20% or less on a site specific basis for some key areas in this evaluation) and specific height and basal cover of understory vegetation surrounding nest sites were factors that improved sage grouse nesting success (see studies cited above).

Shrub foliar cover is defined by BLM (Technical Reference 4400-7) as the percentage of ground covered by a downward vertical projection of the aerial portion of plant foliage. Shrub canopy cover is defined by BLM as the percentage of ground covered by a downward vertical projection of the outermost perimeter of the natural spread of plant foliage. The difference between foliar cover and canopy cover is that with foliar cover, small openings in the canopy are not included as part of measurements. Foliar cover is always less than canopy cover.

Shrub foliar cover, for overhead nesting cover, was excessive at all sites in regard to limiting the growth of herbaceous cover in various vegetation types that is needed for lateral nesting cover.

Based on density board measurements, shrub height was adequate at all sites.

3.5.1.2. Upland Forb Composition

Upland forbs in close proximity to nesting sites are important for hens prior to and during the nesting period. Forbs are also important in the diets of sage grouse chicks from two to nine weeks of age as well as making up the bulk of the adult diet during the summer period. Forb composition ranged from 3% to 6% at Loamy Slope 12-16" and Loamy Slope 16"+ Ecological Sites (Table 21). Low forb composition is a limiting factor at these three upper elevation sites when considering potential native vegetation. For comparison, forb composition at LH-04 (Castle Springs) in the Loamy 8-10" Ecological Site, ranged from to 5% to 28%. Thus, forb composition was better on a site with lower site potential. Forb preference was not analyzed by key area.

3.5.1.3. Limiting Factors

Manmade Structures near Leks: The BLM Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada BLM October 2000, includes fences as range improvement projects as factors potentially contributing to risk of sage grouse populations. Sage grouse usually fly low and direct in their habitat, at, or just above the equivalent of, standard fence heights. An alarming number of cases of mortalities have been documented as a result of collisions with fences during flight on public and private lands in the West which could add significantly to unnatural "additive" mortalities. This risk is increased in close proximity to leks where flights from roost areas to leks can occur before dawn during periods of no light or low light. For insight on this problem, collisions with fences was recently noted to be the "second highest cause of sage grouse mortality" on the 200,000-acre Deseret Ranch in Utah. Fences also offer perches/rests for avian predatory species and create vertical structures that could limit vision of sage grouse or act as intimidating factors. BLM fence projects exist near several of the leks on the allotment, or in close proximity to the allotment, and were inadvertently constructed without knowledge of potential impacts to sage grouse. Actions to mitigate the effects of fences include lowering the height of wires while still providing for the primary function of livestock control (old standard fence constructed 48 inches high), painting the tops of fence posts white to help make them more visible where all green fence posts exist, placement of anti-perching devices on vertical and horizontal wooden or metal fence braces, replacement of green posts with white-

topped red or orange posts, placement of permanent and highly visible bird flight diverters/markers in the wire spans between posts, and maintenance of fence right-of-ways where brush or other visual obstacles are cleared away to increase the visibility of the fence, where needed and deemed effective.

Table 21. Summary of habitat conditions for sage grouse use areas in the vicinity of established key areas within the Little Humboldt Allotment.

Key Area/ General Location/ Range Site	Ecological Status and Year[1] and Trend[2]	Perennial Grass Basal Cover	Key Species Utilization[3]	Riparian Condition[4]	% Shrub Foliar Cover/ Shrub Height[5]	% Forb Composition[6]
LH-01/ Brush Ck/ Loamy Slope 12-16"	Mid (39) 1982 Late (62) 1987 Mid (36) 1994 Mid (47) 1997 Trend: Stable	2.9% 1987 no data 1997	Idaho fescue(Feid): 12% to 86% during the 1982 to 1998 period	Poor	1987: 41%/ 24 in. 1997: 53% / 31 in.	2% to 4% during the 1982 to 1997 period
LH-02/ SF Little Humboldt R./ Loamy Slope 12-16"	Mid (35) 1982 Mid (34) 1987 Mid (36) 1994 Mid (33) 1997 Trend: Stable	1.2% 1987 no data 1997	Idaho fescue(Feid): 18% to 69% during the 1982 to 1998 period	Poor	1987: 37%/ 22 in. 1997: 39%/ 39 in.	Less than 1% to 8% during the 1982 to 1997 period
LH-04/ Castle Sp./ Loamy 8-10"	Mid (46) 1982 PNC (80) 1987 Late (59) 1994 Late (55) 1997 Trend: Up	3.5% 1987 24.3% 1997	Bluebunch wheatgrass (Agsp): 11% to 54% during the 1983 to 1998 period	Poor	1987: 20% / 20 in. 1997: 16%/ 17 in.	5% to 28% during the 1982 to 1997 period
CDS-LH-92-01/Oregon Cyn/ Loamy Slope 16"+	(No Data)	4.2% 1987 5.5% 1997	Perennial grasses: Average of greater than 65% on July 22, 1992	Poor	1992: 39%/ 33 in. 1997: 55%/ 41 In.	Less than 1% in 1992. Less than 3% in 1997

[1] Based on a comparison of forage production data results between years shown. Mid= Mid-Seral, Late=Late Seral and PNC=Potential Native Community.
[2] Based on changes of the ecological status between 1982 and 1997.
[3] Range of utilization based on key area monitoring, except CDS-LH-01-92 on July 22, 1992 which was a visual estimate during big game habitat condition monitoring. LH-01 and LH-02 have other key species at respective key areas. See Studies Summaries for utilization of key species for specific key areas for specific years.
[4] Based on information from stream surveys conducted during the 1986-99 period, and Proper Functioning Condition status assessments completed in 1997, 1999 and 2000, less than one-half mile of given key area and within two miles of documented leks.
[5] % Shrub foliar cover as a percentage of total line intercept distance. Shrub Height estimated from density board measurements.
[6] LH-01, LH-02 and LH-04: range of relative forb composition derived from forage production data in 1982, 1987, and 1997; CDS-LH-01-92 relative forb composition derived from line intercept data collected on July 22, 1992 and August 21, 1997.

3.7. Fisheries/Riparian Habitats

Stream habitat surveys were conducted by BLM and NDOW on streams within the SFLHR basin between 1977 and 1999. Although additional data were also collected in 1986, 1992, and 1995,

the information was either unreliable (Berglund 1999) or was collected only for a limited portion of the stream. Limited habitat information is available for the small part of Pole Creek located within the basin. Location of stream habitat survey stations within the basin is shown on Map 10.

Stream habitat survey data collected for the SFLHR, Sheep Creek, and Secret Creek in 1999 show the trend is static to downward for streams in the basin since baseline surveys were established in 1977. Most significant were the declines in bank cover and bank stability and the increase in the stream width to depth ratio documented for all three LCT streams evaluated. These three parameters are reliable indicators of stream condition, especially in relation to livestock grazing impacts.

Channel geometry changes such as in increase in the (bankfull) width to depth ratio[1] are an important indicator of channel instability (Rosgen 1996). Other measured parameters including pool quality, pool to riffle ratio, and percent desirable streambottom substrates tend to be influenced by flow conditions at the time of the survey. For example, the low ratings for percent desirable streambottom substrates in 1977 reflect very low flow conditions in which a fine layer of silt covered the more desirable rubbles and gravels. Similar silt layering conditions were observed in 1999.

High spring flows allow for removal of surface sediment layer, where it is used by streambank vegetation to build streambanks. Higher flows will also often result in deeper pools and a higher pool rating in good quality habitat. Habitat problems documented during the stream surveys are the result of long-term streambank trampling and overuse of riparian herbaceous and woody vegetation by livestock and the consequent impacts upon the aquatic environment, causing a decline in the LCT population.

The overall lack of a healthy riparian zone and associated channel features in the basin affect the ability of the SFLHR and its tributaries to maintain a viable fisheries over time. Although portions of the SFLHR system are relatively stable (B channel types in narrow canyons), have good vegetative cover, and are functioning well, significant parts of all streams are characterized by cut and eroding streambanks, a high stream width to depth ratio, and a loss of riparian herbaceous and woody vegetation. In addition, important indicators of disequilibrium within the system as a whole including channel entrenchment and aggradation are present on all LCT streams. Even in areas which were rated PFC in the analysis showed silt and gravel deposition which could lead to disequilibrium.

Lack of suitable riparian vegetation and woody plant cover along the streams are responsible for excessive water temperatures. Degraded riparian areas and downcut streams have reduced the

[1]The low flow stream width to depth ratio is directly related to the bankfull width to depth ratio.

cooler inflow of bank storage water back into the stream during the hotter parts of the summer when flows are low, again contributing to elevated water temperatures.

3.7.1. Stream Surveys

3.7.1.1 South Fork of the Little Humboldt River

The headwaters of the South Fork of the Humboldt River originates in the Little Humboldt Allotment and flows for about 7.14 miles before entering the Bullhead Allotment in the Winnemucca District. Only 7% (0.5 miles) of the stream located within the Little Humboldt Allotment is administered by BLM, the remainder is privately owned. About 2.25 miles of the private lands are currently or will be fenced and another 1.50 miles is generally inaccessible to livestock. The remaining 3.39 miles of permanent and ephemeral water remains accessible to livestock. The stream flows through narrow rocky canyons alternating with more open canyon areas and open meadow areas. Woody riparian species including willow (*Salix* spp.), aspen, and currant (*Ribes* spp) are common in canyon areas, while Kentucky bluegrass (*Poa pratensis)* dominates remnant open meadow areas. Stream gradient is moderate to high (2-3%), while streambottom substrates include a mixture of fine sediments, rubbles and gravels.

Stream and riparian habitat conditions have declined or remained static for the public land portion of the South Fork of the Little Humboldt River between 1977 and 1999 (as depicted in Table 22 below). Declines occurred in bank cover and bank stability, while percentage of desirable streambottom substrates increased. Limited water depth at the shorewater interface as well as a lack of undercut streambanks are indicative of a lack of riparian vegetation and poor bank development. Although there is some vegetation overhanging the water column, most of it is wild rose (*Rosa woodsii)*, a species common in overgrazed riparian areas. The slight improvement in pool quality shown for the 1999 data is the result of higher streamflows at the time of the 1999 survey in comparison to earlier surveys. Stream temperatures have remained relatively cool even when ambient temperatures are high; however, the 59° F reading recorded for 1995 partially reflects higher than normal streamflows. Data on Table 22 is from public lands or unfenced private lands along the SFLHR administered by BLM.

Table 22. Comparison of changes in stream survey habitat parameters for South Fork Little Humboldt River between 1977 and 1999.[1]

HABITAT PARAMETER	STREAM SURVEY		TREND
	1977	1999	
Index Rating Factors			
Pool-Riffle Ratio (% of optimum)[2]	100	66	Down

HABITAT PARAMETER	STREAM SURVEY		TREND
	1977	1999	
Pool Quality (% of optimum)[3]	0	12	Up
% Desirable Streambottom Substrates[4]	43	74	Up
Bank Cover(% optimum)[5]	**63**	**52**	**Down**
Bank Stability (% optimum)[6]	**62**	**55**	**Down**
Riparian Condition Class (% optimum)[7]	**62**	**54**	**Down**
Habitat Condition Class (% optimum)[8]	53	52	Down/Not Apparent
Other Factors			
Stream Width to Depth Ratio	**25**	**34**	**Down**

[1]Based on data from stream survey stations S-1, S-2, S-3, S-4, S-5, S-6, S-7, S-8, and S-9 in both 1977 and 1999.
[2]Optimum is considered a 50-50 pool to riffle ratio.
[3]Optimum is considered to represent all quality pools.
[4]Desirable substrates include gravel, rubble, and organic debris.
[5]Optimum is considered to represent tall, dense tree cover.
[6]Optimum is considered to represent totally stable streambanks.
[7]Average of bank cover and bank stability.
[8]Average of pool-riffle ratio, pool quality, desirable substrates, bank cover, and bank stability.
Note: Bolded parameters represent the best indicators of stream and riparian habitat conditions

3.7.1.2. Sheep Creek

Sheep Creek is one of several small streams forming the headwaters of the South Fork of the Little Humboldt River. The main flow in Sheep Creek comes from 2 springs on a side tributary 2.0 miles above the confluence with the SFLHR. Oro Vaca proposes to fence about 0.5 miles of Sheep Creek in 2002, leaving about 0.25 miles of unfenced public lands along Sheep Creek which are generally inaccessible to livestock, or could be made so with some public land fencing. Livestock use currently exists along the full 2.0 miles of permanent water and also along the 3.69 miles of the upper reaches of Sheep Creek, much of which is ephemeral. The stream represents important spawning habitat for LCT. Valley width is limited as most of Sheep Creek flows through a narrow rocky canyon.

Historically beaver were important to the system and were the primary mechanism for floodplain development wherever canyon areas become more open. Today former beaver formed meadow complexes have become drained as a result of channel entrenchment and sagebrush now dominates historic floodplains. Although willow and aspen still occur throughout the drainage, distribution of both species has been greatly reduced. Only mature willows are present in areas

less accessible to cattle, while extensive amounts of aspen habitat has been lost as evidenced by numerous downed logs and absence of regeneration. Approximately 82% of Sheep Creek is privately owned (Table 6).

Table 23. Comparison of changes in stream survey habitat parameters for Sheep Creek between 1977 and 1999.[1]

HABITAT PARAMETER	STREAM SURVEY		TREND
	1977	1999	
Index Rating Factors			
Pool-Riffle Ratio (% of optimum)[2]	86	46	Down
Pool Quality (% of optimum)[3]	0	0	No change
% Desirable Streambottom Substrates[4]	53	86	Up
Bank Cover(% optimum)[5]	**70**	**63**	**Down**
Bank Stability (% optimum)[6]	**67**	**59**	**Down**
Riparian Condition Class (% optimum)[7]	**69**	**61**	**Down**
Habitat Condition Class (% optimum)[8]	55	51	Down/Not Apparent
Other Factors			
Stream Width to Depth Ratio	**20**	**25**	**Down**

[1]Based on data from S-1, S-2, SA1, and SA2 in 1977 and S-1, S-2A, SA1A, and SA2A in 1999. Differences are in station names only; the same physical locations on the ground were surveyed in both years.
[2]Optimum is considered a 50-50 pool to riffle ratio.
[3]Optimum is considered to represent all quality pools.
[4]Desirable substrates include gravel, rubble, and organic debris.
[5]Optimum is considered to represent tall, dense tree cover.
[6]Optimum is considered to represent totally stable streambanks.
[7]Average of bank cover and bank stability.
[8]Average of pool-riffle ratio, pool quality, desirable substrates, bank cover, and bank stability.
Note: Bolded parameters represent the best indicators of stream and riparian habitat conditions

3.7.1.3 Secret Creek

Secret Creek is a 2.2 mile long steep gradient tributary to the SFLHR that flows off the northeast side of Snowstorm Mountain. All of Secret Creek is private land (Table 6). The stream flows through a narrow canyon for much of its length and is considered to have a high susceptibility to erosion and sedimentation. Most of Secret Creek is private land accessible to livestock. Oro Vaca has proposed to gap fence 2.0 miles of Secret Creek in 2002 which would generally

exclude livestock from the stream, except at 4 water gap sites, one of which is located at the confluence with the SFLHR, which has been a heavily grazed site in the past.

Table 24. Comparison of changes in stream survey habitat parameters for Secret Creek between 1977 and 1999.[1]

HABITAT PARAMETER	STREAM SURVEY		TREND
	1977	1999	
Index Rating Factors			
Pool-Riffle Ratio (% of optimum)[2]	28	24	Down/Not Apparent
Pool Quality (% of optimum)[3]	0	0	No change
% Desirable Streambottom Substrates[4]	66	78	Up
Bank Cover(% optimum)[5]	**65**	**62**	**Down/Not Apparent**
Bank Stability (% optimum)[6]	**67**	**64**	**Down/Not Apparent**
Riparian Condition Class (% optimum)[7]	**66**	**63**	**Down/Not Apparent**
Habitat Condition Class (% optimum)[8]	55	51	Down/Not Apparent
Other Factors			
Stream Width to Depth Ratio	**20**	**25**	**Down/Not Apparent**

[1]Based on data from stream survey stations S-1, S-2, and S-3 in both 1977 and 1999.
[2]Optimum is considered a 50-50 pool to riffle ratio.
[3]Optimum is considered to represent all quality pools.
[4]Desirable substrates include gravel, rubble, and organic debris.
[5]Optimum is considered to represent tall, dense tree cover.
[6]Optimum is considered to represent totally stable streambanks.
[7]Average of bank cover and bank stability.
[8]Average of pool-riffle ratio, pool quality, desirable substrates, bank cover, and bank stability.
Note: Bolded parameters represent the best indicators of stream and riparian habitat conditions

3.7.1.4 Oregon Canyon Creek

Oregon Canyon Creek is a small tributary feeding the upper reaches of the South Fork of the Little Humboldt River. During baseflow conditions, streamflow is limited and occurs primarily as ponded water in heavily trampled silt. The riparian zone is limited to a low numbers of scattered willows and a very narrow band of Kentucky bluegrass immediately adjacent to the stream channel. Historically the stream appears to have supported more of a wet meadow community but channel entrenchment has led to draining of historic floodplains. Sagebrush is

now common within a few feet of the active stream channel. The stream has about 6.7 miles of permanent and ephemeral water, much of which is now within the Oregon Flat private pasture which was fenced in 2001.

Based on 1992 inventory, stream and riparian habitat conditions are poor for Oregon Canyon Creek (Table 25). Stream flow is wide and shallow; streambanks are heavily trampled; the streambottom is composed almost entirely of fine sediment; and, the riparian zone is virtually non-existent. The absence of depth at the shorewater interface, as well as a lack of undercut streambanks and overhanging streambank vegetation are all associated with poor streambank development. The steep bank angles are the result of moderate channel entrenchment. Riparian vegetation utilization was described as severe at the time of the survey.

Table 25. Stream habitat conditions for Oregon Canyon Creek in 1992.[1]

HABITAT PARAMETER	1992
Index Rating Factors	
Pool-Riffle Ratio (% optimum)	80
Pool Quality (% optimum)	0
Desirable Streambottom Substrates (%)	10
Bank Cover (% optimum)	33
Bank Stability (% optimum)	28
Habitat Optimum (%)[2]	30
Riparian Condition Class (% optimum)[3]	30
Other Factors	
Stream Width/depth Ratio	29
Max. Summer Temperature (^{0}F) water (air)	nd[4]
Ave. Shore Water Depth (in)	0.0
Ave. Bank Angle (°)	158
Ave. Bank Undercut (in)	0.0
Ave. Vegetative Overhang (in)	0.2

[1]Data are from survey station S-1.
[2]Average of pool-riffle ratio, pool quality, percent desirable streambottom substrates, bank cover and bank stability. 70%+=Excellent; 60-69%=Good; 50-59%=Fair; 10-49%=poor.
[3]Average of bank cover and bank stability. 70%+=Excellent; 60-69%=Good; 50-59%=Fair; 25-49%=poor.
[4]No data.

3.7.1.5 South Fork Jakes Creek

The South Fork of Jakes Creek (of which 55% is on public land) is one of two main forks of Jakes Creek which flows into Evan's Creek, a stream course which eventually joins the Humboldt River. Habitat conditions vary depending on stream type and livestock access. Significant portions of the upper reaches are located in narrow rocky canyons which are virtually inaccessible to cattle. In these areas, dense stands of aspen, dogwood (*Cornus* spp.) and willow as well as a high bank rock content provide a high degree of stability and good conditions for fisheries. Source springs and the more open headwaters, however, have been impacted by livestock in the form of trampling and overuse of woody riparian plants. The lower reaches of the South Fork of Jakes Creek (most of which is located outside the Little Humboldt Allotment) are characterized by extreme downcutting through fine alluvial sediments. Photo comparisons between 1977 and 1988 show a lowering of the stream channel by as much as 15 feet and loss of associated aspen and willow.

A comparison of changes in important stream habitat parameters between 1977 and 1988 show that although overall habitat conditions remain good on public land, trend is downward (Table 26). Of most concern is the substantial decline in bank cover and the 30% increase in the stream width/depth ratio. In some areas, plant species associated with disturbance including nettle *(Urtica* spp.) and wild rose have replaced aspen stands. The trend toward a more wide, shallow stream profile represents a progressive stage of channel adjustment due to streambank instability and a resultant increase in the bank erosion rate (Rosgen 1994). In addition, "braiding" or formation of more than one stream channel was documented in at least one location. Like an increase in the width/depth ratio, braiding occurs in response to increased sediment loading. Although quality pools are lacking, summer water temperatures, pool-riffle ratios and percent desirable stream bottom substrates remain within ranges considered desirable for trout.

Table 26. Summary of changes in stream habitat parameters for the public land portion of the South Fork of Jakes Creek between 1977 and 1988.[1]

South Fork of Jakes Creek		
HABITAT PARAMETER	YEAR	
	1977	1988
Index Rating Factors		
Pool-Riffle Ratio (% optimum)	62	86
Pool Quality (% optimum)	0	0
Desirable Streambottom Substrates (%)	87	84
Bank Cover (% optimum)	81	62
Bank Stability (% optimum)	74	70
Habitat Optimum (%)[2]	61	60
Riparian Condition Class (% optimum)[3]	78	66

South Fork of Jakes Creek		
HABITAT PARAMETER	YEAR	
	1977	1988
Other Factors[4]		
Stream Width/depth Ratio	25	33
Max. Stream Temperature (^{0}F) water (air)	68 (77)	66 (88)

[1]Data are from stations S-1, S-A1 and S-A3.
[2]Average of pool-riffle ratio, pool quality, percent desirable streambottom substrates, bank cover and bank stability. 70%+=Excellent; 60-69%=Good; 50-59%=Fair; 10-49%=poor.
[3]Average of bank cover and bank stability. 70%+=Excellent; 60-69%=Good; 50-59%=Fair; 25-49%=poor.
[4]No data on shorewater depth, vegetative overhang, bank angle or vegetative overhang were collected in 1988 or 1977.

3.7.1.5 North Fork Jakes Creek

The North Fork of Jakes Creek (of which 13% is on public land) is similar in character to the South Fork with variability in habitat conditions occurring primarily as a result of landform position and accessibility of streamside areas to livestock. Like the South Fork, much of the upstream reach is characterized as a dense, vigorous woody riparian zone boarded by steep, inaccessible canyon walls. Substrates are comprised mostly of cobble, resulting in natural channel stability. However, there are localized areas within this reach which are more open and show impacts from livestock in the form of heavy browsing of aspen suckers as well plant community shifts from desirable riparian species to species associated with disturbance. In downstream areas (which are mostly privately owned), habitat conditions deteriorate rapidly as streamside areas become increasingly accessible to grazing and as channel materials shift from rubble to gravel, silt and sand. Suppression of willow and aspen regeneration as a result of heavy grazing by livestock, as well as accelerated downcutting is common over the majority of the lower reach.

A comparison of changes in habitat parameters between 1977 and 1988 show conditions on the public land portion of the North Fork of Jakes Creek are good and have remained so over the 10 year period between surveys (Table 27). Although there has been some decline in percent of desirable substrates, ratings for bank cover and stability as well as overall habitat condition are well within objective levels. Unlike the South Fork of Jakes Creek, there has been no appreciable change in the width/depth ratio. Stream temperatures were found to be acceptable for trout in 1977. While no water temperature data were collected in 1988, stream temperatures were described as cool although ambient conditions were extremely warm at the time of the survey.

Although data collected as part of the stream survey indicate habitat conditions are generally good, important indicators of watershed stability problems are present . Most significant was evidence of frequent rubble point bars even in remote upstream locations. Accelerated bar development suggest a high sediment load, a situation which can lead to adverse channel adjustments (Rosgen 1996). In addition, loss of some aspen stands as well as areas of localized channel cutting in the upper reaches suggest downward trend for the system as a whole.

Table 27. Summary of changes in stream habitat parameters for the public land portion of the North Fork of Jakes Creek between 1977 and 1988.[1]

North Fork of Jakes Creek		
HABITAT PARAMETER	YEAR	
	1977	1988
Index Rating Factors		
Pool-Riffle Ratio (% optimum)	72	92
Pool Quality (% optimum)	0	21
Desirable Streambottom Substrates (%)	91	74
Bank Cover (% optimum)	70	70
Bank Stability (% optimum)	62	66
Habitat Optimum (%)[2]	59	65
Riparian Condition Class (% optimum)[3]	66	68
Other Factors[4]		
Width/depth Ratio	22	23
Max. Stream Temperature (^{0}F) water (air)	64 (77)	nd[5]

[1]Data are from stations S-2, S-3, S-4, and S-7.
[2]Average of pool-riffle ratio, pool quality, percent desirable streambottom substrates, bank cover and bank stability. 70%+=Excellent; 60-69%=Good; 50-59%=Fair; 10-49%=poor.
[3]Average of bank cover and bank stability. 70%+=Excellent; 60-69%=Good; 50-59%=Fair; 10-49%=poor.
[4]No data on shorewater depth, vegetative overhang, bank angle or vegetative overhang were collected in 1988 or 1977.
[5]No data.

3.7.1.6 Kelly Creek

Kelly Creek originates on the west side of the Snowstorm Mountains and eventually joins the Humboldt River. The upper reaches flow through rocky canyon areas, portions of which are inaccessible to livestock. The middle and lower reaches are more open and include significant areas of channel entrenchment with minimal riparian zone development. Approximately 9 miles of the headwaters are located within the Little Humboldt Allotment and 2 miles are within the Tall Corral Allotment.

Data collected in 1977 show riparian habitat conditions in the upper elevations were excellent at the time of the survey (Table 28). Streambanks were found to be extremely stable and densely vegetated by aspen, willow, dogwood, and wild rose. Substrate composition was found to be mostly good, with fine gravels forming the majority of the channel materials. Small, shallow pools were common, while the low width/depth ratio indicates a fairly, narrow deep channel (in the absence of entrenchment). A hot spring located just above the survey station was found to be the cause of warm stream temperatures. Livestock were present during the survey but impacts were limited by the steepness of the terrain. A lack of streamside cover as well as bank erosion problems were found to be significant in the lower reaches where livestock had more access.

Although information on current habitat conditions on the public land portion of Kelly Creek within the Little Humboldt Allotment is lacking, observations of the area by BLM in 1995 indicated the upper elevations including the portions on public land, are generally in good condition. As in the 1977 survey, streamside vegetation was mostly dense in areas with limited livestock access. More open areas, however, showed livestock impacts including trampling of moist areas and presence of plant species associated with disturbance.

Table 28. Stream habitat parameters recorded for the public land portion of Kelly Creek in 1977.[1]

Kelly Creek	
HABITAT PARAMETER	1977
Index Rating Factors	
Pool-Riffle Ratio (% optimum)	30
Pool Quality (% optimum)	11
Desirable Streambottom Substrates (%)	60
Bank Cover (% optimum)	97
Bank Stability (% optimum)	94
Habitat Optimum (%)[2]	58
Riparian Condition Class (% optimum)[3]	96
Other Factors[4]	
Stream Width/depth Ratio	19
Max. Summer Temperature (^{0}F) water (air)	79 (88)

[1]Data are from survey station S-7.
[2]Average of pool-riffle ratio, pool quality, percent desirable streambottom substrates, bank cover and bank stability. 70%+=Excellent; 60-69%=Good; 50-59%=Fair; 10-49%=poor.
[3]Average of bank cover and bank stability. 70%+=Excellent; 60-69%=Good; 50-59%=Fair; 10-49%=poor.
[4]No data on shorewater depth, vegetative overhang, bank angle or vegetative overhang were collected in 1988 or 1977.

3.7.3. Functioning Condition Assessments

During the years between 1992 and 1995, the public portions of streams forming the headwaters of the South Fork of the Little Humboldt River were all rated as nonfunctional-downward trend, while public land portions of the North and South Forks of Jakes Creek were rated as either functioning properly or functional at risk. Reasons for nonfunctional ratings include channel entrenchment, absence of an adequate floodplain; lateral and vertical channel instability; loss of the riparian zone; and, poor age class distribution of woody riparian species. By comparison, the upper reaches of the North Fork of Jakes Creek support dense riparian vegetation and show many of the characteristics of properly functioning stream systems, although some indicators of downward trend are present. Although the South Fork of Jakes Creek supports a similarly dense riparian zone, problems including decreased bank stability, localized suppression of aspen regeneration and formation of point bars suggest long-term stability of the system could be at risk.

PFC assessments completed on 22.4 miles of SFLHR basin streams in 1999 and 2000 showed that only 3.42 miles or 15.3% of the evaluated stream reaches exist in PFC or functional-at-risk with an upward trend state (Table 29, Map 11). The areas in a PFC state were generally well vegetated, and occurred in narrow canyons inaccessible to livestock. Approximately 17.3 stream miles or 77% of the stream reaches were rated as non-functional or functional-at-risk with a downward trend. These areas were readily available to livestock during the summer hot season and showed the impacts of their extended use. An additional 1.61 stream miles or 7.2% was rated functional-at-risk with no apparent trend. It was also noted that the reaches rated as functional were subject to levels of sedimentation which could influence their long-term functionality. Ratings of nonfunctional were associated with channel entrenchment, draining of floodplains, unstable streambanks, excessive sedimentation, lack of riparian vegetation, and lack of woody plant regeneration.

Table 29. Proper Functioning Condition status of streams within the South Fork Little Humboldt River Basin portion of the Little Humboldt Allotment (perennial and ephemeral).

Stream Name	PFC [1]	FAR↑ [1]	FAR↔ [1]	FAR↓ [1]	NF [1]
South Fork Little Humboldt River	1.69 mi.	0	0	1.26 mi.	4.19 mi.
Secret Creek	0.56 mi.	0	0	1.04 mi.	0.62 mi
Sheep Creek	0.59 mi.	0.28 mi.	0.72 mi.	0.88 mi.	2.91 mi.
Oregon Canyon Creek	0.30 mi.	0	0.89 mi.	0	5.14 mi
Brush Creek	0	0	0	0	1.29 mi
Total Miles	3.14 mi	0.28 mi.	1.61 mi.	3.18 mi.	14.15 mi.

Stream Name	PFC [1]	FAR↑ [1]	FAR↔ [1]	FAR↓ [1]	NF [1]
Percent of Total Stream Miles	15%	1%	7%	19%	59%

[1] PFC= Proper Functioning Condition, FAR↑= Functional-At-Risk with Upward Trend, FAR↔= Functional-At-Risk with Static Trend, FAR↓= Functional-At-Risk with Downward Trend, NF= Non-Functional.

3.7.4 Stream Channel Types

Rosgen (1996) channel types were determined for stream survey stations on the SFLHR, Sheep Creek, and Secret Creek in 1999. Significant parts of these streams are characterized by B4 channel types which are relatively stable in comparison to the C4, G4, and F4 channel types found in both the lower and upper reaches. The latter three stream types, as well as the A4 type on Sheep Creek, are highly susceptible to lateral and/or vertical instability as a result of changes in flow and sediment regimes in the watershed (Rosgen 1996). The presence of G (gully) channel types on the SFLHR and Sheep Creek is indicative of watershed condition in general and represents a progressive, predictable pattern of channel degradation in response to sediment loading (Rosgen 1996). All of the channel types documented with the exception of the C4b type share the absence of a well developed floodplain. The presence of a hydraulically connected floodplain is critical for regrowth of riparian vegetation later in the summer.

Table 30 documents the habitat characteristics presently found within the SFLHR basin at specific stream survey station sites. Table 29 looks at channel type, current PFC status, riparian condition class, width/depth ratio and mean B riparian zone width.

Table 30. Summarization of habitat characteristics found within the SFLHR.

Location	Channel Type	PFC	Riparian Condition Class	Width/Depth Ratio	Mean B Riparian Zone Width
South Fork Little Humboldt River					
2	F4	NF	56%	25	14.7
4	B4	PFC	77%	24	11.6
5	C4	NF	46%	26	4.0
5A (New)	B4	NF			
6	B4	NF	43%	61	0
7	B4	FAR↓	70%	31	41.0
8	B4	FAR↓	67%	38	187.8
9	B4	FAR↓	57%	29	0.4
Secret Creek					
1	B4	FAR↓	77%	59	38.7
1A (New)	B4	NF			
2	B4	FAR↓	58%	49	10.9
3	C4	FAR↓	55%	49	11.8

Location	Channel Type	PFC	Riparian Condition Class	Width/Depth Ratio	Mean B Riparian Zone Width
Sheep Creek					
2	B4	PFC	64%	23	13.4
2A	B4	PFC	58%	20	1.7
3	F4	NF	40%	Int./Dry	0
A1A	B4	FAR↓	77%	27	29.2
A2A	B4	FAR↓	56%	20	1.7
Pole Creek					
1A		FAR↓			
Oregon Canyon Creek					
1		NF	26%	221-26	0.1

3.7.5. Photographic Comparisons

An assessment of static to downward trend for LCT streams in the Little Humboldt Allotment is substantiated with photographs taken in the same locations during years streams were surveyed (Table 31). In most cases, photographs show either deterioration or minimal change in poor conditions over a 23 year period. Exceptions include S-2 and SA1A on Sheep Creek. Conditions have improved for S-2 on Sheep Creek since 1992, while the stable, well vegetated streambanks initially photographed at SA1A on Sheep Creek and at S-4 on the SFLHR have been maintained over time.

Table 31. Assessment of trend of LCT streams in the Little Humboldt Allotment based on photographic comparisons spanning 20 years.

STREAM SURVEY STATION, TRANSECT	YEARS WITH COMPARABLE PHOTOGRAPHS[1]	TREND BASED ON PHOTOGRAPHIC COMPARISONS
South Fork Little Humboldt River		
Station 1, Transect 1	1977, 1986, and 1999	**Static**
Station 2	None	**NA**
Station 3, Transect 4	1977, 1999	**Down**
Station 4, Transect 1	1986, 1999	**Down**
Station 5, Transect 1	1977, 1986, 1999	**Static/Down**
Station 6	None	**NA**
Station 7, Transect 4	1977, 1999	**Static**
Station 8	None	**NA**
Station 9, Transect 3	1977, 1999	**Static**

STREAM SURVEY STATION, TRANSECT	YEARS WITH COMPARABLE PHOTOGRAPHS[1]	TREND BASED ON PHOTOGRAPHIC COMPARISONS
Sheep Creek		
Station 1, Transect 1	1986, 1999	**Down**
Station 2 (S-2A), Transect 1	1986, 1992, 1999	**Up from 1992**
Station SA1 (SA1A), Transect 1	1977, 1999	**Static**
Secret Creek		
Station 1, Transect 1	1977, 1999	**Down**
Station 2, Transect 0	1977, 1999	**Static**
Station 3, Transect 2	1977, 1999	**Down**

[1]Although photographs were taken at all stations on Sheep Creek and the South Fork Little Humboldt River in 1986, most show only the water surface and cannot be used for a visual comparison to photos from other years.

3.7.6. Utilization Studies

Herbaceous Vegetation Utilization

BLM collected riparian plant utilization information on the SFLHR, Pole Creek and Sheep Creek in 1999, 2000, and 2001. In 1999, riparian plant utilization data was collected on August 10 and 11. During the summer/fall of 2000, utilization data was collected on June 14/15, July 6/7, July 19 and 27, August 3 and 14, September 7, and October 4/5. In 2001 utilization measurements were taken on June 15 and 28, July 18/19, and October 3. During 2000, the measurements showed utilization levels to be light (16-23%) in mid-June, but the criteria of 30% utilization of herbaceous vegetation recommended in the Reasonable and Prudent Actions (RPA) section of the 1999 FWS BO were generally exceeded by July 6,7, 2000. During 2001, utilization in the South basin pasture was high (54-69%) by mid to late June, and light (16%) in the closed North basin pasture. By the time the South basin pasture was closed to grazing on July 15, utilization was considered high (30-72%) on most stations, and light on two stations (4-17%) in the South basin pasture. The North basin pasture remained mostly unused(3-10% utilization) on July 18/19, and consequently livestock were authorized to use the North basin pasture from September 15 through October 31. Utilization data collected in the SFLHR basin on October 3, indicated that all measured stations were moderately to heavily utilized (32-63%) in both the North and South basin pastures.

Stubble height of only 2 to 2.5 inches represented less than 30% utilization in 2000 because of poor vegetative growth. During 2001, stubble height was less than 2000 for similar dates, and

utilization was considerably higher (45-70% vs 7-29%). Biologically, the issue of adequate stubble height at the end of the growing season is very important for recovery of streambanks to provide for dissipation of energies associated with high spring stream flows. The remnant .5 to 2.0 inches of stubble height remaining in October 2000 and 2001 does not provide the necessary stubble height to protect and enhance streambank conditions during spring runoff. While utilization of 30%, which was reached in mid-June may seem acceptable to protect streambanks, it was obviously too heavy during the poor growing season of 2000 and 2001. The minimal regrowth of vegetation during the summers of 2000 and 2001did not provide for the streambank protection necessary to dissipate the energies associated with any potential high flows the following spring.

Woody Vegetation Utilization

On August 10-11, 1999, utilization of woody riparian plants including aspen and willow was mostly slight to light, although heavy use of aspen was documented for Sheep Creek. It is important to note that in 1999, cattle were present in the SFLHR drainage area for at least an additional two months after the August utilization data were collected, so heavier use of woody species occurred, but was not documented.

In 2000, grazing utilization of aspen and willow was monitored throughout the summer from June 14 to October 5. Three sites were monitored on the SFLHR, four on Sheep Creek and two on Secret Creek. Aspen use was low on five sites measured on June 14 and 15, but had exceeded the RPA criteria of 20% utilization by July 19 at the two sites measured on the SFLHR and Secret Creek. Although utilization on aspen was still within acceptable levels on Sheep Creek on the first week of July, utilization had jumped to almost 60% by mid August on this stream. By October, use on aspen was in the "severe" range on two sites monitored on the SFLHR and above the criteria established in the RPAs for all remaining sites on Sheep and Secret Creeks, with the exception of site 2, which was protected by private land fencing. The data suggests that sometime around July 7 utilization of aspen started exceeding the 20% utilization criteria.

Utilization on willow in 2000 was more difficult to determine because of the general absence of young willows in areas accessible to livestock. At locations where an adequate sample (a minimum of 20 plants were available for livestock to graze) could be measured, willow utilization was relatively light in June, but had exceeded the criteria by July 6,7. At sites where fewer willow plants were available for livestock grazing, utilization levels were higher. By October, use was heavy to severe at some sites on the SFLHR and Sheep Creek, although there were few young willows available due to impacts of livestock grazing.

In 2001, livestock utilization on aspen in the North Basin Pasture was low on June 15, but increased rapidly as the summer progressed. On June 28th, aspen utilization was 38% on the SFLHR station 5, just below the confluence of Secret Creek, and by July 18th, utilization had increased to 47% at this site. Utilization averaged 35.5% on Secret Creek (24% on station 3, and 47% at station 2) on June 28th. Utilization on Sheep Creek in the closed North basin pasture on

July 18th averaged 7.8% and ranged from 2.0 to 13.6%, showing some unauthorized use into the north basin pasture by cattle from the south basin.

The South basin pasture exceeded the terms and conditions limit from the BO criteria (20% on aspen and willow) by June 28th on the SFLHR station 5, and by July 18th on all monitoring sites on the SFLHR and on Secret Creek. By October 3rd , use of aspen was in the "severe" range (> than 80%) for most of the SFLHR stations and heavy (60 to 80% use) on Secret Creek stations. Sheep Creek stations which were in the north basin pasture and had authorized livestock use after September 15th, showed 67% utilization by October 3rd (range from 61 to 79%) .

Utilization data are summarized in Appendix 8, Table 2.

3.7.7. Streambank Trampling

During 2000, trampling of streambanks in the basin increased throughout the summer as livestock focused on the stream and riparian vegetation. Although trampling levels had not reached the BO criteria of 10% on the first week of July, physical impacts to streambanks by trampling were pronounced by the time trampling was measured at 8%. By the time trampling levels exceeded the long-term management criteria (10%) in the RPAs (July 19th and later), impacts to streambanks were severe. Without exception, streambanks were damaged from high levels of shearing, tramping, and compaction at the end of the season at all monitoring sites evaluated.

During 2001, streambank trampling in the SFLHR basin increased throughout the summer with measurements of 11.5% on the SFLHR station 5 on June 15, which increased to 39% by June 28th . Measurements at six stations on the SFLHR on July 18th showed streambank trampling ranges from 11.9 to 36.4% and averaged 24.2%. The BO criteria of 10% was exceeded by the 28th of June on the one station on the SFLHR, and on all stations in the south basin pasture by July 18th. Station 2 on the SFLHR had the lowest reading on July 18th (11.9%), but this site is generally less accessible to livestock. By the time trampling levels exceeded the BO criteria (July 19th and later), impacts to streambanks were severe. Without exception, streambanks were damaged from high levels of shearing, trampling, and compaction at the end of the season at all monitoring sites evaluated.

3.7.8. Aquatic Invertebrates

Diversity and abundance of aquatic invertebrates was found to be fair to good for Kelly Creek, the South Fork of Jakes Creek, Sheep Creek, Secret Creek and the SFLHR. Results were variable for the North Fork of Jakes Creek. At some locations biomass and density were rated as poor, in other locations these parameters were rated as fair to good. On all inventoried streams, aquatic invertebrate sampling indicated moderate stress to pollution. No information on invertebrates was collected for Brush and Oregon Canyon Creeks.

3.8. Nonstream Riparian Habitat

Information on condition of nonstream riparian habitats including seeps, springs, meadows and aspen stands is available through a BLM District water inventory completed for the little Humboldt Allotment in 1982 and 1983, and through various field surveys completed by BLM and NDOW between 1992 and 1995. Although most of the data collected during the water inventory were limited to flow rates and water chemistry, notes and photographs provide some insight into conditions at these nonstream riparian habitats.

Many springs within the allotment are located in rocky canyon areas in association with the headwaters of the major streams or on steep slopes forming the face of the Owyhee Bluffs. Flow rates are generally good for many of these springs; 56 (45%) were estimated to be producing 10 or more gallons per minute in September or October during the 1982/83 inventory period. Two springs (both tributaries to the lower reaches of Sheep Creek) were estimated to be producing 500 gallons per minute in October of 1983 (an extremely wet year). However, field inspections in 1995 could not confirm flows of this magnitude at the locations referenced in the District water inventory.

Field observations and photographs indicate habitat conditions are extremely poor at virtually all seeps, springs, and meadow areas accessible to livestock and wild horses. Some spring sites are located in remote, rocky areas and are naturally protected from grazing, however, the majority are impacted in the form of trampling, heavy to severe use of riparian vegetation, accelerated erosion, channel downcutting and associated draining of moist soil profiles. At many sites, formation of gullies has resulted in significant loss of riparian vegetation. Although season long grazing by cattle occurs at most of the impacted spring sites, heavy use of non-stream riparian habitat is also occurring by wild horses, particularly in the northeast part of the allotment in the vicinity of Castle Springs.

PFC was analyzed at one spring in 1997 and two springs in 1999. In 1997, a spring located at T39N, R45E, section 13, SWNW was determined non-functional due to lack of herbaceous vegetation and shrinking riparian area. In 1999, an unnamed spring, 1 mile south of Oregon Canyon (T39N, R46E, section 7, SWSW), was rated FAR-down due to the riparian area shrinking, inadequate vegetative cover, excessive erosion and trampling. Castle Spring was rated non-functional due to shrinking riparian area, lack of riparian vegetation and excessive erosion from horse trails.

Condition of aspen stands is more variable depending on location in the allotment and on accessibility to livestock. In general, aspen stands located in the more open bench-lands characterizing the eastern half of the allotment and along drainages which form the headwaters of the South Fork of the Little Humboldt River show heavy to severe browsing of suckers. In many of these areas, replacement of over-mature trees by suckers is not occurring and the amount of aspen habitat present in the allotment is shrinking.

Condition of aspen stands in the less accessible northwestern portion of the allotment (particularly the headwaters of Jake's and Kelly Creeks) is considerably better than in more open areas. Stands in these areas are generally dense and multiple age classes are present.

3.9. Water Quality

3.9.1. Classified Waters

The South Fork of the Little Humboldt River was sampled at two locations on 08/02/1977 and analyzed for numerous parameters (Table 30). On this date, the upper and lower sites had fecal coliform levels of 22000 and 630 bacteria per 100 mL, respectively. Fecal coliform is not a single value standard, a geometric mean of 5 samples is needed to determine an exceedance. Fecal coliform probably would have exceeded a geometric mean of 200 per 100 mL at the upper site even if 0 per 100 mL was obtained for the other 4 samples. At the upper site, both turbidity and suspended solids exceed water quality criteria for cold water aquatic life. Turbidity was 43 NTUs, exceeding the turbidity criteria of 10 NTUs and suspended solids was 202 mg/L, exceeding the suspended solids criteria of 25-80 mg/L. These high levels at the upper site decreased significantly by the lower site. This suggests that a localized disturbance may have been releasing sediment at the upper site. These data do not represent current conditions and can not be used to draw trends since there was only a single sample analyzed at each site. The State recommends a minimum of 10 samples to determine if standards are being met.

Table 32. Water Quality Data Collected by Elko Field Office. Analyzed by Sierra Environmental Monitoring.

Parameters	Class A Standards (NDEP)	S.F. Little Humboldt- Upper (T39N, R45E, Sec.21, SWSE)	S.F. Little Humboldt- Lower (T39N, N45E, Sec. 11, NESW)
Date		08/02/77	08/02/77
pH	6.5 to 8.5	7.5	7.4
Temp. (°C)	< 20	18	18
Fecal Coliform (per 100 mL)[1]	see footnote 1 below	22000	630
Total phosphate (mg/L)	<0.30	0.09	0.08
Total dissolved solids (mg/L)	< 500	111	234
Chloride (mg/L)	none established	2.9	4.8
Suspended solids (mg/L)	25-80[2]	202	5
Turbidity (ntu)	10[2]	43	4.4
Nitrate (mg/L)	none established	1.3	0.25

[1] The fecal coliform concentration, based on a minimum of 5 samples during any 30-day period, must not exceed a geometric mean of 200 per 100 mL nor may more than 10 percent of total samples during any 30-day period exceed 400 per 100 mL.
[2] From Water Quality Criteria for Designated Beneficial Uses (See Water Quality Appendix 3).

Conditions observed during PFC inventories on 7/8/99 were that upland watershed conditions of

upper SFLHR, Oregon Canyon, and other South Fork Little Humboldt tributaries were degraded. High concentrations of horse and cattle trails along with heavy grazing may be contributing to increased overland flow and erosion. These conditions may deliver high sediment loads during precipitation events and snow melt causing high levels for turbidity and total suspended solids.

As the Elko Field Office collected no water quality data since 1977 in the Little Humboldt allotment, the data collected by the Winnemucca Field Office during the summer of 2000 was used to analyze more recent water quality. This data was collected on the South Fork of the Little Humboldt River near Pole Creek at the Little Humboldt/ Bullhead allotment boundary, in the Bullhead allotment. The parameters sampled in 2000 did not display any significant water quality problems (Table 33). The only parameter in this table that exceeded NDEP standards was total phosphate. This does not appear to be a problem since there was a single high value out of three samplings. The State recommends 10 samples to determine if water quality standards are being met.

Table 33. Water quality data collected by the Winnemucca Field Office, BLM and analyzed by AAL Environmental LLC (approved by EPA).

Parameters	Class A Standards (NDEP)	S.F. Little Humboldt- Boundary Little Humboldt/ Bullhead Allotment (T40N, R45E, Sec. 26, NW NE)		
Date		06/01/00	08/15/00	10/23/00
pH	6.5 to 8.5	7.35	7.26	8.1
Fecal Coliform (per 100 mL)[1]	see footnote 1 below	Present	100	40
Total phosphate (mg/L)	<0.30	< 0.2	0.74	<0.2
Total dissolved solids (mg/L)	< 500	96	62	107
Total K Nitrogen(mg/L)	none established	0.33	0.44	0.75
Turbidity (ntu)	10[2]	8.2	6.1	2.8
Nitrate (mg/L)	none established	<0.1	<0.1	<0.1

[1] The fecal coliform concentration, based on a minimum of 5 samples during any 30-day period, must not exceed a geometric mean of 200 per 100 mL nor may more than 10 percent of total samples during any 30-day period exceed 400 per 100 mL.
[2] From Water Quality Criteria for Designated Beneficial Uses (See Water Quality Appendix 3)

3.9.1.1. Thermal Monitoring

Water temperatures recorded for LCT streams in the Little Humboldt Allotment in 2000 consistently exceeded important thresholds (Figure 1). Temperatures in excess of 26°C were recorded almost daily for the SFLHR in July for all three monitoring sites and in August for the lower two monitoring sites, while temperatures of 22°C were routinely recorded for Sheep Creek over this same period. Although Sheep Creek is clearly too warm, the lower temperatures recorded for this stream in comparison to the SFLHR are the result of spring contributions and the shading provided by vegetation in narrow canyon areas.

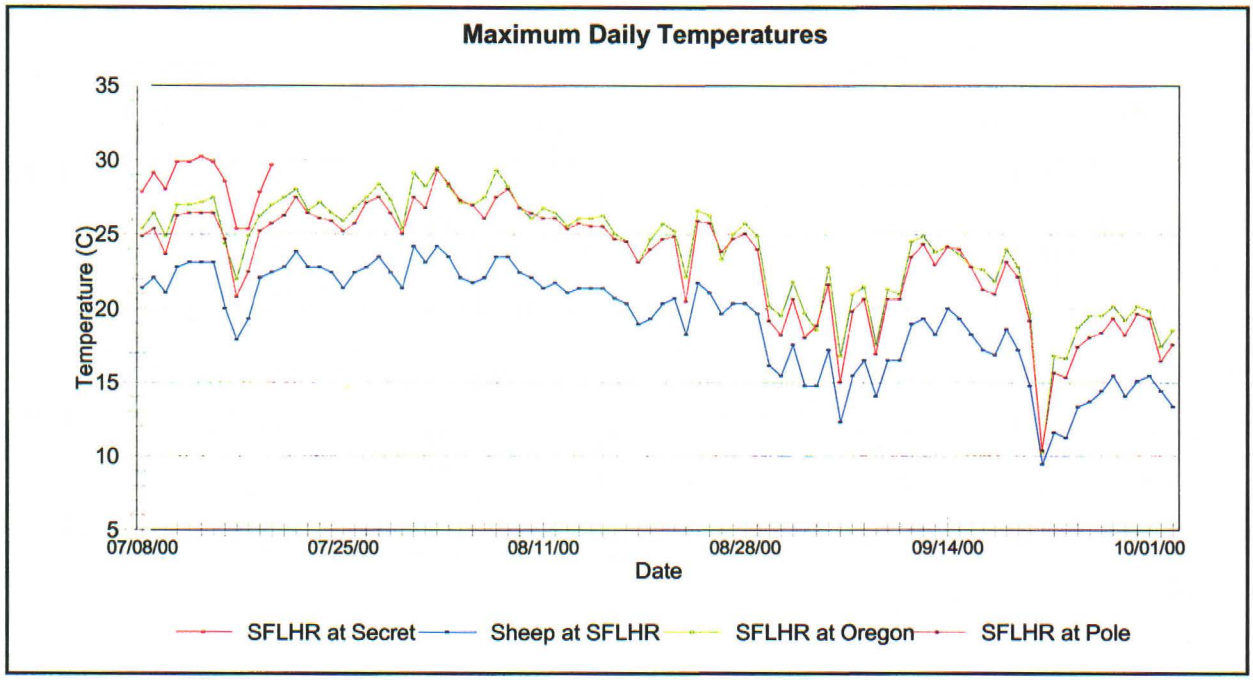
Although LCT may tolerate warm water for brief periods (Dunham et. al. 1999), clearly the length of time that trout are exposed to lethal or sublethal temperatures is important. Water

temperatures in excess of identified thresholds were sustained for significant periods of time on LCT streams in the Little Humboldt Allotment during the summer of 2000 (Appendix 3). Temperatures exceeding 20°C were present for more than six hours on most days in July and August at monitoring sites on the SFLHR at Oregon Flat and above the Pole Creek confluence, while temperatures in excess of 22°C were present for five or more hours consistently between July 8th and the end of August at these same locations. In addition, SFLHR temperatures as high as 26°C were frequently sustained for three or more hours during the latter part of July and the first half of August. Data are limited for the portion of the SFLHR above its confluence with Secret Creek; however, temperatures thresholds were exceeded from four to ten hours for all but one day of the first week the thermograph was operational.

Although temperature thresholds of 20°C and 22°C were also exceeded for significant periods of time on Sheep Creek, temperatures did not reach the critical level of 26°C during the monitoring period. As described above, the main branch of Sheep Creek is spring-fed and most of the flow in 2000 passed through areas of dense vegetation.

From June to September of 1995 to 2000, the Winnemucca F.O. had a thermograph to measure water temperature within a riparian exclosure of the South Fork of the Little Humboldt River. The upper site is located at the Little Humboldt/Bullhead allotment boundary near the beginning of the exclosure and the middle site is near the confluence of Snowstorm Creek within the Bullhead allotment. Temperature violations occurred frequently at these locations from June to September of 1995 to 2000. The NDEP has 20°C(68°F) as the maximum temperature standard for a Class A waters. This temperature was exceeded for at least 1.5 hours a minimum of 52 days from June 21 to the end of September from 1995 to 2000 at the Little Humboldt/Bullhead allotment boundary. In 1999, temperatures near the confluence of Snowstorm Creek exceeded 20°C, for at least 1.5 hours 27 times, while the upper location exceeded 63 times (Table 34). Also, temperatures exceeding the standard for at least 4 hours occurred 29 times at the upper site and 5 times at the lower site. Increase in cover from riparian vegetation within the exclosure has helped reduce the high water temperatures of the SFLHR leaving the Little Humboldt allotment.

Figure 1. Maximum daily water temperatures recorded for LCT streams on the Little Humboldt Allotment between 7/8/00 and 10/01/00.



Note: The segment of the SFLHR above its confluence with Secret Creek became dry sometime during the summer. Only data up until July 19th are considered for this site since this is the last known date in which water was observed to be present.

Table 34. Winnemucca Field Office Thermograph Data within SFLHR riparian exclosure for summers of 1996 and 1999. Upper site is at Little Humboldt/Bullhead Allotment boundary and middle site is near Snowstorm Creek.

	6/21/1996 to 9/30/1996[1]		6/21/1999 to 9/30/1999[1]	
	Upper Site	Middle Site	Upper Site	Middle Site
Maximum Temperature (°C)	26	24.2	25.3	22.9
Days exceeding 20°C(68°F) for at least 1.5 hours	53	48	63	27
Days exceeding 20°C(68°F) for at least 4 hours	41	39	29	5
Average Diurnal change in °F	10.6	7.7	12.1	6.22

[1] In 1996, thermograph data were taken every 2 hours and in 1999, thermograph data was taken every 1.5 hours.

3.9.2. Unclassified waters

Unclassified waters in the Little Humboldt, Tall Corral and Jakes Creek Allotments had no water quality analyzed. Grazing conditions can impact the water quality of these waters. Horse and cattle concentrations at springs and streams can increase suspended sediment load and cause high levels of fecal coliform. Grazing along these waters will also decrease the vegetation cover and cause increased temperatures.

Castle spring is in poor condition due to heavy horse use as observed in the 7/8/99 PFC visit. Excessive hoof action and heavy grazing contribute to increased erosion.

3.10. Wildland Fire

A summary of wildland fire occurrence was presented in Section 2.9. above.

3.10.1 Wildland Fire Rehabilitation and Stabilization

A summary of wildland fire rehabilitation and stabilization actions was presented in Section 2.9.1. above.

3.11. Wilderness Study Areas

The "study" or second phase of the BLM Wilderness Study Process was completed for the Little Humboldt River WSA during the evaluation period. The "reporting" or third phase of the Wilderness Study Process culminated in the Nevada BLM Statewide Wilderness Report in 1991. Volume II-Elko District contains the recommendations that were submitted to the President of the United States. The President approved BLM recommendations and forwarded them to Congress. The final summaries of the recommendations are contained in the Nevada Wilderness Study Area Notebook, Elko Field Office (BLM, October 2000). This Notebook is available for review at the Elko Field Office.

4.0 CONCLUSIONS

4.1. Land Use Plan Objectives

Elko Resource Area Land Use Plan (RMP/ROD) Objectives - Little Humboldt Allotment

4.1.1. Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland values.

4.1.2. Conserve and enhance terrestrial, riparian, and aquatic wildlife habitat.

4.1.3. Manage wild horse populations and habitat in the established herd areas consistent with

other resource uses.

4.1.4. Manage as wilderness those portions of the Wilderness Study Areas that are manageable as wilderness and where wilderness values are capable of balancing other resource values and uses which would be forgone.

Paradise-Denio Resource Area Land Use Plan (MFP/ROD) Objectives - Jakes Creek and Tall Corral Allotments

4.1.5. Provide forage on a sustained yield basis through natural regeneration. Reverse the downward deterioration of public grazing lands by improving 1,000,000 acres in poor condition, and 400,000 acres [acreage is for the entire Paradise-Denio Resource Area] in fair condition to good condition within 30 years [2012].

4.1.6. Improve and maintain the condition of all the aquatic habitat of each stream, lake or reservoir having the potential to support a sport fishery at a level conducive to the establishment and maintenance of a healthy fish community.

4.1.7. Improvement and maintenance of a sufficient quantity, quality and diversity of habitats for all species of wildlife in the planning area.

4.1.8. Preservation and improvement of quality water necessary to support current and future use.

4.1.9. Provision of adequate water to support public land uses.

4.1.10. Reduction of soil loss and associated flood and sediment damage from public lands caused by accelerated erosion (man-induced) from wind and water.

4.1.11. Preservation of threatened, endangered or ecologically unique plant species and/or improvement of their habitats.

The attainment or non-attainment of these general Land Use Plan objectives are addressed by the more specific Rangeland Program Summary (RPS), IMP and Key Area Objectives below.

4.2. Livestock Rangeland Program Summary Objectives -Elko (Little Humboldt Allotment)

4.2.1. In the long-term, provide forage to sustain ? (the number listed in the Elko RPS is illegible) AUMs for livestock grazing.

Not Met. The average actual use has been 6,612 AUMs and the active permitted use for the Little Humboldt and Tall Corral Allotments is 7,656 AUMs. Allotment objectives have not been

met even at the lower average actual use. With the proposed allotment boundary adjustments, the new livestock carrying capacity has been determined to be 5,213 AUMs available for livestock use on the Little Humboldt Allotment.

4.2.2. In the long-term improve ecological status from mid-seral to late-seral on 1,546 acres (2% of the allotment) and late-seral to PNC on 3,080 acres (4% of the allotment).

Partially Met. Ecological status inventory has not been repeated for the Little Humboldt Allotment. However, ecological condition has improved from mid to late seral as measured at Key Areas 4 and 5. These key areas represent approximately 30% of the allotment.

4.2.3. In the short-term, maintain or enhance native vegetation with utilization levels not to exceed 50% on the key species.

Partially Met. Utilization exceeded the 50% objective 13 out of 34 readings during the evaluation period.

4.3. Livestock Rangeland Program Summary Objectives - Winnemucca (Jakes Creek and Tall Corral Allotments)

4.3.1. Tall Corral - Provide forage to sustain an active preference of 623 AUMs.

Met. This objective has been met. The active permitted use is 623 AUMs. This objective will be modified through the proposed allotment boundary changes and the calculated carrying capacity.

Jakes Creek - Provide forage to sustain an active preference of 1,610 AUMs.

Met. This objective has been met. The active permitted use is 1,610 AUMs.

4.3.2. Tall Corral and Jakes Creek - Monitor: ecological site condition and trend; actual use; climate; range utilization; project maintenance.

Partially Met. Utilization data have been collected periodically during the evaluation period. Actual use has been submitted annually by the permittees since 1981.

4.4. Wild Horse Rangeland Program Summary Objectives -Elko (Little Humboldt Allotment)

4.4.1. Maintain management levels at 107 horses (1284 AUMs) within the Little Humboldt HMA.

Since the ROD/RPS were issued, the Interior Board of Land Appeals (IBLA) rendered a decision

which clarified that a wild horse herd size is to be established based on the concept of maintaining a thriving ecological balance. Therefore, the objective for managing wild horses has been reworded as follows:

> Manage for a wild horse herd size which will maintain a thriving ecological balance consistent with other multiple uses while remaining within the wild horse herd boundary.

Not Met. At the current population level, wild horses are not remaining in the herd area (documented wild horse use within the Tall Corral and Jakes Creek Allotments). Wild horses are contributing to the over- utilization of the key species and are also contributing to the degradation of riparian areas, and thus are not being maintained in a thriving natural ecological balance consistent with other multiple uses.

4.5.1. Wildlife Rangeland Program Summary Objectives- Elko (Little Humboldt Allotment)

4.5.1.1. Provide 1,550 AUMs for mule deer, 23 AUMs for antelope and 34 AUMs for bighorn sheep.

4.5.1.1.1. Mule deer

Met on mule deer summer range. As per BLM Manual 6630 habitat ratings criteria, monitoring data collected in 1987, 1992 and 1997 indicated that crucial mule deer summer habitat was in good to excellent condition. Habitat components that could be improved include poor habitat conditions in associated riparian areas, heavy use and poor age and form class of some key browse species (1987 - one key area), excessive shrub cover, and poor forage diversity at specific key areas.

Not been met on mule deer winter range. Although no key areas have been established on winter range, poor condition of crucial winter habitat prevails on large areas that historically provided winter range on the lower bench areas below the Owyhee Bluffs. Much of the winter range area below the Owyhee Bluffs is currently dominated by cheatgrass with little or no overstory vegetation. Overstory vegetation is needed to provide cover and forage for wintering deer. The exceptions are the winter 2001 "Oust" Seeding in the Sawtooth Pasture where results for seeding success are pending and seeding efforts on the 1991 Midas Fire that provided for sagebrush and forage kochia cover.

4.5.1.1.2. Pronghorn

Partially Met. This objective was met in 1994, but was not met in 1987 or 1997. Habitat condition studies at AS-T-87-35 (Livestock Key Area #4) indicated that the objective for reasonable numbers of antelope was met due to good habitat condition ratings in 1994.

4.5.1.1.3. California bighorn sheep

Met. Habitat conditions for bighorn sheep were not rated. However, data from a big game habitat condition study transect in potential bighorn foraging areas and information obtained from habitat surveys in occupied habitat located in steep terrain indicate that this objective is being met. Existing numbers/AUMs (1999) are currently above reasonable numbers/AUMs shown in the 1986 RMP although bighorn only currently occupy a small portion of suitable habitat in the allotment.

4.5.1.2. Maintain or improve to at least good condition all crucial mule deer, pronghorn antelope and California bighorn sheep habitat.

4.5.1.2.1. Mule deer

Met. As monitored in upland areas, this objective has been met in crucial summer habitat based on good habitat conditions. However, habitat components could be improved by a reduction in shrub cover and an increase in grass/forb composition at most key areas. Riparian areas in crucial habitat that are located in low to mid-gradient grazable areas could be improved from current poor condition. These areas have been severely impacted by continuous season-long livestock grazing and, in some areas, combined excessive wild horse use.

4.5.1.2.2. California bighorn sheep

Met. This objective has been met as indicated by big game and livestock monitoring data in crucial habitat. However, habitat components could be improved by management actions that: reduce repeated wildfires in range sites dominated by exotic annual plants, improve composition of perennial vegetation in some range sites, reduce impacts to critical water sources in low to mid-gradient grazable areas that have been impacted by continuous season-long livestock grazing, and ensure that objective utilization levels for key herbaceous species are not exceeded. Heavy to severe herbaceous plant utilization was measured only at Key Area LH-01 during 1990, 1991, and 1992).

4.5.1.2.3. Pronghorn

Unknown. No study sites have been established on winter habitat which is designated as being crucial. A large percentage of the area has been impacted by the recent wildland fires and seeded with mixtures to help rehabilitate wildlife habitat including pronghorn winter habitat.

4.5.1.3. Manage rangeland to protect or enhance crucial sage grouse strutting grounds.

This objective has been modified as follows to include nesting habitat as per BLM policy for management of BLM Sensitive Species:

Manage rangeland to protect or enhance crucial sage grouse strutting or nesting habitat.

4.5.1.3.1. Strutting Habitat

Unknown. There are two documented leks in the allotment near Summit Creek. Season-long cattle grazing and spring sheep use may have had a negative impact on the vegetative composition of strutting habitat and breeding activities in this area. However, there are no key areas established in this area and there are no monitoring data collected to evaluate the habitat conditions in this area.

4.5.1.3.2. Nesting Habitat

Partially met. This objective was not met at three of the four key areas evaluated in close proximity to documented leks that occur outside of the allotment. Conditions were generally satisfactory only at Key Area LH-04 (Castle Ridge). (Key areas evaluated were LH-01, LH-02, LH-04, CDS-LH-01-92. See Map 6 for locations).

At Key Areas LH-01 and CDS-LH-01-92, which are located in close proximity to leks that are within one mile of the allotment boundary (see Map 6), monitoring has indicated that forb composition is a limiting factor at potential lek-associated resting and foraging areas. Shrub cover at CDS-LH-01-92 exceeds desired upper limit cover values which may decrease the potential for adequate forbs which are needed in sage grouse diets during the latter part of the mating season.
Data obtained from big game habitat condition studies indicate that shrub foliar cover associated with sage grouse nesting habitat was excessive at all four study area sites in regard to limiting the growth of herbaceous cover in given vegetation types (Table 21). It is unknown if the average height of understory and understory basal cover associated with sage grouse nesting cover is satisfactory; however, perennial grass utilization has been above objective levels for LH-01 and LH-02 for 70% of all readings. From 1982 to 1997, the numerical rating of the ecological status of Key Area LH-01 was up from 39 to 47, but remained in mid-seral status. At Key Area LH-02, the ecological status remained static at mid-seral. In 1991, perennial grass utilization was 65% by July 22 at CDS-T-01-92. This information is summarized in Table 21.

4.5.1.4. Develop a habitat management plan.

Not Met. A habitat management plan has not been completed. NEPA documentation was completed in 1985 in lieu of a Habitat Management Plan for the reintroduction of California bighorn sheep. No Habitat Management Plans have been proposed for any other wildlife species. The allotment evaluation process would be used to address wildlife issues and formulate technical recommendations that would benefit wildlife species in lieu of a formalized Habitat Management Plan.

4.5.2. Wildlife Rangeland Program Summary Objectives- Winnemucca (Jakes Creek and Tall Corral Allotments)

4.5.2.1. Tall Corral - Manage forage conditions to attain the level needed to accommodate for reasonable numbers of deer: 90 AUMs. Mule deer AUM demand is provided for analysis purposes only and does not affect AUMs estimated for livestock on the allotment.

Not Determined. No monitoring sites have been established or read.

4.5.2.2. Jakes Creek - Manage forage conditions to accommodate reasonable numbers of deer: 75 AUMs. Mule deer AUM demand is provided for analysis purposes only and does not affect AUMs estimated for livestock on the allotment.

Not Determined. No monitoring sites have been established or read.

4.5.2.3. Tall Corral - Assure available water for wildlife.

Not Determined. The majority of the water sources within this allotment are on private lands and have been historically available for wildlife use. The BLM has not filed for Public Water Reserves (PWR) or Certificated Water Rights with a beneficial use for wildlife.

4.6. Wildlife Key Area Objectives - Elko (Little Humboldt Allotment)

4.6.1. Key Areas CDS-T-87-33 and CDS-T-87-36; crucial deer summer habitat.

4.6.1.1. The form and age class of mountain big sagebrush will be maintained in satisfactory condition.

Met. This objective has been met.

4.6.1.2. Maintain 20% or less absolute shrub foliar cover.

Not met. This objective has not been met. Absolute shrub foliar cover was excessive in 1997 (ranging from 32% to 53%) at the two key area transects where mountain big sagebrush is the dominant overstory species.

4.6.2. Key Area CDS-T-87-34; crucial deer summer habitat.

4.6.2.1. The degree of allowable current year's growth of bitterbrush will not exceed 50% as measured either in the summer period, or as measured during collection of actual use data during the late fall period after both livestock and wildlife have grazed/browsed.

Partially met. Bitterbrush use was heavy (80%) on August 10, 1987, and no use was observed on August 21, 1997.

4.6.2.2. The form and age class of bitterbrush will be maintained in satisfactory condition.

Partially met. The form and age class of bitterbrush was in unsatisfactory condition in1987; both classes improved to satisfactory condition in 1997.

4.6.2.3. Maintain 30% or less absolute shrub foliar cover.

Not met. Absolute shrub canopy cover was 39% in 1997 at the key area transect where mountain big sagebrush and bitterbrush are the dominant overstory shrubs.

4.6.3. Key Areas CDS-T-87-37, CDS-LH-92-01 and CDS-LH-92-03; crucial deer summer habitat.

4.6.3.1. The degree of allowable use of snowberry will not exceed 50% as measured during or at the end of given year's grazing season.

CDS-T-87-37

Not met. In 1987 use was 55-60%. No further monitoring at this remote site was conducted after 1987.

CDS-LH-92-01 and CDS-LH-92-03

Met. In 1997 utilization was 0% at these two key areas.

4.6.3.2. The form and age class of snowberry will be maintained in satisfactory condition.

Met. Form and age class was satisfactory as measured during big game habitat monitoring during the mid to late summer period.

4.6.3.3. Maintain 20% or less absolute shrub foliar cover.

Not met. In 1987, absolute shrub foliar cover was excessive at one key area (36%) and was excessive at two key areas in 1997 (36% and 55%).

4.6.4. Key Area AS-T-87-35 (Livestock Key Area #4); pronghorn summer habitat.

4.6.4.1. The form and age class of Wyoming big sagebrush will be maintained in satisfactory condition.

Met. The form and age class of big sagebrush was in satisfactory condition as measured at the key area in 1987, 1994 and 1997.

4.6.4.2. Maintain 15% or less absolute shrub foliar cover.

Not met. Absolute shrub canopy cover was 20% in 1987 and 16% in 1997.

4.6.5. Key Area CDS-LH-92-02; crucial mule deer summer habitat and crucial bighorn yearlong habitat.

4.6.5.1. The form and age class of mountain big sagebrush will be maintained in satisfactory condition.

Met. The form and age class of mountain big sagebrush was in satisfactory condition as measured at the key area in 1992 and 1997.

4.6.5.2. The degree of allowable summer use of Idaho fescue and buckwheat will not exceed 50% of current year's growth as measured at the key area.

Partially Met. Utilization of Idaho fescue was 48% in July of 1992. Use pattern mapping in 1987 shows moderate herbaceous plant use (41-60%), and 1994 and 1997 show light herbaceous plant use(21-40%).

Not determined. No utilization data were available for buckwheat in 1992.

4.6.5.3. Maintain 20% or less absolute shrub foliar cover.

Not met. Absolute shrub canopy cover was excessive (33-36%) at the key area transect where mountain big sagebrush is the dominant overstory vegetation in 1992 and 1997, respectively.

4.7. Livestock Key Area Objectives

The Elko RPS established the following objective: In the short term, maintain or enhance native vegetation with utilization levels not to exceed 50% on the key species.

Key Area 1 - Not Met. Utilization exceeded 50% 5 out of 7 readings.
Key Area 2 - Not Met. Utilization exceeded 50% 7 out of 10 readings.
Key Area 3 - Not applicable . Utilization was less than 50% 2 out of 3 readings; however, this site is composed of cheatgrass which is not a native key species.
Key Area 4 - Met. Utilization was less than 50% 10 out of 11 readings.
Key Area 5 - Met. Utilization was less than 50% 6 out of 6 readings.

4.8. Threatened, Endangered, Candidate, and BLM Sensitive Species of Plants and Animals Objectives

No objectives have been established. Refer to objectives for Wildlife and for Aquatic and Riparian Habitats.

4.9.1. Fisheries/Riparian Habitats Rangeland Program Summary Objectives - Elko (Little Humboldt Allotment)

No fisheries/riparian objectives have been established for the Winnemucca Field Office, Jakes Creek and Tall Corral Allotments.

4.9.1.1. Improve and maintain habitat condition of meadows and riparian areas for mule deer, pronghorn antelope, bighorn sheep and Lahontan cutthroat trout and raptors on 1.5 miles of the South Fork of the Little Humboldt River, 5.0 miles of the South Fork of Jakes Creek, 2.5 miles of the North Fork of Jakes Creek and 1.0 miles of Sheep Creek. Techniques which would result in a minimum improvement of 30% in habitat condition in the short-term from the date of implementation would be used.

Not met in the SFLHR Basin. This objective has not been met for public land portions of the SFLHR and Sheep Creeks.; stream and riparian habitat conditions for these systems are poor or have declined over the evaluation period.

Met on North and South Fork Jakes Creek. This objective has been met for the North Fork and South Fork of Jakes Creek in the Jakes Creek Pasture where stream survey data show conditions on public lands are generally good. The public land portions of these creeks are mainly canyon areas which are less accessible to livestock.

4.9.1.2. Utilization levels will not exceed 50% on meadow and riparian areas.

Partially met. Utilization has exceeded 50% on approximately ½ of the meadow and riparian areas monitored in 2000 and 2001.

4.9.2. USF&W Biological Opinion (BO) Objectives for 2001.

The U.S. Fish and Wildlife Service completed BOs for the 1999, 2000, and 2001 interim livestock grazing use. Terms and conditions described in the BO are non-discretionary, and BLM must comply with their direction. The 2001 interim grazing decision for the SFLHR basin portion of the Little Humboldt Allotment: (1.) required the completion of the "Blue fence" separating the basin into two pastures before August, (2.) provided for livestock use in the South Basin Pasture from April 1 through July 15, (3.) provided for livestock use in the north basin pasture from September 15 through October 31, (4.) required removal of all livestock from the basin during the period of July 16 through September 14, and (5.) authorized a maximum of 600

head of livestock within the SFLHR basin at any one time.

The BO also required BLM to monitor herbaceous stubble height, woody species utilization, and streambank trampling during the 2001 grazing season to determine whether or not the grazing program impedes the recovery of LCT habitat within the SFLHR basin. Monitoring would be conducted in the South Basin Pasture after July 15 and at the end of the growing season. The North Basin Pasture would be monitored in October. The following standards were required as part of the terms and conditions for the SFLHR basin:

A. Riparian herbaceous vegetation would be 6 inches at the end of the growing season.
B. Utilization of woody riparian vegetation (aspen and willow) would not exceed 20% of current years growth.
C. Streambank trampling would not exceed 10%.

Not Met. Livestock were in the South Basin Pasture during the proper season of use and were removed on schedule, but livestock returned to the pasture as the summer progressed, because of the unsuitable conditions in the Castle Ridge Pasture which included lack of water and feed and competition with wild horses. Fencing was not completed on the private lands as planned by Oro Vaca, Inc. which allowed cattle access to both the North Basin Pasture and the South Basin Pasture causing non-compliance with the authorization for 2001. Trespass use occurred in the North Basin Pasture from the Bullhead Allotment in August, and authorized cattle remained in the North Basin Pasture after the October 31 off-date which resulted in a trespass action. In addition, more than the 600 head authorized within the pasture at any one time was exceeded, again adding to the trespass action taken by the BLM.

Monitoring results indicated the end of season utilization of riparian herbaceous and woody plant species exceeded the FWS terms and conditions from the BO. Utilization of riparian herbaceous vegetation ranged from 29 to 63% with utilization exceeding 30% at 8 of 9 transect sites measured. Stubble height of riparian herbaceous vegetation ranged from 0.8 to 2.2 inches. Aspen utilization ranged from 58 to 87% and willow utilization ranged from 51 to 90% on 7 sites by October 3. By October 3, streambank trampling ranged from 16 to 57% on 9 transect sites (BLM 2001b).

Monitoring conducted in the SFLHR basin, Little Humboldt Allotment in 2001 showed utilization, stubble height, and streambank trampling exceeded limits established in the FWS BO as a result of livestock use for all three LCT streams evaluated, despite separation of the basin into 2 pastures with a reduced season of use and an authorization for 600 head of livestock.

4.10.1. Water Quality Rangeland Program Summary Objectives - Elko (Little Humboldt Allotment)

No objectives established.

4.10.2. Water Quality - Paradise-Denio MFP- Winnemucca (Jakes Creek and Tall Corral Allotments)

4.10.2.1. Prevent Bureau and Bureau-authorized activities from degrading water quality beyond established standards as specified in the Nevada Water Pollution Control Regulations of 1978 and the Memorandum of Understanding of December 1980 between BLM and the State of Nevada, Division of Environmental Protection, concerning diffuse source water pollution and the Nevada State 208 Water Quality Plan.

The standards established in the Nevada Water Pollution Control Regulations of 1978 have been revised in the Nevada Water Quality Regulations of 1997.

Not determined. There are no water quality data collected to determine if other streams in the Tall Corral and Jakes Creek allotments are meeting State standards.

4.10.2.2. Employ feasible Best Management Practices as outlined in the Handbook of Best Management Practices, State of Nevada, in all public land activities (providing the BMPs do not conflict with BLM policy and procedures).

Partially met. Grazing management used on this allotment has not utilized BMPs such as rest rotation or deferred grazing in the past. No water developments on public land such as wells, stockponds, and spring developments (pipelines/fencing) have been developed to better distribute livestock grazing and meet BMPs.

BMPs were met for maintaining and improving vegetation to protect soil cover and prevent erosion in areas burned in the Kelly Creek and Tall Corral wildland fires through seedings implemented with vegetation adapted to soil type, slope and climates, following the BMPs criteria.

4.11. Wildland Fire Rangeland Program Summary Objectives

No objectives established.

4.12. Wilderness Study Areas Elko IMP Objective

Manage and protect those public lands which are under wilderness review, in such a manner so as not to impair their suitability for preservation as wilderness, until they are designated by Congress as wilderness, or until they are released from further wilderness consideration (IMP objective).

Met. Evaluation of WSA surveillance records and IMP Notice of Proposed Actions within the Little Humboldt Allotment indicate that there have been only minor violations to the IMP and

that these violations have been addressed. Uses that continue to effect the Little Humboldt River WSA include off-highway vehicle (OHV) activities, including disturbances off established roads and ways and activities associated with the private land in-holdings. These activities as well as other uses (such as grazing and wildland fires) will continue to be monitored within the Little Humboldt Allotment to ensure continued compliance with the IMP.

5.0. STANDARDS AND GUIDELINES FOR RANGELAND HEALTH

The attainment of these standards has been based on the analysis of available monitoring data within each allotment. Those areas not meeting the standard are identified in the following section. All other areas not mentioned are currently meeting the standards.

Where the standard is not being met, the causal factor(s) for the non-attainment of the standard are discussed as well as any significant progress that is being made.

Standard 1. *Upland Sites: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form.*

Some progress is being made toward attainment of this standard. As per Instruction Memorandum #NV-98-014, the BLM evaluated utilization, line intercept and ecological status at key areas to determine whether or not progress is being made towards the attainment of this standard. Overall infiltration and permeability rates are acceptable within the unburned areas. In addition, observations of soil stability and movement were made during wildland fire rehabilitation tours for the Clover, Kelly and Ranch wildland fires. Following wildland fires, areas that have become dominated by cheatgrass or recently burned areas are likely to have some accelerated erosion on steeper slopes until rehabilitation efforts are established.

Observations indicate that wildland fire is the primary causal factor for non-attainment of this standard.

Standard 2. *Riparian and Wetland Sites: Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.*

Proper Functioning Condition

Not Met. This standard has not been met for public land portions of the SFLHR, Sheep Creek, Secret Creek and Oregon Canyon except in areas inaccessible to livestock. This objective has been met for the public lands portion of North Fork of Jakes Creek, the South Fork of Jakes Creek and Kelly Creek.

Livestock management practices are the primary causal factor for the non-attainment of the PFC portion of this standard for most of the allotment. Wild horses are a significant causal factor for the non-attainment of this standard at upland seeps and springs in the Castle Ridge area of the Little Humboldt Allotment.

State Water Quality Criteria

Little Humboldt Allotment

Not Met/Partially Not Determined. State water quality standards for fecal coliform and turbidity on the SFLHR were not met in 1977. State water quality standards for temperature (20°c) were not met from 1995 to 2000 in the SFLHR. Temperature monitoring conducted by the Winnemucca Field Office on this river at the Little Humboldt/Bullhead allotment boundary occurred from 1995 to 2000 and showed exceedence of 20°c for at least 1.5 hours for a minimum of 52 days out of 102 day sampling period. There is insufficient data to determine if other water quality parameters are meeting State standards in the SFLHR.

The springs and seeps on public lands in the Little Humboldt Allotment would fall under state water standards for unclassified water. However, there are no water quality data collected to determine if waters within the Little Humboldt Allotment are meeting State standards.

The primary causal factor for the partial non-attainment of this standard has been determined to be livestock management practices. Stream survey monitoring has shown a lack of woody and herbaceous cover along the SFLHR which has resulted in increased water temperatures.

Jakes Creek and Tall Corral Allotments

Not determined. The streams, springs and seeps on public lands in the Jakes Creek and Tall Corral fall under state water quality standards for unclassified water. However, there are no water quality data collected to determine if waters within the Tall Corral and Jakes Creek allotments are meeting State standards.

Standard 3. *Habitat: Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet life cycle requirements of threatened and endangered species.*

Mule Deer

Some progress has been made towards the attainment of this standard. Overall, habitat condition ratings for crucial mule deer summer habitat in the Little Humboldt Allotment are good. However, although the overall rating was good, some habitat components could be improved which would enhance wildlife habitat such forage diversity and bitterbrush form and age class. Generally, uplands on the Little Humboldt Allotment are dominated by heavy shrub composition that results in limited growth of grasses and forbs.

Attainment of this standard has not been determined for the Jakes Creek and Tall Corral Allotments. Mule deer habitat condition data have not been collected on these allotments.

Pronghorn Antelope

Some progress has been made towards the attainment of this standard - Little Humboldt Allotment. Pronghorn summer habitat conditions range from good to fair. Habitat components that could be improved include poor riparian habitat and excessive shrub foliar cover.

Attainment of this standard has not been determined for the Jakes Creek and Tall Corral Allotments. Pronghorn habitat condition data have not been collected on these allotments.

Bighorn Sheep

Met. Objectives for reasonable numbers outlined in the RPS have been exceeded. The habitat condition rating has been met as indicated by big game and livestock monitoring data in crucial habitat. However, habitat components could be improved by management actions that: reduce repeated wildfires in range sites dominated by exotic annual plants, improve composition of perennial vegetation in some range sites, reduce impacts to critical water sources in low to mid-gradient grazable areas that have been impacted by continuous season-long livestock grazing. Approximately 1,500 acres were seeded within a 3,000 acre block as part of the 2000 Kelly Fire rehabilitation efforts. This seeding emphasized rehabilitation of bighorn habitat.

Sage Grouse - Strutting Habitat

Not determined. It is unknown if domestic sheep and cattle grazing has had a negative impact on the vegetative composition of strutting and nesting habitat and breeding activities in the area of Summit Creek where there are two documented leks. No sage grouse monitoring has been conducted in this area.

Sage Grouse - Nesting, Brood-Rearing and Loafing Habitat Associated with Leks

Partially Met. Sage grouse habitat conditions in the Oregon Canyon/Brush Creek areas are less than optimum. Data indicate that forb composition is a limiting factor. Brush cover exceeds the desired upper levels which has led to a decrease in herbaceous composition.

Lek-Associated Forage and Resting Areas

Partially Met. At Key Areas LH-01 and CDS-LH-01-92, which are located in close proximity to leks that are within one mile of the allotment boundary, monitoring has indicated that forb composition is a limiting factor at potential lek-associated resting and foraging areas. Shrub cover at CDS-LH-01-92 exceeds desired upper limit cover values which may decrease the potential for adequate forbs which are needed in sage grouse diets during the latter part of the mating season.

Nesting Habitat

Partially Met. This objective was not met at three of the four key areas evaluated in close proximity to documented leks that occur outside of the allotment. Conditions were generally satisfactory only at Key Area LH-04. (Key areas evaluated LH-01, LH-02, LH-04, CDS-LH-91-02.

Rangeland research conducted by Winward (1991) on similar vegetation types as those found on the allotment, suggests that any past and current abusive livestock grazing management practices are one of the causal factors contributing to the depletion of understory species and establishment of dense stands of sagebrush. Modern fire suppression efforts, coupled with any past and current abusive livestock grazing practices that contribute to establishment of dense stands of sagebrush and heavy shrub foliar cover, has likely exacerbated the current poor forage diversity found at many key study areas on the allotment

Lahontan Cutthroat Trout

Not Met. Throughout most of the LCT habitat within the Little Humboldt Allotment, habitat conditions are not suitable for maintaining the complete life cycle of LCT.

Livestock management practices are the primary causal factor for the non-attainment of this standard.

Wild Horses

Not Met. While the habitat is providing feed, cover, water and space necessary for the life cycle of wild horses, the current population levels of wild horses are the causal factor for the habitat not being maintained in a thriving ecological balance as evidenced by ecological status and utilization as measured at Key Area LH-01. In addition, seeps and springs, particularly at Castle Spring and the headwaters of Brush Creek are not being maintained in proper functioning condition.

Wild horse numbers and current livestock management practices are the primary causal factors in the non-attainment of this habitat standard.

Standard 4. *Cultural Resources: Land use plans will recognize cultural resources within the context of multiple use.*

Met. Based on evaluation of actions taken on these three allotments, this standard has been met. All BLM authorized range improvements that cause surface disturbance have been subject to cultural resources review and modification by BLM or contract archaeologist as required by standard operating procedure specified in the Elko RMP/ROD.

6.0. TECHNICAL RECOMMENDATIONS

The following technical recommendations have been developed to ensure progress towards attainment of the standards and guidelines for rangeland health for the Northeastern Great Basin Area of Nevada and multiple use objectives.

Livestock Grazing

6.1. Modify Allotment Boundaries

Modify the allotment boundary between the Jakes Creek and Little Humboldt Allotments, between the Jakes Creek and Tall Corral Allotments, and between the Tall Corral and Little Humboldt Allotments as shown on Map 12. The Tall Corral Allotment would be eliminated; the northeast portion would become part of the Little Humboldt Allotment, and the southwest portion would become part of the Jakes Creek Allotment.

Rationale: These boundary changes would coincide with the fences that were constructed to allow for fire rehabilitation following the Kelly Creek and Ranch Fires. These fences will enhance long-term management of the allotments and therefore, will be retained over the long-term.

6.2.1. Modify existing term permit/issue term grazing permit for Oro Vaca, Inc.

Modify the existing term grazing permit or issue a term grazing permit for Oro Vaca, Inc. as outlined in Table 35 below to reflect the allotment boundary changes outlined in Technical Recommendation 6.1. above. (No change would be made to the term grazing permits for Kenneth Buckingham or Ellison Ranching Company until the Ranch Seeding is opened to livestock grazing.) Note that grazing use that has been suspended or will be suspended due to fire closures or to meet resource objectives, such as in the SFLHR Basin, are not shown on the term permit schedule in Table 35. below but will be specified in a term and condition to the permit.

Table 35. Proposed term grazing permit for Oro Vaca, Inc.

Allotment	Pasture	Livestock Number & Kind	Begin Period	End Period	%PL	Type Use	AUMs
Jakes Creek		542 Cattle	3/16	4/15	34	Active	188
		542 Cattle	4/16	10/15	34	Active	188
		25 Horses	10/16	11/30	34	Active	51
	Jakes Creek FFR	4 Cattle	4/01	2/28	100	Custodial Grazing	50
	Total						989
Little Humboldt		100 Cattle	3/16	4/15	97	Active	99
		795 Cattle	4/16	10/31	97	Active	5,046
		200 Cattle	11/01	11/30	97	Active	191

Allotment	Pasture	Livestock Number & Kind	Begin Period	End Period	%PL	Type Use	AUMs
		25 Cattle	12/01	01/31	97	Active	49
	Total						5,385

Terms & Conditions

Grazing will be in accordance with the Final Multiple Use Decision for the Little Humboldt, Jakes Creek and Tall Corral Allotments dated _____ .

The scheduled use or use levels are subject to the permit actions specified in the Demand for Payment decision issued _____.

Grazing will be in accordance with the Agreement/Decision dated _____ for the "Notice of Closure for the Jakes Creek Allotment" following the 2001 Ranch wild fire.

Grazing will be in accordance with the Decision issued on April 20, 2001, "Notice of Closure and changes in authorized livestock use for the Little Humboldt, Tall Corral, and Jakes Creek Allotments" following the 2000 Kelly Creek wild fire.

Grazing will be in accordance with the Decision issued on December 10, 1999, "Notice of Closure for the Little Humboldt Allotment" following the 1999 Clover wild fire.

Due to the number of pastures that are closed following wild fires and other resource concerns, the variability in dates when these pastures may be re-opened to grazing, and untested grazing capacities for each pasture, a specific grazing system will be developed annually based on monitoring data and the resource considerations identified in the Final Multiple Use Decision dated _____.

The number of livestock to be grazed will remain flexible according to the needs of the permittee. The grazing plan is based on the number of AUMs that may be removed from each pasture. Livestock numbers and periods of use will be applied for on an annual basis. Deviations beyond the flexibility described in this paragraph may be allowed to meet the needs of the resources and the permittee as long as these deviations are consistent with multiple use objectives. Deviations beyond the limits of flexibility outlined above, including deviations in the turn-out date, increases in livestock numbers, and deviations from the grazing plan will require an application and written authorization from the authorized officer.

Moves between pastures may vary by three days before or after the scheduled dates outlined in the annual authorization, except for the riparian pastures listed below. The permittee may begin to gather and move livestock within three days prior to the last day allowed in a pasture and up to

three days after the last day allowed in a pasture as outlined in the annual authorization. Therefore, some livestock may enter the next pasture a few days earlier than the first on-date. This flexibility does not allow use in excess of the carrying capacity of the pastures. Because of riparian concerns, no flexibility will be allowed within the following riparian pastures:

Jakes Creek Pasture:	fall use: no flexibility in on-date
	spring use: no flexibility in off-date
Basin Pasture North:	fall use: no flexibility in on-date
	spring use: no flexibility in off-date
Basin Pasture South:	fall use: no flexibility in on-date
	spring use: no flexibility in off-date

The purpose of livestock trailing within the Basin North Pasture is to allow livestock to move from the Jakes Creek Pasture to the Castle Ridge Pasture or vice versa. All livestock being trailed at any one time will leave the Jakes Creek Pasture and enter and leave the Basin North Pasture all in the same day. All livestock entering the Basin North Pasture will be attended by riders at all times. No overnight stops will be allowed. All trailing will occur along the road and/or ridges away from the Sheep Creek and Pole Creek drainages. All trailing will occur within the last seven days of the scheduled use in the pasture cattle are trailing from. If terms and conditions for trailing are violated during the interim grazing system period, trail use through the Basin North Pasture will not be allowed the following year. If terms and conditions for trailing are violated during implementation of the final grazing system, adjustments in authorized use will be made. Adjustments may include a reduction of grazing use within the North Basin Pasture of 25% or more during the current grazing season or the following grazing season or a suspension of trailing privileges during the current grazing season that season or the next.

The permittee is responsible for ongoing observations to ensure that stubble height, streambank trampling criteria, upland and riparian utilization associated with livestock use are not exceeded. The BLM will provide information and or training to the permittee on the standard methodology used to monitor stubble height, utilization and streambank trampling if necessary or requested. The BLM will continue to monitor to ensure that the permittee complies with the criteria. If problems are identified, the BLM and the permittee will work together to find solutions which address the problems and the annual grazing system will be adjusted the following year as needed.

Payment of grazing fees must be made within 15 days of the bill due date. Failure to pay the grazing bill within 15 days of the due date specified in the bill shall result in a late fee assessment of $25.00 or 10% of the grazing bill, whichever is greater, but not to exceed $250.00.

Terms and conditions may be modified if additional information indicates that a revision is necessary to conform with 43 CFR 4180.

Supplemental feeding is limited to salt, mineral, and/or protein supplements in block, granular, or liquid form. Such supplements will be placed at least ¼-mile from live waters (springs, streams, and troughs), wet or dry meadows, and aspen stands.

An actual use report showing use by pasture will be turned in within 15 days after completing annual use.

All riparian exclosures, including spring development exclosures, are closed to livestock use unless specifically authorized in writing by the authorized officer.

Pursuant to 43 CFR 10.4(g), the holder of this authorization must notify the authorized officer, by telephone with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects or objects of cultural patrimony. Further pursuant to the 43 CFR 10.4 (c) and (d), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.

Rationale: Through this allotment evaluation process, the BLM has determined that the above terms and conditions for grazing use are necessary to ensure significant progress toward attainment of the Standards for Rangeland Health and multiple use objectives outlined for the allotments. A reduction in permitted use was necessary within the Tall Corral and Little Humboldt Allotments based on the evaluation of the monitoring data.

The BLM will continue to conduct monitoring studies in order to determine compliance with terms and conditions outlined in the livestock grazing permit and to assess progress towards the standards for rangeland health and multiple use objectives.

Because either the North or South Basin Pastures are rested in any given year of the grazing system, the carrying capacity for the Little Humboldt Allotment is 5,385 AUMs (years when the North Pasture is rested). During years that the South Pasture is rested, the carrying capacity is 5,037 AUMs.

6.2.2. Modify the Grazing Permits for Kenneth Buckingham and Ellison Ranching Company beginning in the 2004 grazing season as follows:

Table 36. Proposed term grazing permit for Kenneth Buckingham

Allotment	Pasture	Livestock Number & Kind	Begin Period	End Period	%PL	Type Use	AUMs
Jakes Creek	Ranch Seeding	53 Cattle	4/01	7/31	98	Active	210

Terms & Conditions

Grazing will be in accordance with the Final Multiple Use Decision for the Little Humboldt, Jakes Creek and Tall Corral Allotments dated _____ .

Grazing will be in accordance with the Agreement/Decision dated _____ for the "Notice of Closure for the Jakes Creek Allotment" following the 2001 Ranch wildfire.

Grazing will be in accordance with the Decision issued on April 20, 2001, "Notice of Closure and changes in authorized livestock use for the Little Humboldt, Tall Corral, and Jakes Creek Allotments" following the 2000 Kelly Creek wildfire.

The number of livestock to be grazed will remain flexible according to the needs of the permittee. The grazing plan is based on the number of AUMs that may be removed from each pasture. Livestock numbers and periods of use will be applied for on an annual basis. Deviations beyond the flexibility described in this paragraph may be allowed to meet the needs of the resources and the permittee as long as these deviations are consistent with multiple use objectives. Deviations beyond the limits of flexibility outlined above, including deviations in the turn-out date, increases in livestock numbers, and deviations from the grazing plan will require an application and written authorization from the authorized officer.

The permittee is responsible for ongoing observations to ensure that utilization criteria associated with livestock use are not exceeded. The BLM will provide information and or training to the permittee on the standard methodology used to monitor utilization if necessary or requested. The BLM will continue to monitor to ensure that the permittee complies with the criteria. If problems are identified, the BLM and the permittee will work together to find solutions which address the problems and the annual grazing system will be adjusted the following year as needed.

Payment of grazing fees must be made within 15 days of the bill due date. Failure to pay the grazing bill within 15 days of the due date specified in the bill shall result in a late fee assessment of $25.00 or 10% of the grazing bill, whichever is greater, but not to exceed $250.00.

Terms and conditions may be modified if additional information indicates that a revision is necessary to conform with 43 CFR 4180.

Supplemental feeding is limited to salt, mineral, and/or protein supplements in block, granular, or liquid form. Such supplements will be placed at least ¼-mile from live waters (springs, streams, and troughs), wet or dry meadows, and aspen stands.

An actual use report showing use by pasture will be turned in within 15 days after completing annual use.

All riparian exclosures, including spring development exclosures, are closed to livestock use unless specifically authorized in writing by the authorized officer.

Pursuant to 43 CFR 10.4(g), the holder of this authorization must notify the authorized officer, by telephone with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects or objects of cultural patrimony. Further pursuant to the 43 CFR 10.4 (c) and (d), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.

Rationale: Through this allotment evaluation process, the BLM has determined that the above terms and conditions for grazing use are necessary to ensure significant progress toward attainment of the Standards for Rangeland Health and multiple use objectives outlined for the allotments.

The BLM will continue to conduct monitoring studies in order to determine compliance with terms and conditions outlined in the livestock grazing permit and to assess progress towards the standards for rangeland health and multiple use objectives.

Table 37. Proposed term grazing permit for Ellison Ranching Company

Allotment	Pasture	Livestock Number & Kind	Begin Period	End Period	%PL	Type Use	AUMs
Jakes Creek	Flat	1,820 sheep	5/01	6/15	89	Active	490
	Divide & Drift Thru	1,846 sheep	5/01	6/15	89	Active	497
	Total						987

Terms & Conditions

Grazing will be in accordance with the Final Multiple Use Decision for the Little Humboldt, Jakes Creek and Tall Corral Allotments dated _____ .

Grazing will be in accordance with the Agreement/Decision dated _____ for the "Notice of Closure for the Jakes Creek Allotment" following the 2001 Ranch wildfire.

The number of livestock to be grazed will remain flexible according to the needs of the permittee. The grazing plan is based on the number of AUMs that may be removed from each pasture. Livestock numbers and periods of use will be applied for on an annual basis. Deviations beyond the flexibility described in this paragraph may be allowed to meet the needs of the resources and the permittee as long as these deviations are consistent with multiple use objectives. Deviations beyond the limits of flexibility outlined above, including deviations in the turn-out date, increases in livestock numbers, and deviations from the grazing plan will require an application and written authorization from the authorized officer.

Moves between pastures may vary by three days before or after the scheduled dates outlined in the annual authorization.

The permittee is responsible for ongoing observations to ensure that utilization criteria associated with livestock use are not exceeded. The BLM will provide information and or training to the permittee on the standard methodology used to monitor utilization if necessary or requested. The BLM will continue to monitor to ensure that the permittee complies with the criteria. If problems are identified, the BLM and the permittee will work together to find solutions which address the problems and the annual grazing system will be adjusted the following year as needed.

Payment of grazing fees must be made within 15 days of the bill due date. Failure to pay the grazing bill within 15 days of the due date specified in the bill shall result in a late fee assessment of $25.00 or 10% of the grazing bill, whichever is greater, but not to exceed $250.00.

Terms and conditions may be modified if additional information indicates that a revision is necessary to conform with 43 CFR 4180.

Supplemental feeding is limited to salt, mineral, and/or protein supplements in block, granular, or liquid form. Such supplements will be placed at least ¼-mile from live waters (springs, streams, and troughs), wet or dry meadows, and aspen stands.

An actual use report showing use by pasture will be turned in within 15 days after completing annual use.

All riparian exclosures, including spring development exclosures, are closed to livestock use unless specifically authorized in writing by the authorized officer.

Pursuant to 43 CFR 10.4(g), the holder of this authorization must notify the authorized officer, by telephone with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects or objects of cultural patrimony. Further pursuant to the 43 CFR 10.4 (c) and (d), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.

Rationale: Through this allotment evaluation process, the BLM has determined that the above terms and conditions for grazing use are necessary to ensure significant progress toward attainment of the Standards for Rangeland Health and multiple use objectives outlined for the allotments.

The BLM will continue to conduct monitoring studies in order to determine compliance with terms and conditions outlined in the livestock grazing permit and to assess progress towards the standards for rangeland health and multiple use objectives.

6.3. Modify the Exchange-of-Use permit for Ellison Ranching Company as shown in Table 38. below:

Table 38. Proposed Exchange-of-Use Permit for Ellison Ranching Company.

Allotment	Pasture	Livestock Number & Kind	Begin Period	End Period	%PL	Type Use	AUMs
Little Humboldt	Spring Creek	500 sheep	5/01	5/31	N/A	Exchange of Use	99

Terms and Conditions

Domestic sheep use will continue to be restricted to that portion of the Spring Creek Pasture as outlined in the Exchange of Use Agreement dated 1996. This exchange of use permit will be cancelled upon loss of ownership or control of the private lands upon which the exchange of use permit is based. (See Map 1 for the location of the exchange of use area.)

Rationale: Exchange of Use is authorized to Ellison Ranching Company based on their lease of private lands within the Little Humboldt Allotment. Domestic sheep use is restricted to spring use only and confined to the traditional area of exchange of use within the Spring Creek Pasture to minimize potential conflicts with bighorn sheep.

6.4. Grazing System

6.4.1. Interim Grazing System

Close the South Fork Little Humboldt River basin to livestock grazing and implement the interim grazing system as outlined in Tables 39-42 below. The basin shall remain closed to livestock grazing until proper functioning condition and desired future conditions are met. PFC/DFC objectives are given in Appendix 9.

Due to the number of pastures that are closed following wild fires and other resource concerns, the variability in dates when these pastures may be re-opened to grazing, and untested grazing capacities for each pasture, a grazing system will be developed annually based on monitoring data and the resource considerations identified in the Final Multiple Use Decision dated _____ __. However, resource management criteria and carrying capacities have been identified for each pasture (see Section 3.1.3.3.). As pastures are reopened, the grazing system is implemented and new monitoring data is collected, the BLM will adjust carrying capacity as needed. A review of the new information will be necessary in approximately 5 years to determine if adjustments in carrying capacities are necessary and if progress is being made towards the Standards for Rangeland Health and multiple use objectives.

Oro Vaca, Inc. will meet with the BLM each spring to outline a specific grazing plan that will meet the criteria for each pasture as outlined.

Table 39. Interim Grazing System for 2002

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria, Restrictions or Considerations
Jakes Creek Allotment		
The Flat	694 total 373 AUMs domestic sheep & 221 AUMs cattle	Utilization shall not exceed 50% on key herbaceous species, or 30% spring use on budsage (ARSP) and shadscale (ATCO), or 45% total current year's growth on ARSP and ATCO. However, if this pasture is used annually during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%.
Ranch Seeding	0	Fire rehabilitation closure
Kelly Ck Sdg South	0	Fire rehabilitation closure
Kelly Ck Sdg North	0	Fire rehabilitation closure
Divide	0	Fire rehabilitation closure
Drift Thru	108	Utilization shall not exceed 50% on key forage species.
Little Humboldt Allotment		
1993 EFR	296	Make efficient use of cheatgrass (BRTE) monoculture until proposed rehabilitation efforts are implemented and established.
OUST/ Sawtooth Sdg	0	Fire rehabilitation closure
Spring Ck (spring)	244 cattle plus 99 Exchange of Use for domestic sheep	Combined utilization by cattle and sheep shall not exceed 50% of current year's growth of key forage species. Domestic sheep grazing use will be restricted to 5/1-5/31,one band of 500 sheep and confined to the exchange of use area outlined on Map 1.
Rim (spring)	267	If this pasture is used annually for more than just trailing during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%. If this pasture is deferred at least two out of four years until 7/1, utilization shall not exceed 50%.

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria, Restrictions or Considerations
Jakes Creek (fall)	Rest or 1,809	Fire rehabilitation closure. If criteria are met, pasture may be grazed from 9/1-11/30. Utilization shall not exceed 50% on meadow areas, 50% on upland areas or 30% on aspen. Livestock will be removed from the pasture so as not to exceed the utilization criteria.
Castle Ridge	0	Resource protection closure.
Basin North	0	Resource protection closure. No trailing use will be allowed.
Basin South	0	Resource protection closure. No trailing use will be allowed.

Table 40. Interim Grazing System for 2003

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Jakes Creek Allotment		
The Flat	694 total 373 AUMs domestic sheep & 321 AUMs cattle	Utilization shall not exceed 50% on key herbaceous species, or 30% spring use on budsage (ARSP) and ATCO, or 45% total current year's growth on ARSP and ATCO. However, if this pasture is used annually during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%.
Ranch Seeding	0	Fire rehabilitation closure
Kelly Ck Sdg South	0 (152)	Fire rehabilitation closure until criteria are met, but no later than 8/31/03 (unless a new closure agreement/decision is implemented). If this pasture is grazed, summer use would be restricted during August-October to no more than three out of four years to maintain kochia. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Kelly Ck Sdg North	0 (258)	Fire rehabilitation closure until criteria are met, but no later than 8/31/04 (unless establishment criteria are not met and a new closure agreement/decision is implemented). If this pasture is grazed, summer use would be restricted during August-October to no more than three out of four years to maintain kochia. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Divide	0	Fire rehabilitation closure
Drift Thru	108	Utilization shall not exceed 50% on key forage species.
Little Humboldt Allotment		
1993 EFR	296	Make efficient use of BRTE monoculture until proposed rehabilitation efforts are implemented and established.
OUST/ Sawtooth Sdg	479	Fire rehabilitation closure until no later than 8/1/03 (unless a new closure agreement/decision is implemented). If this pasture is grazed, summer use would be restricted during August-October to no more than three out of four years to maintain kochia. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Spring Ck (fall)	244 cattle plus 99 Exchange of Use for domestic sheep	Cattle grazing limited to fall use. Combined utilization by cattle and sheep shall not exceed 50% of current year's growth. Domestic sheep grazing use will be restricted to 5/1-5/31,one band of 500 sheep and confined to the exchange of use area outlined on Map 1.
Rim (fall)	267	If this pasture is used for more than just trailing annually during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%. If this pasture is deferred at least two out of four years until 7/1, utilization shall not exceed 50%.
Jakes Creek (spring)	1,809	Spring use, 3/16-6/30. Utilization shall not exceed 50% on meadow areas, 50% on upland areas or 30% on aspen.
Castle Ridge (summer/fall)	2,455 total (957 AUMs for wild horses and 1,498 AUMs for cattle)	Combined utilization by wild horses and livestock shall not exceed 50% of current year's growth as measured on or about 10/1 and shall not exceed 60% at the end of winter dormancy (approximately 2/28). Utilization shall not exceed 50% in lentic riparian areas.
Basin North (spring trail)	0	Resource protection closure. Livestock use is limited to trail use only between Jakes Creek and Castle Ridge Pastures based on annual authorized use in these two pastures. See terms and conditions outlined above.
Basin South	0	Resource protection closure. No trailing use will be allowed.

Table 41. Interim Grazing System for 2004

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Jakes Creek Allotment		
The Flat	694 total 490 AUMs domestic sheep & 204 AUMs cattle	Utilization shall not exceed 50% on key herbaceous species, or 30% spring use on ARSP and ATCO, or 45% total current year's growth on ARSP and ATCO. However, if this pasture is used annually during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%.
Ranch Seeding	349	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Kelly Ck Sdg South	152	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Kelly Ck Sdg North	258	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Divide	575	Utilization shall not exceed 50% on key forage species. Domestic sheep use limited to a total of 497 AUMs for both the Divide and Drift Thru Pastures.
Drift Thru	108	Utilization shall not exceed 50% on key forage species.
Little Humboldt Allotment		
1993 EFR	296	Make efficient use of BRTE monoculture until proposed rehabilitation efforts are implemented and established.
OUST/ Sawtooth Sdg	479	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Spring Ck (spring)	244 cattle plus 99 Exchange of Use for domestic sheep	Cattle grazing limited to spring use. Combined utilization by cattle and sheep shall not exceed 50% of current year's growth. Domestic sheep grazing use will be restricted to 5/1-5/31,one band of 500 sheep and confined to the exchange of use area outlined on Map 1.
Rim (spring)	267	If this pasture is used for more than just trailing annually during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%. If this pasture is deferred at least two out of four years until 7/1, utilization shall not exceed 50%.
Jakes Creek (fall)	1,809	Fall use, 9/16-11/30. Utilization shall not exceed 50% on meadow areas, 50% on upland areas or 30% on aspen.
Castle Ridge (summer/fall)	2,455 total (957 AUMs for wild horses and 1,498 AUMs for cattle)	Combined utilization by wild horses and livestock shall not exceed 50% of current year's growth as measured on or about 10/1 and shall not exceed 60% at the end of winter dormancy (approximately 2/28). Utilization shall not exceed 50% in lentic riparian areas.
Basin North (fall trail)	0	Resource protection closure. Livestock use is limited to trail use only between Castle Ridge and Jakes Creek Pastures based on annual authorized use in these two pastures. See terms and conditions outlined above.
Basin South	0	Resource protection closure. No trailing use will be allowed.

Table 42. Interim Grazing System for 2005

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Jakes Creek Allotment		
The Flat	694 total 490 AUMs domestic sheep & 204 AUMs cattle	Utilization shall not exceed 50% on key herbaceous species, or 30% spring use on ARSP and ATCO, or 45% total current year's growth on ARSP and ATCO. However, if this pasture is used annually during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%.

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Ranch Seeding	349	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Kelly Ck Sdg South	152	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Kelly Ck Sdg North	258	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Divide	575	Utilization shall not exceed 50% on key forage species. Domestic sheep use limited to a total of 497 AUMs for both the Divide and Drift Thru Pastures.
Drift Thru	108	Utilization shall not exceed 50% on key forage species.
Little Humboldt Allotment		
1993 EFR	296	Make efficient use of BRTE monoculture until proposed rehabilitation efforts are implemented and established.
OUST/ Sawtooth Sdg	479	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Spring Ck (fall)	244 cattle plus 99 Exchange of Use for domestic sheep	Cattle grazing limited to fall use. Combined utilization by cattle and sheep shall not exceed 50% of current year's growth. Domestic sheep grazing use will be restricted to 5/1-5/31,one band of 500 sheep and confined to the exchange of use area outlined on Map 1.
Rim (fall)	267	If this pasture is used annually for more than just trailing during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%. If this pasture is deferred at least two out of four years until 7/1, utilization shall not exceed 50%.

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Jakes Creek (spring)	1,809	Spring use, 3/16-6/30. Utilization shall not exceed 50% on meadow areas, 50% on upland areas or 30% on aspen.
Castle Ridge (summer/fall)	2,455 total (957 AUMs for wild horses and 1,498 AUMs for cattle)	Combined utilization by wild horses and livestock shall not exceed 50% of current year's growth as measured on or about 10/1 and shall not exceed 60% at the end of winter dormancy (approximately 2/28.) Utilization shall not exceed 50% in lentic riparian areas.
Basin North (spring trail)	0	Resource protection closure. Livestock use is limited to trail use only between Jakes Creek and Castle Ridge Pastures based on annual authorized use in these two pastures. See terms and conditions outlined above.
Basin South	Rest	Resource protection closure. No trailing use will be allowed.

Continue with this interim grazing system until PFC/DFC criteria are met for the SFLHR basin and a determination is made that grazing can resume in the basin.

Rationale: This grazing closure of the SFLHR Basin as outlined above, would allow for attainment of DFC objectives and ensure significant progress towards and attainment of the rangeland health riparian standards, the habitat standards and the RMP objectives. Achievement of these standards and RMP objectives will ensure that streams will have a low width to depth ratio appropriate for the associated channel type with streambanks and floodplain areas in stable and densely vegetated condition with a riparian herbaceous plant community dominated by Nebraska sedge where appropriate to site potential. Areas of active erosion would be limited to bank sloughing associated with natural processes of channel evolution. The long-term objectives are to ensure maintenance of DFC. Precipitation controls the extent of vegetative growth available for livestock grazing in the SFLHR basin as elsewhere. Data from 1981 to current indicates that at least 60% of the years have less than average precipitation, and as a consequence less than average vegetative growth for livestock use. Stubble height, streambank trampling, and riparian herbaceous and woody species utilization data collected in 1999-2001 were during a dry period with 2 years of extreme drought conditions (2000, 2001). In addition, stream survey data was collected in other years within the basin. Grazing within the SFLHR basin should be authorized for the worst case condition (2000/2001) and additional grazing authorized when vegetative and range conditions meet standards. Trailing use is limited in duration, restricted to along the road and/or along ridges, and would not include any overnight stops within the North Basin Pasture. This limited trailing use will ensure that livestock trailing will provide for improvement of the riparian conditions and not negatively impact Lahontan cutthroat trout habitat.

Closing the Castle Ridge Pasture to livestock grazing is necessary due to the current overpopulation of wild horses. Based on the calculated carrying capacity, wild horses will have exceeded the capacity of the pasture. A gather is planned for the Summer of 2002. Once horse numbers are to AML, the pasture can again be open to livestock grazing.

Limiting the amount of summer/fall use in the Kelly Creek North, Kelly Creek South, Ranch Seeding, and OUST/Sawtooth Spring Seeding Pastures will ensure that the forage kochia will have an opportunity to drop seed periodically to maintain its population in the plant community. The forage kochia is especially important for mule deer.

Limiting overall cattle use and implementing a deferred rotation grazing system for cattle use within the Spring Creek Pasture should enhance vegetative conditions for sage grouse. In addition, domestic sheep use will continue to be restricted to spring use within the Spring Creek Pasture. The season-of-use for domestic sheep use (5/1-5/31) will avoid disturbances to sage grouse strutting earlier in the spring. This restriction of domestic sheep use to spring use only will also help to minimize any potential conflicts due to mixing between bighorn sheep and domestic sheep.

The outlined grazing system provides for alternate years of early use and alternate years of deferment in the Jakes Creek Pasture. This rotation will provide adequate deferment to upland species to allow for seed set and reproduction. The alternate early use reduces the amount of hot season grazing that would occur on stream, meadow, and aspen riparian areas. Current stream survey data indicate that public portions of these streams are in Proper Functioning Condition and stream/habitat conditions are met under current management.

Combined use by livestock and wild horses within the Castle Ridge Pasture will be limited to 50% at the end of the grazing season and total utilization of 60% at the end of winter dormancy. Current data within this pasture shows ecological status has been maintained in high mid-seral status with season long wild horse use , however the springs and seeps located at the head of Oregon Canyon and Brush Creeks are not in proper functioning condition. In addition, there has historically been little to no livestock use in the pasture due to the number of wild horse and the non-functional Castle Springs Pipeline. Limiting the combined use by wild horses and livestock to 50% at the end of the grazing season will help to attain the upland standards and ensure a thriving natural ecological balance between wild horse and other resources.

6.4.2. Long Term Grazing System

Implement the long term or final grazing system upon meeting short term objectives. Manage grazing on the SFLHR basin streams to achieve long-term stream/riparian habitat objectives outlined in Appendix 9. Livestock grazing would be authorized at appropriate levels to maintain and improve conditions over the long-term as outlined in the grazing system in Technical Recommendation 6.4. Annual riparian stubble height and streambank trampling objectives will be established to ensure significant progress towards attainment of objectives is being made.

Streambank trampling should not exceed 10% for any year. Light grazing use of herbaceous riparian vegetation is recommended with a goal of maintaining 4 inch stubble height when livestock are removed, with a desired goal of having 6 inch stubble height at the end of the growing season. An interdisciplinary team will assess if significant progress is being made toward meeting multiple use objectives on the SFLHR, Secret, Sheep, Oregon Canyon, and Pole creeks as described above.

The long term or final grazing system is outlined on Tables 43 and 44 below. As stated above, due to the variability in dates when pastures may be re-opened to grazing and the untested grazing capacities for each pasture, a grazing system will still be developed annually based on monitoring data and the resource considerations identified in the Final Multiple Use Decision dated _____. The resource management criteria and carrying capacities that have been identified for each pasture will remain in place until such time as new monitoring data is evaluated. A review of the new information will be necessary in approximately 5 years to determine if adjustments in carrying capacities are necessary and if progress is being made towards the Standards for Rangeland Health and multiple use objectives.

Table 43. Final Grazing System (Even Years) - Final Grazing System will be implemented upon meeting PFC/DFC riparian criteria in the Basin North and South Pastures.

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Jakes Creek Allotment		
The Flat	694 total 490 AUMs domestic sheep & 204 AUMs cattle	Utilization shall not exceed 50% on key herbaceous species, or 30% spring use on ARSP and ATCO, or 45% total current year's growth on ARSP and ATCO. However, if this pasture is used annually during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%.
Ranch Seeding	349	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Kelly Ck Sdg South	152	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Kelly Ck Sdg North	258	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Divide	575	Utilization shall not exceed 50% on key forage species. Domestic sheep use limited to a total of 497 AUMs for both the Divide and Drift Thru Pastures.
Drift Thru	108	Utilization shall not exceed 50% on key forage species.
Little Humboldt Allotment		
1993 EFR	296	Make efficient use of BRTE monoculture until proposed rehabilitation efforts are implemented and established. Following establishment of rehabilitation efforts, to maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years.
OUST/ Sawtooth Sdg	479	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Spring Ck (spring)	244 cattle plus 99 Exchange of Use for domestic sheep	Cattle grazing limited to spring use. Combined utilization by cattle and sheep shall not exceed 50% of current year's growth. Domestic sheep grazing use will be restricted to 5/1-5/31,one band of 500 sheep and confined to the exchange of use area outlined on Map 1.
Rim (spring)	267	If this pasture is used annually for more than just trailing during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%. If this pasture is deferred at least two out of four years until 7/1, utilization shall not exceed 50%.
Jakes Creek (fall)	1,809	Fall use, 9/16-11/30. Utilization shall not exceed 50% on meadow areas, 50% on upland areas or 30% on aspen.
Castle Ridge (summer/fall)	2,455 total (957 AUMs for wild horses and 1,498 AUMs for cattle)	Combined utilization by wild horses and livestock shall not exceed 50% of current year's growth as measured on or about 10/1 and shall not exceed 60% at the end of winter dormancy (approximately 2/28.)

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Basin North	444	This pasture may be used in either the spring (use prior to 7/1) or the fall (9/16-10/15). However, the pasture cannot be used in both the spring and the fall of the same year. Herbaceous utilization shall ensure a 4" stubble height when livestock are removed. Woody utilization shall not exceed 20% on willows or 10% on aspen. Streambank trampling shall not exceed 10%. This pasture will be rested following any year of grazing use.
Basin South	Rest	Rest. No trailing use will be allowed.

Table 44. Final Grazing System (Odd Years) - Final Grazing System will be implemented upon meeting PFC/DFC riparian criteria in the Basin North and South Pastures.

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Jakes Creek Allotment		
The Flat	694 total 490 AUMs domestic sheep & 204 AUMs cattle	Utilization shall not exceed 50% on key herbaceous species, or 30% spring use on ARSP and ATCO, or 45% total current year's growth on ARSP and ATCO. However, if this pasture is used annually during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%.
Ranch Seeding	349	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Kelly Ck Sdg South	152	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Kelly Ck Sdg North	258	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Divide	575	Utilization shall not exceed 50% on key forage species. Domestic sheep use limited to a total of 497 AUMs for both the Divide and Drift Thru Pastures.

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Drift Thru	108	Utilization shall not exceed 50% on key forage species.
Little Humboldt Allotment		
1993 EFR	296	Make efficient use of BRTE monoculture until proposed rehabilitation efforts are implemented and established. Following establishment of rehabilitation efforts, to maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years.
OUST/ Sawtooth Sdg	479	To maintain kochia within the seeding, restrict summer use during August-October to no more than three out of four years. Utilization shall not exceed 50% on kochia and 65% on wheatgrass.
Spring Ck (fall)	244 cattle plus 99 Exchange of Use for domestic sheep	Cattle grazing limited to fall use. Combined utilization by cattle and sheep shall not exceed 50% of current year's growth. Domestic sheep grazing use will be restricted to 5/1-5/31,one band of 500 sheep and confined to the exchange of use area outlined on Map 1.
Rim (fall)	267	If this pasture is used annually for more than just trailing during the critical growth period of key forage species (5/1 to 6/30), utilization shall not exceed 40%. If this pasture is deferred at least two out of four years until 7/1, utilization shall not exceed 50%.
Jakes Creek (spring)	1,809	Spring use, 3/16-6/30. Utilization shall not exceed 50% on meadow areas, 50% on upland areas or 30% on aspen.
Castle Ridge (summer/fall)	2,455 total (957 AUMs for wild horses and 1,498 AUMs for cattle)	Combined utilization by wild horses and livestock shall not exceed 50% of current year's growth as measured on or about 10/1 and shall not exceed 60% at the end of winter dormancy (approximately 2/28.)
Basin North	Rest	Rest

Allotment/ Pasture	Estimated Carrying Capacity (AUMs)	Resource Criteria or Restrictions
Basin South	792	This pasture may be used in either the spring (use prior to 7/1) or the fall (9/16-10/15). However, the pasture cannot be used in both the spring and the fall of the same year. Herbaceous utilization shall ensure a 4" stubble height when livestock are removed. Woody utilization shall not exceed 20% on willows or 10% on aspen. Streambank trampling shall not exceed 10%. This pasture will be rested following any year of grazing use.

Rationale: This long term grazing system would allow for attainment of DFC objectives and ensure significant progress towards and attainment of the rangeland health riparian standards, the habitat standards and the RMP objectives. Achievement of these standards and RMP objectives will ensure that streams will have a low width to depth ratio appropriate for the associated channel type with streambanks and floodplain areas in stable and densely vegetated condition with a riparian herbaceous plant community dominated by Nebraska sedge where appropriate to site potential. Areas of active erosion would be limited to bank sloughing associated with natural processes of channel evolution.

The long-term objectives are to ensure maintenance of DFC. Precipitation controls the extent of vegetative growth available for livestock grazing in the SFLHR basin as elsewhere. Data from 1981 to current indicates that at least 60% of the years have less than average precipitation, and as a consequence less than average vegetative growth for livestock use. Stubble height, streambank trampling, and riparian herbaceous and woody species utilization data collected in 1999-2001 were during a dry period with 2 years of extreme drought conditions (2000, 2001). In addition, stream survey data was collected in other years within the basin. Grazing within the SFLHR basin should be authorized for the worst case condition (2000/2001) and additional grazing authorized when vegetative and range conditions meet standards. Monitoring data collected during 1999-2001 indicates the season of use within the North and South Basin Pastures should be no later than June 30 or restricted to fall use from September 15 to October 15 to maintain and improve riparian vegetation. Woody species (aspen and willow) utilization increases dramatically beginning in late June to early July depending upon range conditions within the North and South Basin Pastures. Aspen use is generally less in the fall, but during drier years aspen use by livestock can be fairly extensive in September, and may continue into mid-October in very dry years. Therefore, a fall season-of-use that ends by mid-October is outlined. Trailing use is limited in duration, restricted to along the road and/or along ridges, and would not include any overnight stops within the North Basin Pasture. This limited trailing use will ensure that livestock trailing will provide for improvement of the riparian conditions and not negatively impact Lahontan cutthroat trout habitat.

6.5. Range Improvements

Evaluate and construct the range improvements outlined in Table 45 below and shown on Map 13, as necessary to enhance management on the Jakes Creek and Little Humboldt Allotments. The list below includes projects proposed separately and/or by both the BLM and Oro Vaca, Inc. However, each proposed project on public lands would be evaluated prior to any development and a site-specific environmental analysis would be prepared prior to any development.

Table 45. Proposed Range Improvements for the Little Humboldt and Jakes Creek Allotments.

Ref # on Map	Range Improvement	Land Status	Units	Estimated Cost	Expected Date of Construction	Funding Source
Little Humboldt Allotment						
1	Castle Springs Pipeline Reconstruction	Public & Pvt	6.7 mi	$ 111,692	2002	BLM
2	Pole Corral Cattleguard Sec.32, T. 40 N., R. 45 E.	Pvt	1 CG	$ 3,800	2002	BLM/Oro Vaca
3-4	Pole Creek Private Pasture Gap Fences	Pvt	0.11 mi	$ 550	2002	Oro Vaca
5	Pole Creek/Oregon Flat Private Gap Fence	Pvt	0.03 mi	$ 200	2002	Oro Vaca
6	Oregon Flat Private Gap Fence	Pvt	0.03 mi	$ 200	2002	Oro Vaca
7	Castle Ridge/Rim Cattleguard (1)	Public	1 CG	$ 3,800	2002	BLM
8	Sheep Creek Private Pasture Fence	Pvt	2.5 mi	$ 12,500	2002	Oro Vaca
9-14	Secret Creek Gap Fences (6)	Pvt	0.75 mi	$ 4,365	2002	Oro Vaca
15-20	Spring/Reservoir Developments (6)	Pvt	6 dev	$ 36,000	2002	Oro Vaca

Ref # on Map	Range Improvement	Land Status	Units	Estimated Cost	Expected Date of Construction	Funding Source
21-22	Oregon Flat Public Gap Fences (2)	Public	0.4 mi	$ 2,000	2003/2004	BLM/Oro Vaca
23-25	Oregon Flat Pasture Cattleguards (3)	Public/Pvt	3 CGs	$ 11,400	2003/2004	Oro Vaca
26	Sheep Creek Gap Fence	Public	0.25 mi	$ 1,250	2003/2004	BLM
27-33	Basin Spring Dev, Pipeline & Exclosure or Reservoir (7)	Public	7 dev	$ 42,000	2004/2005	BLM
34-36	Rim Spring Dev, Pipeline & Exclosure or Reservoir (3)	Public	3 dev	$ 18,000	2004/2005	BLM
37-41	Castle Ridge Spring Dev, Pipeline & Exclosure (5)	Public	5 dev	$30,000	2003	BLM
Jakes Creek Allotment						
42	Kelly Creek Seeding Pipeline	Public & Pvt	5.4 mi	$ 66,368	2002	Oro Vaca (48%) BLM (52%)
43	1993 EFR Pasture Well and Pipeline	Public	1.5 mi	$ 43,880	2005	Oro Vaca/ BLM [1]

[1] Percentages to be determined based on location of improvement, water rights, etc.

Rationale: The majority of upland springs are badly trampled and over-grazed. BLM and the permittee will evaluate spring sites for feasability to fence spring sources and develop off-site watering facilities for livestock, wildlife, and wild horses. These proposed water developments would assist in improving grazing utilization and distribution in the uplands and reduce grazing use within stream riparian areas. Where fencing is needed to protect spring sources, aspen and willow regeneration, and improve spring sites to PFC, exclosures would be constructed and water would be provided outside of the exclosure. Where development would not enhance spring riparian resources, development would not be conducted.

The proposed reconstruction of the Castle Ridge Pipeline would improve livestock distribution within the Castle Ridge Pasture. Improved distribution of livestock within this pasture would reduce use in the upper portion of the pasture and reduce use on the seeps and springs in the Brush Creek and Oregon Canyon area. This pipeline would also enhance habitat for wild horses by providing water throughout the pasture, particularly in the summer.

Reservoirs, where feasible, would provide improved livestock distribution and reduce use on and around spring sources that are currently being over-used. Reservoirs are particularly effective where they trap snowmelt rather than affect an existing spring source.

The proposed drift fences would reduce or eliminate livestock access to the majority of the LCT streams. These fences would ensure that long-term grazing management would provide for properly functioning condition in riparian areas and provide for good to excellent fishery habitat.

Cattleguards would reduce the problems with gates left open and livestock grazing within pastures not scheduled for use at that time or for rest during the grazing season. Observations during the 2001 grazing season indicated gates left open numerous times.

Wild Horses

6.6. Set an Appropriate Management Level of 80 wild horses within the Castle Ridge Pasture of the Little Humboldt Allotment. Table 46 below displays the calculations to determine AML.

Table 46. Allocation of wild horse use within the old Little Humboldt and Tall Corral Allotments based on RMP percentages of allocation and carrying capacity.

Little Humboldt/Tall Corral Allotment			
Kind of Grazing Animal	RMP Number of AUMs	% of Total Use Allocated	Allocation of estimated Carrying Capacity based on % within the RMP (AUMs)
Livestock	8,279	87%	6,405 [1]
Wild Horses	1,284	13%	957 [1]
Total	9,563	100%	7,362 [2]

[1] Allocation of carrying capacity for livestock and wild horses was derived from multiplying the total carrying capacity by the percentage allocated to each kind of animal in the RMP. (For example, 7,362 x 13% = 957 AUMs.)
[2] Total carrying capacity derived from use pattern maps and weighted average calculations for the old Little Humboldt and Tall Corral Allotments. (See Section 3.1.3.3.)

If future adjustments are necessary to ensure proper management and a thriving ecological balance in the Castle Ridge Pasture, such adjustments would be based on monitoring. Adjustments would be pro-rated between livestock and wild horse use within the Castle Ridge

Pasture based on the relative carrying capacity allocated within this pasture. Table 47 below displays the percentages of use within the Castle Ridge Pasture. Any adjustments would be pro-rated to wild horses and livestock on a 39%:61% basis.

Table 47. Relative percentages of use allocated within the Castle Ridge Pasture.

Little Humboldt Herd Area/Castle Ridge Pasture		
Kind of Grazing Animal	Allocation of AUMs within Castle Ridge Pasture	% of Forage Allocated within the Castle Ridge Pasture
Livestock	1,498	61%
Wild Horses	957	39%
Total	2,455	100%

Rationale: Combined use carrying capacity of the Little Humboldt Allotment has been calculated at 7,362 AUMs for the Little Humboldt/Tall Corral Allotments, based on allotment boundaries as designated in the RMP (old allotment boundaries). Carrying capacity developed through monitoring is then pro-rated based on the relative percentages of use from the RMP, i.e. wild horses were allocated 13% of 7,362 AUMs or 957 AUMs. Because wild horses only use the Castle Ridge Pasture and new fencing restricts their use to Castle Ridge, all of the 957 AUMs for wild horses were allocated in this pasture.

o/o below AML

6.7. Remove a sufficient number of wild horses during the initial gather so that the population does not exceed AML in the ensuing four years. Maintain wild horse populations at a level which will maintain a thriving natural ecological balance consistent with other resource values.

Rationale: Horses should be gathered down to approximately 50 head in order to not exceed the AML in the four years between gathers. It is current BLM policy to gather each HMA once every four years. Although the strategic plan outlined a 3-year gather cycle, this 4-year cycle is in conformance with the intent of the Strategic Plan for Management of Wild Horses and Burros on Public Lands, which was signed by the BLM Director on June 4, 1992. In addition, a lower frequency of gathers provides less disturbance to the wild horses. With the horse population at or below AML, monitoring studies can be conducted to determine if further adjustments to the population need to be made.

6.8. Remove all wild horses that are occupying areas to be managed as horse free areas.

Rationale: Current census flights confirm that wild horses are occupying areas within the Jakes Creek and Tall Corral Allotments that are currently supposed to be horse free. (These areas were not designated as wild horse herd or use areas in the Paradise-Denio MFP.) In particular, wild horses are occupying the Kelly Creek North, Kelly Creek South and Ranch Seedings and are interfering with wildland fire rehabilitation objectives. As per 43 CFR 4710.4. states that,

"Management of wild horses and burros shall be undertaken with the objective of limiting the animals distribution to herd areas."
Note: On February 25, 2002, 42 wild horses were gathered and removed from the Kelly Creek and Ranch Seedings. There may still be some wild horses occupying areas outside the Little Humboldt HMA in the vicinity of Tall Corral Creek and the North and South Forks of Jakes Creek.

6.9. Establish a combined utilization criteria of 50% of key forage species by wild horses and livestock by the end of September and a utilization criteria of 60% on key forage species at the end of the winter dormancy period (2/28).

Rationale: The Elko RPS established a utilization criteria of 50% for all native species. Monitoring has indicated that this level of use or less will provide for the key forage species to complete their life cycle and set seed and reproduce adequately. Wild horses will remain in the herd area throughout the year. Total use through winter dormancy that does not exceed 60% will provide adequate litter and root crowns to maintain the key forage species in a healthy state.

Wildlife

6.10. Complete riparian plantings within the allotment where it is determined to be necessary and feasible. Protect stands using fencing techniques, if necessary.

Rationale: Adverse impacts to riparian areas have been identified on the allotment. Replanting of suitable sites would help to meet multiple use objectives to conserve and enhance terrestrial, riparian and aquatic wildlife habitat sooner than without plantings.

6.11. Identify and prioritize any needed fence project modifications that do not meet BLM specifications. Complete any needed modifications by BLM crews or third party crews hired by BLM.
Rationale: Most fence projects within the allotment were constructed as "standard four-wire fences" to specifications that were in existence in 1957-58. Since that time, new fence specifications have been developed that consider the behavior and abilities of wildlife. Modification of fences in crucial big game habitats is a recommended management action in the 1987 Record of Decision for the RMP. Fences that are not constructed to BLM standards might pose problems for big game movements. Modifying these fences would facilitate big game movements.

6.12. Ensure that the permittee is cognizant of BLM standards for fence specifications where cooperative agreements designate permittee fence maintenance of BLM projects. On an annual basis, reiterate the special conditions for fence specifications prior to grazing authorization.

Rationale: Although undocumented on the Little Humboldt Allotment, unauthorized modifications of permittee-maintained BLM fence projects has been a problem on allotments in

the Elko Resource Area; the restriction of big game movements is a concern. A major problem has been the addition of a fifth strand of barbed-wire to where the bottom wire is six to seven inches above the ground or top wire is over 50 inches above the ground.

6.13. Increase forage diversity and herbaceous cover for wildlife and herbaceous forage for livestock by creating a mosaic pattern of vegetational succession stages through vegetative manipulation practices. Treat selected areas on a maximum of 3,850 acres (RMP objective) in the Wyoming big sagebrush, mountain big sagebrush and big sagebrush-bitterbrush vegetation types in the allotment where vegetative data has indicated that big sagebrush shrub cover is excessive. Existing native herbaceous plants would respond to reduced shrub competition, and livestock utilization has been documented ranging from slight (6-20%) to mid-moderate (50%). Bitterbrush recruitment could also be stimulated through a reduction of excessive mature or decadent shrub cover. Treatments would replicate natural disturbances. Desired Plant Community objectives for treated areas would be established based on range site potentials. Required NEPA documentation would accompany the treatment proposal. Treatments would be proposed in accordance with 2000 Nevada BLM and 2000 Western Association of Fish and Wildlife Agencies Guidelines.

Rationale: Based on comparisons with range site potentials, shrub foliar cover has been documented as being excessive at all wildlife key areas within the Loamy Slope 12-16" p.z., Loamy 16+ p.z. ecological sites and Loamy 8-10" p.z. ecological site on the allotment. Ecological sites with excessive shrub foliar cover have generally been documented as having poor forage diversity which would not be reduced through only a change in the grazing system. Recent studies have documented that shrub cover in healthy stands of the Loamy 8-10" Wyoming big sagebrush ecological site is generally less than 15%; as shrub cover increases over 15%, the grass and forb cover decreases. For the mountain big sagebrush vegetation type, healthy ecological sites generally have less than 20% shrub cover. For the big sagebrush-bitterbrush vegetation type, healthy ecological sites generally have less than 30% shrub cover.

The treatment objective would be to reduce shrub canopy cover in a mosaic pattern within irregular shaped blocks and allow the treated areas to replicate shrub cover in early to mid successional stages for given ecological sites. Dense cover would remain in the untreated areas for wildlife cover and site diversity. Any vegetation treatment on the big sagebrush-bitterbrush vegetation type would be initially conducted on a trial basis to evaluate the response of younger age class bitterbrush in any even-aged overmature or decadent big sagebrush-bitterbrush stands. A prescribed mosaic of cover on said ecological sites would help to enhance mule deer and sage grouse habitat by increasing forage diversity and herbaceous cover. Shrub manipulation would release moisture to stimulate herbaceous plant and younger age class shrub growth relative to sage grouse nesting and summer use habitat. Habitats that contain 8-12% shrub cover in Wyoming big sagebrush and 15-20% shrub cover in mountain big sagebrush stands coupled with the sufficient amount and type of grass cover are factors that increase sage grouse nesting success. Thinning dense stands could also increase the palatability and leader growth of sagebrush for mule deer and sage grouse by inducing plant physiological changes related to

competition for moisture, nutrients and lower monoterpene levels. Sage grouse selection for plants with lower monoterpene levels has been observed.

Techniques to be considered would include mechanical treatment, prescribed burning, and herbicidal treatment. The treatment methodology would be tailored to the vegetative type at each specific site where stands are predominated by mature age class and decadent shrubs. Treatments would be proposed in accordance with the 2000 Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada (Nevada BLM) and the 2000 Western Association of Fish and Wildlife Agencies Guidelines .

6.14. Rehabilitate the 1993 EFR Pasture for the benefit of crucial mule deer winter habitat and livestock management through seeding. Integrate this proposed seeding with the livestock grazing system outlined above. Upper elevations of the seeding would consist of a seed mix consisting of browse, grass and forbs. Lower elevation seed mixtures would mainly consist of exotic perennial species including forage kochia for the benefit of livestock forage and use as firebreaks. Complete seeding efforts jointly with the Nevada Division of Wildlife.

Rationale: This action would help to maintain RMP objectives for reasonable numbers of mule deer by allowing the rehabilitation of crucial mule deer winter habitat in an area devastated by wildfires. Perennial vegetation needed by deer during the critical winter period has been lost. Without seeding efforts, natural revegetation would not be expected for a long period of time due to the loss of perennial vegetation seed banks and competition with established annual plants which generally are not available above any appreciable snow depth and have limited value as deer forage. The seeding would also mitigate the effects of management actions that would affect livestock grazing at upper elevations implemented to improve riparian habitat.

6.15. Per management actions for the RMP wildlife habitat objective and Memorandum of Understanding with NDOW, jointly evaluate and analyze availability and condition of habitat areas identified by NDOW for the augmentation of mountain quail populations following improvement of riparian conditions through implementation of appropriate technical recommendations.

Rationale: Native populations of mountain quail have historically inhabited suitable habitat on the allotment. Remnant populations potentially exist on the Little Humboldt and adjoining Bullhead Allotments within the Snowstorm Mountains. The technical recommendations for improving riparian and range conditions would help to improve mountain quail habitat.

6.16. Modify the 1987 RPS objective for sage grouse that reads, "Manage rangeland to protect or enhance crucial sage grouse strutting grounds" to read, "Manage rangeland to protect or enhance crucial sage grouse strutting, nesting, brood-rearing, winter habitat and associated habitats by 2007".

Rationale: The 1987 RPS objective did not recognize the essential nature of habitat for sage grouse that is needed on a year-long basis.

6.17. Complete actions to mitigate the effects of manmade structures associated with the allotment on wildlife resources with emphasis on sage grouse. Prioritize predatory bird-proofing and visually outlining BLM projects on the allotment with priority for work completed on BLM projects near documented key sage grouse habitat areas. Actions to visually outline projects to minimize collisions with fences during travel/flight would include painting t-post fence tops white or addition of fence stays or visual markers (bird flight diverters) to make the fence more visible to sage grouse or other wildlife that travel/fly during periods of low or no light or other periods of poor visibility. Other considerations would include completion of measures on allotment and interior fence horizontal /vertical braces and posts, and any needed relocation of potential predatory bird perch structures such as corrals through consultation with the livestock permittee as deemed necessary.

Rationale: BLM projects might allow artificial perch or nesting sites for predatory birds such as ravens or raptor species that prey on sage grouse where these structures were previously unavailable or limited. Collisions with fence structures during flight are documented mortality factors for sage grouse. These factors are associated with the grazing allotment and could negatively affect sage grouse populations. They could be minimized by completion of measures to mitigate the effects of man-made structures on sage grouse in the vicinity of leks and other key habitat areas.

6.17. Monitoring and Re-evaluation

Modify and/or requantify the allotment specific and key area objectives for the Little Humboldt and Jakes Creek Allotments as described below. The general land use plan objectives and Standards for Rangeland Health developed for the Northeastern Great Basin Area remain unchanged.

Allotment Specific Objectives - Little Humboldt Allotment:

6.17.1. Livestock Grazing:

6.17.1.1. In the long-term, provide forage for livestock use consistent with achievement of the Standards for Rangeland Health and RMP objectives.

6.17.1.2. Manage rangelands for livestock, wildlife and wild horses to achieve key area objectives outlined below as measured at key area monitoring locations in consultation, cooperation and coordination with the interested publics to achieve multiple use objectives.

6.17.1.3. Key Area Objectives:

Note: Many of the objectives listed below would not be attainable without management actions that include efforts to thin heavy shrub foliar cover and increase perennial native herbaceous cover to allow a balanced understory and follow-up livestock management to help maintain the balance. These actions would be implemented based on data collected at key areas throughout the allotment during future monitoring efforts.

Key Area 1: Loamy Slope 12-16" Brush Creek

Maintain ecological status in high mid-seral (47 points) or improve to late seral
Maintain satisfactory age and form class of mountain big sagebrush as measured by Cole Browse method
% canopy cover of shrubs ≤ 20%
Provide for a minimum of 18% basal cover of tall residual grasses

Key Area 2: Loamy Slope 12-16" (CDS-T-87-34) SF Little Humboldt

Improve ecological status to high mid-seral or late seral and maintain.
Maintain satisfactory age and form class of bitterbrush as measured by Cole Browse method by not exceeding 50% use of current year's growth
% canopy cover of shrubs ≤ 30%
Provide for a minimum of 18% basal cover of tall residual grasses

Key Area 4: Loamy 8-10" (AS-T-87-35) Castle Spring

Maintain ecological status in late seral
Maintain satisfactory age and form class of Wyoming big sagebrush as measured by Cole Browse method
% canopy cover of shrubs ≤ 15%
Provide for a minimum of 18% basal cover of tall residual grasses

Key Area 5: Loamy Slope 12-16" (CDS-T-87-36) Jake Cr Mtn

Maintain ecological status in high mid seral or late seral
Maintain satisfactory age and form class of mountain big sagebrush as measured by Cole Browse method
% canopy cover of shrubs ≤ 20%

Key Area CDS-LH-01-92. Loamy Slope 16+" Site.- Oregon Canyon

Achieve and /or maintain ecological status in high mid seral or late seral condition
Provide for a minimum of 18% basal cover of tall residual grasses
Maintain satisfactory age and form class of snowberry as measured by Cole Browse method by not exceeding 50% use of current year's growth
% canopy cover of shrubs ≤ 20-30%

Key Area CDS-LH-02-92: Loamy Slope 12-16" Site - Owyhee Bluffs

Achieve and /or maintain ecological status in high mid seral or late seral condition

Maintain satisfactory age and form class of mountain big sagebrush as measured by Cole Browse method
% canopy cover of shrubs ≤ 20%

Key Area CDS-LH-03-92: Loamy Slope 12-16" Site - Secret Creek
Achieve and /or maintain ecological status in high mid seral or late seral condition
Maintain satisfactory age and form class of snowberry as measured by Cole Browse method by not exceeding 50% use of current year's growth
% canopy cover of shrubs ≤ 20-30%

6.17.1.4. Proposed New Key Areas:

New Key Area - Kelly Creek Mtn
Establish a mule deer crucial summer habitat transect on the lower north slope of Kelly Creek Mountain within a quaking aspen stand that burned during the 1996 Oregon Fire. Monitor the recruitment of quaking aspen with objectives, actions and monitoring methods shown listed under Technical Recommendation 6.20.4.3.

New Key Area - Jakes Creek Pasture to replace Area CDS-T 87-37(Crucial Deer Summer)
Maintain satisfactory age and form class of serviceberry as measured by Cole Browse method by not exceeding 50% use of current year's growth
Achieve and/or maintain ecological status in high mid seral or late seral condition
% canopy cover of shrubs ≤ 20-30%

6.17.1.5. Manage grazing on native rangelands so as not to exceed utilization objectives for key species as measured at existing key area monitoring locations (with the exception of LH-03 until seeded species establish) as follows:

- Average utilization of 50% of current year's growth on native grass key species, not to exceed 55% in any one year, for all pastures except for Castle Ridge Pasture.
- For Castle Ridge, utilization during the spring (up to 6/1) should not exceed 6% of native grass key species, combined use shall not exceed 50% as measured on or about 10/1, and shall not exceed 60% at the end of winter dormancy (approximately 2.28.)
- For those key areas that are grazed annually for a significant portion of the critical growing season, do not exceed an average of 40% use of current year's growth on key forage species.
- Utilization in seeded pastures shall not exceed 50% on forage kochia and shall not exceed 65% on seeded, introduced wheatgrasses.
- Within the Jakes Creek Pasture, utilization shall not exceed 50% on meadow areas, 50% on upland areas, or 30% on aspen.
- Within the Basin North and South Pastures, herbaceous utilization shall ensure a 4" stubble height when livestock are removed. Woody utilization shall not exceed 20% on willows or 10% on aspen. Steambank trampling shall not exceed 10%.

6.17.1.6. Establish enough new key areas to ensure at least one representative key area per pasture.

Rationale: With the establishment of pastures and the ability to collect actual use data by pasture, monitoring by pasture will be important to determine if management actions are meeting objectives and ensuring significant progress is made in meeting standards for rangeland health and multiple use objectives. In addition, key areas in each pasture will be necessary to develop carrying capacities by pasture.

6.17.2. Wild Horses

6.17.2.1. Continue to collect combined use utilization data and collect wild horse pre-livestock utilization data.

Rationale: Collection of utilization data is necessary to determine if management practices are meeting objectives. This monitoring data would also indicate management changes needed in response to climatological changes, such as drought, etc. Continued monitoring would also determine if any adjustments are necessary to AML and if the AML is maintaining a thriving natural ecological balance within the Little Humboldt HMA.

6.17.2.2. Continue to collect seasonal wild horse distribution data on the Little Humboldt HMA as funding allows.

Rationale: The BLM is required by FLPMA to keep a current inventory of wild horses inhabiting public lands. In 1991, intensive seasonal distribution flights were begun within the Elko Field Office. These census flights have provided valuable information on horse movements and should continue until monitoring data indicates that the appropriate management level has been attained in this HMA. Once AML is established and maintained, census flights may be conducted on a four year rotation basis.

6.17.2.3. Establish a new key area in the Castle Springs Pasture to monitor wild horse use if new seasonal distribution inventories indicate that the two established key areas are not adequate to monitor the HMA.

Rationale: Past distribution information indicates that the majority of wild horse use occurs in what is now the Castle Ridge Pasture. However, changes in livestock management and the proposed reconstruction of the Castle Ridge Pipeline may alter wild horse distribution with the HMA or Castle Ridge Pasture.

6.17.4. Wildlife:

6.17.4.1. Key Area #1: Existing Key Area CDS-T-87-33 (LH-01 - Brush Creek): Mule deer crucial summer habitat condition monitoring data will no longer be collected. The transect will still be used to collect data pertaining to sage grouse nesting habitat.

Rationale: Existing Key Area CDS-T-87-33 was selected on the basis of an established livestock key area and does not represent an area where highly palatable browse for mule deer and livestock can be evaluated on crucial summer mule deer habitat. The present key browse species at the transect is mountain big sagebrush which is generally considered a poor forage for livestock and mule deer. In addition, another key area exists within 1.25 miles where snowberry is the key browse species. Snowberry is generally a fair forage species for mule deer and livestock on the allotment.

6.17.4.2. Key Area CDS-T-87-37: Mule deer crucial summer habitat condition monitoring data will no longer be collected at this remote location.

Rationale: The last BLM personnel to sample the study area were flown in by helicopter. Representative sample locations that can be accessed by affected parties and BLM using four-wheel drive vehicle will be selected instead.

6.17.4.3. Establish baseline studies in selected key quaking aspen habitats on the Little Humboldt Allotment. Manage the ecosystem to improve the structural diversity and overall health within deteriorating stands or maintain the structural diversity and overall health of stands that are in good or excellent condition. Commensurate with the proposal to implement grazing systems and create grazing pastures, establish one monitoring transect in each pasture where aspen occurs in grazable areas on public lands in the vicinity of existing stream survey stations. Monitor aspen in conjunction with stream survey monitoring. Use monitoring data to help evaluate habitat conditions for deer fawning/fawn-rearing/crucial summer habitat.

6.17.4.4. Establish aspen studies in deteriorating or burned stands on low to mid gradient grazable areas on the Little Humboldt Allotment with the following objectives, actions and monitoring methods:

Short Term (three years after implementation of the grazing system):

Improve young aspen age class recruitment by increasing the number of single-stemmed saplings[2] by at least 10% above baseline values per acre in deteriorating[3] or burned stands.

Short Term (ten years after implementation of the grazing system):
Improve[4] young age class recruitment by making significant progress toward an equivalent of at least 850 single-stemmed saplings per acre in deteriorating or burned stands identified during onset of grazing system with a 10-year-after-implementation overstory canopy cover class[5] of 20% or less.

Long Term (by 20 years after implementation of the grazing system)
Maintain young age class recruitment by allowing an equivalent of at least 850 single-stemmed saplings per acre in deteriorating or burned stands identified during onset of grazing system with a 20-year-after-implementation overstory canopy cover class of 20% or less.

Aspen recruitment studies: Density of single-stemmed saplings sampled in fixed 1/100-acre circular plots (5-10 plots per stand).

Rationale: Significant adverse impacts to aspen types in the past have been identified on the allotment, particularly in low gradient grazable areas that have been continuously used during the "hot season". Recently burned aspen stands also attract livestock and big game due to a flush of new, highly palatable succulent growth and are susceptible to overutilization and possible loss of younger age class recruitment. It is hoped that the development of grazing and woody vegetation utilization criteria on the allotment will help resolve some of these problems, however, a measure of how aspen communities respond to the grazing system is needed.

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[2] Saplings, as mentioned for these objectives, are defined as single-stemmed aspen that are at least 4.9 feet in height and less than 3.9 inches in diameter at breast height (4.5 feet). The sapling definition for these objectives take in consideration a minimum height needed to help allow terminal growth out of reach of browsing animals which is 0.4-foot higher than saplings defined by Natural Resource Conservation Service (NRCS) range site descriptions for aspen woodland sites on the allotment. The maximum diameter (less than 3.9 inches) at breast height for saplings is considered because stems less than 3.9 inches in height usually constitute reproduction while larger stems usually contribute to the overstory.

[3] Deteriorating stands, as mentioned for these objectives, include those existing stands in immature, mature, and overmature woodland successional stages as defined by NRCS range site descriptions, with (1) an open canopy (10% or less canopy cover class), (2) abnormally large amounts of aspen residue (standing or fallen), and (3) sagebrush invasion. Such deteriorating stands will be identified during the onset of the grazing system in coordination with the permittee and interested publics who wish to participate; baseline values will be determined at that time.

[4] Short term improvement of identified deteriorating or burned stands and long term maintenance of young age class recruitment in identified deteriorating or burned stands would take in consideration site potential, disease and natural mortality factors, and potential need for disturbance treatments and/or fencing.

[5] Canopy cover class of 20% or less, as mentioned for this objective, is expressed as the percent cover class where young age class recruitment is less likely to be influenced by competition by older age class aspen in immature, mature, and overmature stands.

The studies would help to determine if present or future management actions have an effect on deer fawning/fawn-rearing habitat within crucial deer summer range since aspen loss, coupled with the loss of other overstory species, such as willow, has resulted in a decline in the availability of fawning/fawn-rearing habitat.

6.17.5. Riparian Monitoring

6.17.5.1. Monitor specific parameters in riparian areas within the SFLHR basin to determine progress towards and attainment of short term and long-term objectives outlined in Appendix 9.

Survey data will be used from stations on public lands and unfenced private lands during low flow or base flow conditions. This includes the following stream survey site locations: SFLHR stations 2,4,5,6,7,8, and 9, Secret Creek stations 1,2, and 3, and Sheep Creek stations 2, 2A, A1A, and A2A. Sheep Creek A1A and A2A may be included within the new Sheep Creek private pasture proposed for construction in 2002, and therefore may be excluded in future monitoring (Intermountain Range Consultants March 6, 2001 letter).

BLM will also add two new sites as recommended by Intermountain Range Consultants (March 6, 2001 letter), one between stations 5 and 6 on the SFLHR, and one station between Secret Creek S1 and S2. In addition, a survey station will be located on Pole Creek within the Little Humboldt Allotment. Most of these locations are found in Rosgen B4 channel types, except SFLHR S5 which is a C channel type and S2 which is an F channel type. Secret Creek is primarily B channel types, with S3 a C channel type; Sheep Creek has primarily B channel types with A2A being an A channel type.

Rosgen B channel types are moderately entrenched (ratio of 1.4 to 2.2), have a moderate width/depth ratio (>12), moderate sinuosity (>1.2), moderate slopes of 2-4 %, and B4's have gravel channel material. An A channel type has an entrenchment ratio of <1.4, a width/depth ratio of <12, sinuosity of 1 – 1.2, and a slope >10 %. A4's have a gravel substrate. C channel types have >2.2 entrenchment, > 12 width/depth ratio, >1.2 sinuosity, < 2 % slope, and B4's have a gravel channel material. F channel types are known for < 1.4 entrenchment, > 12 width/depth ratio, >1.2 sinuosity < 2 % slope, and F4's have a gravel channel material (Rosgen and Silvey, 1998).

Rationale: Short-term objectives for the streams within the SFLHR basin will be based on B channel types since 11 of the 15 survey stations are B4s. Two are C4s, one an A4, and one is an F4. B channel types show statistically significant changes in PFC ratings, Riparian Condition Indices, bank cover, bank angle, undercut banks, and to some extent in bank stability (Newman 2001). While C channel types are very susceptible to disturbance, they often recover well with stability greatly influenced by vegetation (Rosgen 1996, Newman 2001). The baseline year for determining improvement will be the 1999 stream survey.

6.17.5.1. Within the SFLHR Basin annual utilization should not exceed 20% on willow or 10% on aspen at the end of the grazing period.

Rationale: These utilization levels were developed as a result of two years of monitoring within the SFLHR basin (2000 and 2001).

6.17.6. Water Quality:

6.17.6.1. Monitor water quality and discharge at two locations on the SFLHR.

Rationale: This monitoring will occur at an upper and lower site on the SFLHR during low, moderate, and high flow at a minimum. At least 10 samples should be collected that measure all the parameters that the state has established standards for to determine if standards are being met, and if they are not, what is causing problems. This will help establish a monitoring baseline during changes in management.

6.17.6.2. Continue water and air temperature monitoring annually or as funding allows at the two locations on the SFLHR.

Rationale: SFLHR had repeated temperature exceedances from 1995 to 2000 for State water quality standards. Continued monitoring will help determine if changes in livestock management are ensuring significant progress in meeting the State water temperature standards.

The Record of Decision for the Elko Environmental Impact Statement (EIS) and the Resource Management Plan (RMP) was issued on March 11, 1987. These documents established the multiple use goals and objectives which guide management of the public lands in the Little Humboldt Allotment. The Rangeland Program Summary (RPS) was issued on July 23, 1987. This document further identified the allotment specific objectives for the allotment.

The Record of Decision for the Paradise Denio Grazing Environmental Impact Statement (EIS) and Management Framework Plan (MFP) for the Paradise-Denio Resource Area within the Winnemucca District was issued on August 6, 1982. These documents established the multiple use goals and objectives which guide management of the public lands in the Jakes Creek and Tall Corral Allotments. The Rangeland Program Summary (RPS) was issued on October 14, 1983. This document further identified the allotment specific objectives for the Jakes Creek and Tall Corral Allotments.

Monitoring was established on the Little Humboldt, Jakes Creek, and Tall Corral Allotments to determine if existing grazing uses were consistent with attainment of the multiple use objectives established in the Elko RMP and RPS and the Winnemucca MFP and RPS. Monitoring data were analyzed through the allotment evaluation process to determine progress in meeting multiple use objectives, Standards for Rangeland Health and to determine what changes in existing grazing management, if any, are needed.

The Little Humboldt, Jakes Creek, and Tall Corral Allotment Evaluation summarized current grazing management, determined whether or not progress was being made toward attainment of the Standards for Rangeland Health and multiple use objectives, and provided recommendations for future management. The allotment specific objectives which were analyzed in the allotment evaluation were formulated based on management issues which existed in 1983 and 1987 when the RPSs were published. Based on monitoring data and conclusions presented in this allotment evaluation, it is necessary to modify and/or requantify the allotment specific objectives to address the following resource issues:

upland range conditions
lotic and lentic riparian condition
wildlife habitat conditions
wild horse management
water quality standards

6.17.7. Continue to conduct necessary monitoring studies and periodically evaluate the effects of grazing to determine if progress is being made in meeting the multiple use objectives. The Little Humboldt, Jakes Creek, and [Tall Corral] Allotments will be re-evaluated following five years of implementation of the final multiple use decision to determine progress towards attainment of objectives and to make any necessary adjustments in grazing use, which includes carrying capacity. Periodic monitoring and evaluation will also be made as outlined in the Technical Recommendations to reopen pastures to grazing following closure after fire rehabilitation, to determine progress in meeting short and long-term riparian objectives in the SFLHR basin, and to determine carrying capacity for newly established pastures. Subsequently, these allotments will be re-evaluated in accordance with priorities established in the Elko Field Office Monitoring and Evaluation Schedule. If monitoring studies indicate a need to modify grazing use based on carrying capacity, necessary adjustments will be made. Studies will be conducted in accordance with BLM policy manual guidance as outlined in the Nevada Rangeland Monitoring Handbook and BLM Technical References and will include, but are not limited to, the following:

<u>Uplands</u>
forage production
ecological status
trend (frequency)
utilization
actual use
Upland Proper Functioning Condition Assessment
Ecological Site Inventory
Precipitation Studies

<u>Riparian</u>
Stream inventory (BLM Manual 6720-1, BLM Manual 6671, and NDOW/USFS General Aquatic Wildlife Survey (GAWS)

Lentic and Lotic Riparian Proper Functioning Condition Assessment (BLM TR 1739-9, 1993; BLM TR 1737-11, 1994)
fish population surveys
aspen recruitment, form, and age class studies

Wildlife Habitat
habitat condition studies (BLM Manual 6630)
wildlife population census
Cole Browse

Wild Horses
wild horse population census and distribution mapping

Rationale: Additional monitoring and analysis will be required to determine progress toward attainment of multiple use objectives, Standards for Rangeland Health and to determine necessary changes in grazing management, if any.

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APPENDIX 1
NONGAME BIRD, MAMMAL AND REPTILE SPECIES

Appendix 1. Partial Wildlife Species List - Upland Areas for Little Humboldt, Tall Corral and Jakes Creek Allotments*

Lower Sagebrush/Grassland Steppe - Northeastern Nevada

Birds

Turkey Vulture	*Cathartes aura*
Bald Eagle	*Haliaetus leucocephalus*
Northern Harrier	*Circus cyaneus*
Swainson's Hawk	*Buteo swainsoni*
Red-tailed Hawk	*Buteo jamaicensis*
Ferruginous Hawk	*Buteo regalis*
Rough-legged Hawk	*Buteo lagopus*
Golden Eagle	*Aquila chrysaetos*
American Kestrel	*Falco sparverius*
Merlin	*Falco columbarius*
Prairie Falcon	*Falco mexicanus*
Gray Partridge	*Perdix perdix*
Chukar	*Alectoris chukar*
Sage Grouse	*Centrocercus urophasianus*
Mourning Dove	*Zenaida macroura*
Great Horned Owl	*Bubo virginianus*
Burrowing Owl	*Athene cunicularia*
Short-eared Owl	*Asio flammeus*
Common Nighthawk	*Chordeiles minor*
Broad-tailed Hummingbird	*Selasphorus platycercus*
Northern Flicker	*Colaptes auratus*
Gray Flycatcher	*Epidonax wrightii*
Ash-throated Flycatcher	*Myiarchus cinerascens*
Say's Phoebe	*Sayornis saya*
Western Kingbird	*Tyrannus verticalis*
Horned bark	*Eremophila alpestris*
Barn Swallow	*Hirundo rustica*
Black-billed Magpie	*Pica pica*
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*
Rock Wren	*Salpinctes obsoletus*
Mountain Bluebird	*Sialia currucoides*
American Robin	*Turdus migratorius*
Sage Thrasher	*Oreoscoptes montanus*
Loggerhead Shrike	*Lanius ludovicianus*
Northern Shrike	*Lanius excubitor*
European Starling	*Sturnus vulgaris*
Brewer's Sparrow	*Pooecetes gramineus*
Vesper Sparrow	*Chondestes grammacus*

Lark Sparrow	*Amphispiza belli*
White-crowned Sparrow	*Zonotrichia leucophrys*
Lapland Longspur	*Calcarius lapponicus*
Red-winged Blackbird	*Agelaius phoeniceus*
Western Meadowlark	*Sturnella neglecta*
Brewer's Blackbird	*Euphagus cyanocephalus*
Brown-headed Cowbird	*Molothrus ater*
Black Rosy Finch	*Leucosticte atrata*
Gray-crowned Rosy Finch	*Leucosticte tephrocotis*
House Sparrow	*Passer domesticus*

Mammals

Little Brown Bat	*Myotis lucifugus*
Long-eared Myotis	*Myotis evotis*
Long-legged Myotis	*Myotis volans*
Small-footed Myotis	*Myotis ciliolabrum*
Silver-haired Bat	*Lasionycteris noctivagans*
Western Pipistrelle	*Pipistrellus hesperus*
Big Brown Bat	*Eptesicus fuscus*
Townsend's Big-eared Bat	*Plecotus townsendii*
Brazilian Free-tailed Bat	*Tadarida brasiliensis*
Black-tailed Jackrabbit	*Lepus californicus*
Mountain Cottontail	*Sylvilagus nuttal1ii*
Pygmy Rabbit	*Sylvilagus idahoensis*
Townsend's Ground Squirrel	*Spermophilus townsendii*
Belding Ground Squirrel	*Spermophilus be1dingi*
Least Chipmunk	*Tamias minimus*
Botta's Pocket Gopher	*Thomomys bottae*
Northern Pocket Gopher	*Thomomys talpoides*
Little Pocket Mouse	*Perognathus longimembris*
Great Basin Pocket Mouse	*Perognathus parvus*
Dark Kangaroo Mouse	*Microdipodops megacephalus*
Ord Kangaroo Rat	*Dipodomys ordii*
Chisel-toothed Kangaroo Rat	*Dipodomys microps*
Deer Mouse	*Peromyscus maniculatus*
Northern Grasshopper Mouse	*Onychomys leucogaster*
Desert Woodrat	*Neotoma lepida*
Sagebrush Vole	*Lemmiscus curtatus*
House Mouse	*Mus musculus*
Kit Fox	*Vulpes macrotis*
Coyote	*Canis latrans*
Long-tailed Weasel	*Mustela frenata*
Badger	*Taxidea taxus*
Striped Skunk	*Mephitis mephitis*

Mountain Lion	*Felix concolor*
Bobcat	*Lynx rufus*
Mule Deer	*Odocoileus hemionus*
Pronghorn	*Antilocapra americana*

Reptiles

Western Skink	*Eumeces skiltonianus*
Western Whiptail	*Cnemidophorus tigrus*
Desert Collared Lizard	*Crotaphytus insularis*
Long-nosed Leopard Lizard	*Gambelia wislizenii*
Desert Spiny Lizard	*Sceloporus magister*
Sagebrush Lizard	*Sceloporus graciosus*
Western Fence Lizard	*Sceloporus cccidentalis*
Side-blotched Lizard	*Uta stansburiana*
Desert Horned Lizard	*Phrynosorna platyrhinos*
Short-horned Lizard	*Phrynosorna douglassii*
Long-nosed Snake	*Rhinocheilus lecontei*
Ground Snake	*Sonora semiannulata*
Night Snake	*Hypsiglena torquata*
Gopher Snake	*Pituophis melanoleucus*
Racer	*Coluber constrictor*
Striped Whipsnake	*Masticophis taeniatus*
Western Rattlesnake	*Crotalus viridis*

*Consult Nevada BLM Elko District Mammal, Reptile and Amphibian, and Bird Lists for more complete listing of potential wildlife species on the allotments.

APPENDIX 2
SPECIAL STATUS SPECIES

APPENDIX 2

Nevada BLM Special Status Species of Plants and Animals on Lands Administered by Elko BLM Potentially Occurring on the Little Humboldt Allotment On a Seasonal or Yearlong Basis as of December 15, 1999[1]. (The Jakes Creek and Tall Corral Allotments are adjacent to the Little Humboldt Allotment and the species list would be expected to be the same with the exception of Lahontan cutthroat trout which do not occur within the Jakes Creek or Tall Corral Allotments.)

COMMON NAME	SCIENTIFIC NAME
Endangered	
(none)	(none)
Threatened	
Bald Eagle	*Haliaeetus leucocephalus*
Lahontan Cutthroat Trout	*Oncorhynchus clarki henshawi* [2]
Candidate	
(none)	(none)
State of Nevada Listed Species [3]	
Mammals	
Spotted Bat	*Euderma maculatum*
Birds	
Golden Eagle	*Aquila chrysaetos* [2]
Northern Goshawk	*Accipiter gentilis*
Ferruginous Hawk	*Buteo regalis*
Swainson's Hawk	Buteo swainsoni [2]
Burrowing Owl	*Athene cunicularia* [2]
Nevada BLM Sensitive Species [4]	
Mammals	
Small-footed Myotis	*Myotis ciliolabrum*
Long-eared Myotis	*Myotis evotis*
Fringed Myotis	*Myotis thysanodes*
Long-legged Myotis	*Myotis volans*
Townsend's Big-eared Bat	*Corynorhinus townsendii*
Birds	

COMMON NAME	SCIENTIFIC NAME
Sage Grouse	*Centrocercus urophasianus* [2]
Mountain quail	*Oreortyx pictus*

[1] Based on input provided by BLM, Nevada Division of Wildlife, and U.S. Fish and Wildlife Service in Nevada BLM Special Status Species list (Updated 12/1/99) and BLM Instruction Memorandum No. NV-98-013 (February 27, 1998). BLM Elko Field Office input provided for BLM Instruction Memorandum No. NV-98-013 was entitled "Former Candidate Category 2 Species On Or Suspected On Elko District -BLM Lands Recommended As BLM Sensitive Species As Of 5/96". Additional request for information regarding list provided by Bradley, Nevada Division of Wildlife; and Price, BLM in 1996.

[2] Documented or observed on the allotment.

[3] Species designated by the State Director, in cooperation with the State of Nevada Department of Conservation and Natural Resources, that are not already included as BLM Special Status Species under (1) Federally listed, proposed, or candidate species; or (2) State of Nevada listed species. BLM policy is to provide these species with the same level of protection as is provided for candidate species in BLM Manual 6840.06C.

[4] Per wording from Nevada BLM Special Status Species List (Updated 12/1/99) for Nevada State Protected Animals That Meet BLM's 6840 Policy Definition: Species of animals occurring on BLM-managed lands in Nevada that are: (1) 'protected" under authority of Nevada Administrative Codes 501.100 - 503.104; (2) also have been determined to meet BLM's policy definition of "listing by a State in a category implying potential endangerment or extinction"; and (3) are not already included as BLM Special Status Species under federally listed, proposed, or candidate species. Nevada BLM policy is to provide State of Nevada Listed Species and Nevada BLM Sensitive Species with the same level of protection as is provided for candidate species in BLM Manual 6840.06C.

APPENDIX 3
WATER QUALITY

WATER QUALITY CRITERIA FOR DESIGNATED BENEFICIAL USES[2]

Beneficial Uses / Parameter		Agricultural Use		Aquatic Life: Cold Water		Aquatic Life: Warm Water						
		Irrigation	Watering of Livestock	Propagation	Put & Take	Propagation	Put & Take	Water Contact Recreation	Non-Contact Recreation	Municipal or Domestic Supply	Industrial Supply Supply	Propagation of Wildlife
Temperature °C		x	x	<---- Site Specific Determination [a,b] ---->				15-34[a]	x	x	x	x
pH Units Single Value		4.5-9.0[a,b]	5.0-9.0[b]	6.5-9.0[b]	6.5-9.0[b]	6.5-9.0[b]	6.5-9.0[b]	6.5-8.3[a]	x	5.0-9.0	3.0-11.7[b]	7.0-9.2[a]
Dissolved Oxygen Single Value-mg/l	>	x	Aerobic[b]	5.0[b]	5.0[b]	5.0[b]	5.0[b]	Aerobic[b]	Aerobic[b]	Aerobic[b]	x	Aerobic[b]
Chlorides Single Value-mg/l	<	y[a]	1500[f]	x	x	x	x	x	x	250/400[c]	--	1500[f]
Total Phosphates as P Single Value-mg/l		x	x	<---- Site Specific Determination [b,c] ---->							x	x
Nitrates as N Single Value-mg/l	<	x	100[a]	y[b]	x	90[b]	90[b]	x	x	10[b,c]	x	100[a]
Nitrites as N Single Value-mg/l	<	x	10[a]	0.06[b]	x	x	x	x	x	1.0[a,b]	x	10[a]
Total Nitrogen as N Single Value-mg/l		x	x	<---- Site Specific Determination [b,c] ---->							x	x
Un-ionized Ammonia as NH_3 Single Value-mg/l	<	x	x	0.02[b,c]	<---Site Specific Determination--->			x	x	0.5 (Total NH_3-N)[b]	x	x
Total Dissolved Solids Single Value-mg/l	<	x	3000[a]	x	x	x	x	x	x	500/1000[c]	x	x
Color (PT-CO), Single Value	<	x	x	x	x	x	x	x	x	75[b]	x	x
Turbidity, Single Value-NTU	<	x	x	10[d]	10[d]	50[d]	50[d]	x	x	y[b]	x	x
Fecal Coliform (MF/100ml) Geometric Mean	<	1000[a]	1000[a]	x	x	x	x	200/400[b] See Footnote[i]	1000/2000[d]	2000[a]	x	1000[a]
Alkalinity as $CaCO_3$ Single Value-mg/l		x	x	Less than 25% change from natural conditions [a,e]				x	x	x	x	30-130[a]
Suspended Solids Single Value-mg/l	<	x	x	25-80[a]	25-80[a]	25-80[a]	25-80[a]	x	x	x	x	x
Sulfate Single Value-mg/l	<	x	x	x	x	x	x	x	x	250[b,c]/500[c]	x	x

FOOTNOTES AND REFERENCES

< means less than
> means greater than
x means a specific recommendation has not been developed.
y means the cited reference recommended no value be established.

(1) Based on a minimum of five samples taken over a 30-day period, the fecal coliform bacterial level must not exceed a log mean of 200 per 100 ml nor may more than 10 percent of the total samples taken during any 30-day period exceed 400 per 100 ml.

(2) The table is not all-inclusive. As the need arises and data becomes available, appropriate revisions and additions will be made.

a. National Academy of Sciences, Water Quality Criteria (Blue Book) (1972).

b. U.S. Environmental Protection Agency, Pub. No. EPA 440/9-76-023, Quality Criteria for Water (1976). Office of Water and Hazardous Materials, Washington, D.C.

c. Nevada Division of Health, Water Supply Regulation, Part I, Water Quality Standards, Monitoring, Record Keeping and Reporting (1977). State Board of Health, Carson City, Nevada.

d. Report of the Commission on Water Quality Criteria (FWPCA) (Green Book) (1968).

e. American Fisheries Society, Water Quality Section, A Review of the EPA Red Book; Quality Criteria for Water (1979).

f. McKee and Wolf, California State Water Resources Control Board, Water Quality Criteria (1963).

[Environmental Comm'n, Water Pollution Control Reg. § 4.1.4, eff. 9-15-80]—(NAC A 7-27-82; 12-3-84; 9-25-90)—(Substituted in revision for NAC 445.117)

NAC 445A.120 Applicability.

1. NAC 445A.120 to 445A.213, inclusive, apply to all natural streams and lakes, reservoirs or impoundments on natural streams and other specified waterways, unless excepted on the basis of existing irreparable conditions which preclude such use. Man-made waterways, unless otherwise specified, must be protected for public health and the use for which the waterways were developed.

2. The quality of any waters receiving waste discharges must be such that no impairment of the beneficial usage of water occurs as the result of the discharge. Natural water conditions may, on occasion, be outside the limits established by standards. The standards adopted in NAC 445A.120 to 445A.213, inclusive, relate to the condition of waters as affected by discharges relating to the activities of man.

[Environmental Comm'n, Water Pollution Control Reg. § 4.1, eff. 5-2-78]—(NAC A 12-3-84)—(Substituted in revision for NAC 445.118)

NAC 445A.121 Standards applicable to all waters. The following standards are applicable to all waters of the state:

1. Waters must be free from substances attributable to domestic or industrial waste or other controllable sources that will settle to form sludge or bottom deposits in amounts sufficient to be unsightly, putrescent or odorous or in amounts sufficient to interfere with any beneficial use of the water.

445A.121 Standards Applicable To All Waters

1. Waters must be free from substances attributable to domestic or industrial waste or other controllable sources that will settle to form sludge or bottom deposits in amounts sufficient to be unsightly, putrescent or odorous or in amounts sufficient to interfere with any beneficial use of the water.

2. Waters must be free from floating debris, oil, grease, scum and other floating materials attributable to domestic or industrial waste or other controllable sources in amounts sufficient to be unsightly or in amounts sufficient to interfere with any beneficial use of the water.

3. Waters must be free from materials attributable to domestic or industrial waste or other controllable sources in amounts sufficient to produce taste or odor in the water or detectable off-flavor in the flesh of fish or in amounts sufficient to change the existing color, turbidity or other conditions in the receiving stream to such a degree as to create a public nuisance or in amounts sufficient to interfere with any beneficial use of the water.

4. Waters must be free from high temperature, biocides, organisms pathogenic to human beings, toxic, corrosive or other deleterious substances attributable to domestic or industrial waste or other controllable sources at levels or combinations sufficient to be toxic to human, animal, plant or aquatic life or in amounts sufficient to interfere with any beneficial use of the water. Compliance with the provisions of this subsection may be determined in accordance with methods of testing prescribed by the department. If used as an indicator, survival of test organisms must not be significantly less in test water than in control water.

5. If toxic materials are known or suspected by the department to be present in a water, testing for toxicity may be required to determine compliance with the provisions of this section and effluent limitations. The department may specify the method of testing to be used. The failure to determine the presence of toxic materials by testing does not preclude a determination by the department, on the basis of other criteria or methods, that excessive levels of toxic materials are present.

6. Radioactive materials attributable to municipal, industrial or other controllable sources must be the minimum concentrations which are physically and economically feasible to achieve. In no case must materials exceed the limits established in the 1962 Public Health Service Drinking Water Standards (or later amendments) or 1/30th of the MPC values given for continuous occupational exposure in the "National Bureau of Standards Handbook No. 69." The concentrations in water must not result in accumulation of radioactivity in plants or animals that result in a hazard to humans or harm to aquatic life.

7. Wastes from municipal, industrial or other controllable sources containing arsenic, barium, boron, cadmium, chromium, cyanide, fluoride, lead, selenium, silver, copper and zinc that are reasonably amenable to treatment or control must not be discharged untreated or uncontrolled into the waters of Nevada. In addition, the limits for concentrations of the chemical constituents must provide water quality consistent with the mandatory requirements of the 1962 Public Health Service Drinking Water Standards.

8. The specified standards are not considered violated when the natural conditions of the receiving water are outside the established limits, including periods of extreme high or low flow. Where effluents are discharged to such waters, the discharges are not considered a contributor to substandard conditions provided maximum treatment in compliance with permit requirements is maintained.

[Environmental Comm'n, Water Pollution Control Reg. § 4.1.2 subsecs. a-g, eff. 5-2-78]--(NAC A 9-26-90)--(Substituted in revision for NAC 445.119)

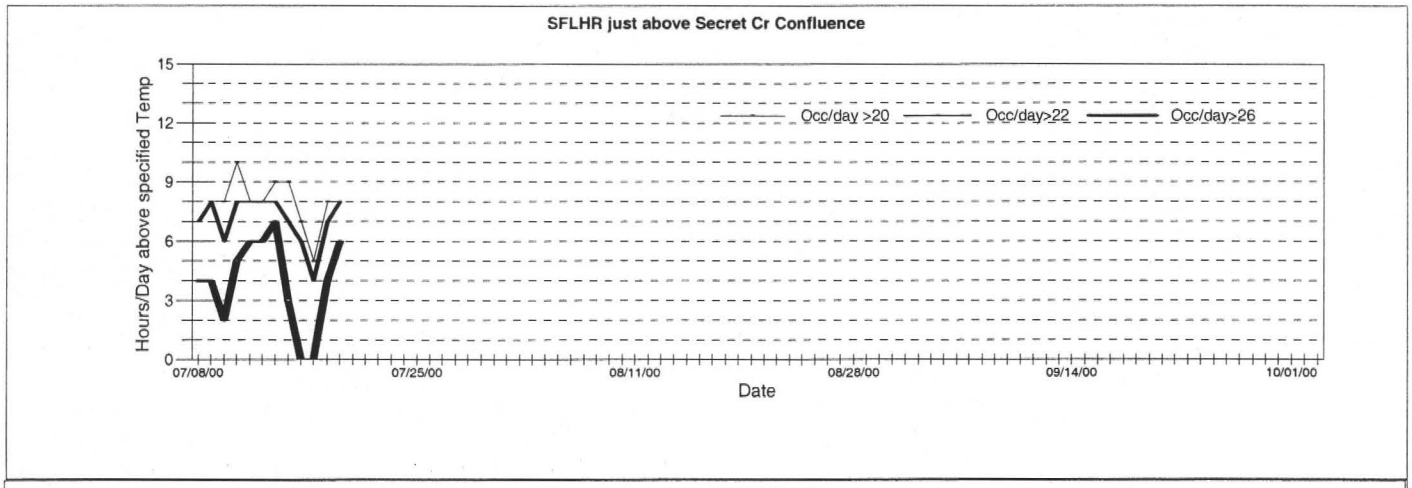
445A.124 Class A waters: Description; beneficial uses; quality standards.

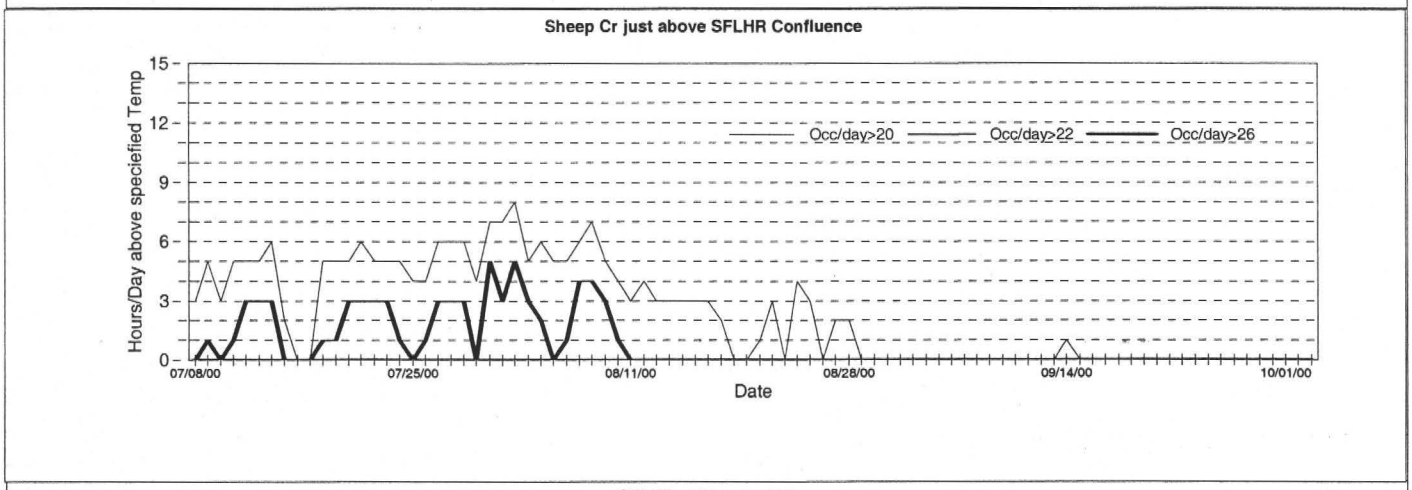
1. Class A waters include waters or portions of waters located in areas of little human habitation, no industrial development or intensive agriculture and where the watershed is relatively undisturbed by man's activity.

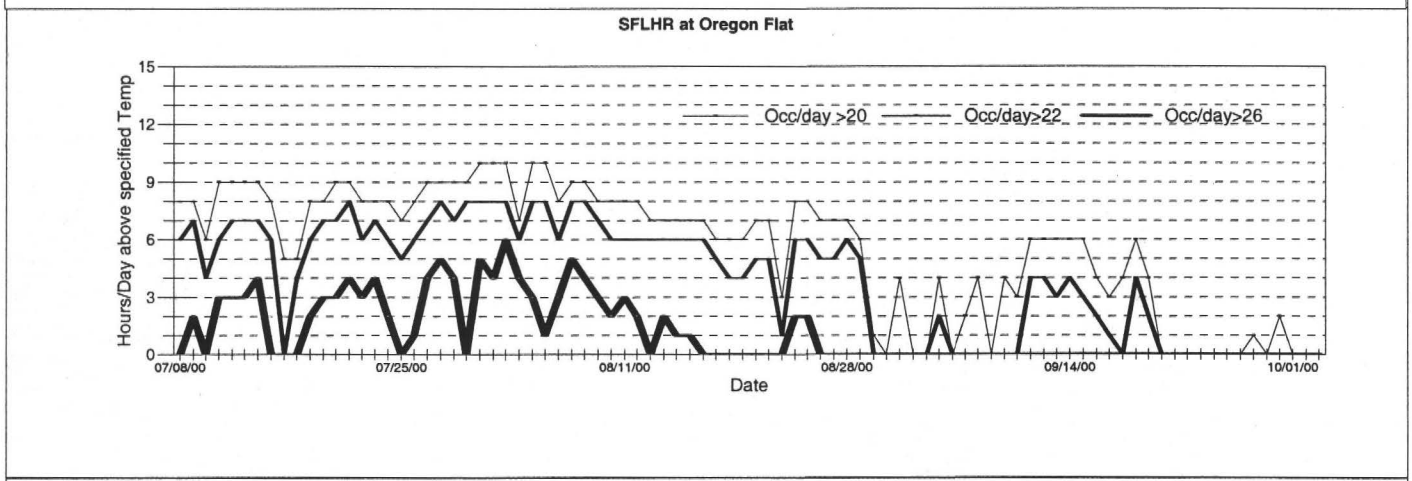
2. The beneficial uses of class A waters are municipal or domestic supply, or both, with treatment by disinfection only, aquatic life, propagation of wildlife, irrigation, watering of livestock, recreation including contact with the water and recreation not involving contact with the water.

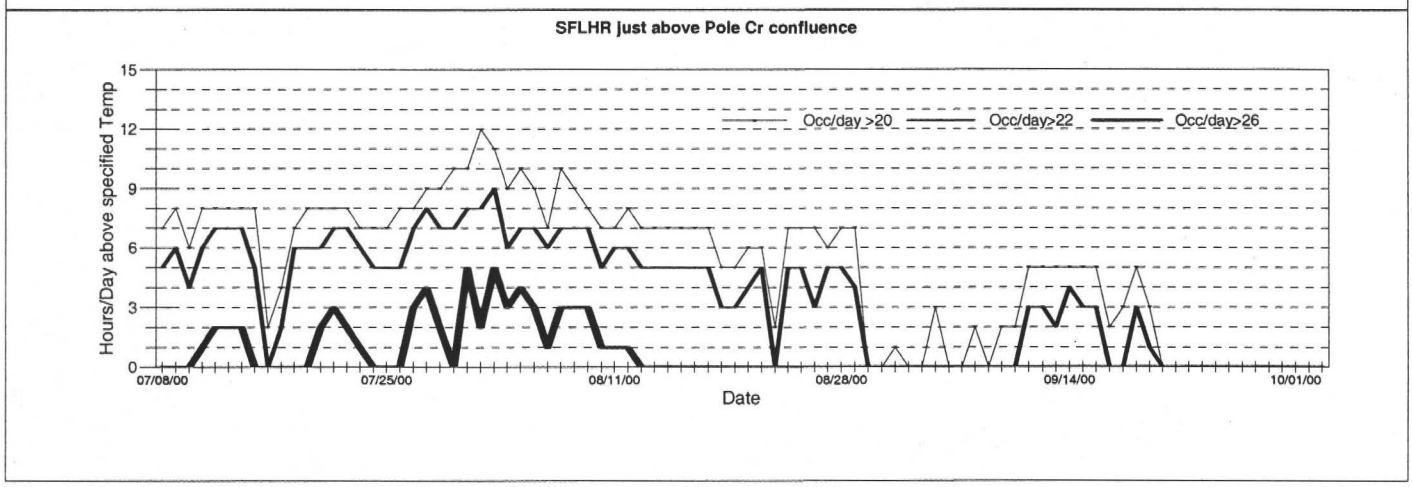
3. The quality standards for class A waters are:

Item	Specifications
(a) Floating solids, sludge deposits, tastes or odor-producing substances.	None attributable to man's activities.
(b) Sewage, industrial wastes or other wastes.	None.
(c) Toxic materials, oils, deleterious substances, colored or other wastes.	None.
(d) Settleable solids.	Only amounts attributable to man's activities which will not make the waters unsafe or unsuitable as a drinking water source or which will not be detrimental to aquatic life or for any other beneficial use established for this class.
(e) pH.	Range between 6.5 to 8.5.
(f) Dissolved oxygen.	Must not be less than 6.0 milligrams/liter.
(g) Temperature.	Must not exceed 20°C. Allowable temperature increase above natural receiving water temperature: None.
(h) Fecal coliform.	The fecal coliform concentration, based on a minimum of 5 samples during any 30-day period, must not exceed a geometric mean of 200 per 100 milliliters nor may more than 10 percent of total samples during any 30-day period exceed 400 per 100 milliliters.
(i) Total phosphate.	Must not exceed 0.15 mg/l in any stream at the point where it enters any reservoir or lake, nor 0.075 mg/l in any reservoir or lake, nor 0.30 mg/l in streams and other flowing waters.
(j) Total dissolved solids.	Must not exceed 500 mg/l or one-third above that characteristic of natural conditions (whichever is less).









Attachment 4: Hours/Day above specified temperatures on the SFLHR and Sheep Creek. July 19 was the last day water was known to be present at Sheep Creek.

APPENDIX 4
LIVESTOCK KEY AREA STUDY SUMMARIES

JAKES CREEK ALLOTMENT STUDIES SUMMARY - KEY AREA 1
Kelly Creek Seeding South Pasture
Range Site: Droughty Loam 8-10" 024XY020NV
Key Species: Bottlebrush Squirreltail (SIHY)
Sandberg's Bluegrass (POSE)

Year	Actual Use (AUMs)	Period of Use	KMA Utiliz. %	Dates Read	UPM Results [1]	Dates Mapped	Carrying Capacity (AUMS)	CYI	Ecol. Status #/Ac Prod.	Key Species Frequency
1983	463	3/16 to 10/25						2.07	Early 19 941 #/ac	
1984	571	4/1 to 10/30	POSE 35	6/27 (386) [2]			551	1.95		
1985								0.89		
1986	426	3/16 to 10/30	POSE [3] SIHY - Severe ATCA GRSP - no use	12/3	Moderate 32% Heavy 19% Not Mapped 49%		371	1.04		
1987	475	4/5 to 11/25	SIHY 53 POSE 55	12/2	Moderate 35% Heavy 29% Not Mapped 36%		402/UPM 432/utiliz	0.88		
1988	523	4/1 to 7/31						0.64		
1989	127	4/3 to 5/26	SIHY [4] POSE	10/31				0.85		
1990	660	4/1 to 7/30						0.86		
1991	338	4/5 to 5/29						0.57		
1992	530	4/1 to 7/31						0.77		
1993	351	4/2 to 5/30						1.59		
1994	316	4/2 to 5/27						0.69		
1995	589	4/2 to 6/30						1.59		
1996	298	4/8 to 5/30								
1997	609	4/1 to 12/30	SIHY 63 POSE 55	11/4 (516)			410			
1998	886	4/5 to 11/15	SIHY 39 POSE 35	10/28 (570)			731			
1999	556	4/1 to 9/27								
2000	582	4/2-9/21								
2001	431 [5]	3/13 to 4/15								

1 Use pattern map results reflect mapping for the entire Jakes Creek Allotment.
2 Numberss in paraenthesis indicate actual use in AUMs used up to the date utilization was read.
3 This was an ocular estimate. No transect was run.
4 No transect was run. BLM specialist was unable to determine if use was severe or if a previous fire had impacted the area to the extent that there was little to no vegetation present.
5 Actual use data is only available for Oro Vaca, Inc and Kenneth Buckingham.

LITTLE HUMBOLDT ALLOTMENT STUDIES SUMMARY - KEY AREA 1

Castle Ridge Pasture
Range Site: Loamy Slope 12-16" 025XY012NV
Key Species: Bluebunch wheatgrass (AGSP)
Idaho Fescue (FEID)
Great Basin wildrye (ELCI2)

Year	Actual Use (AUMs) [1]	Period of Use	KMA Utiliz %	Dates Read	UPM Results [2]	Dates Mapped	Carrying Capacity (AUMS) [3]	CYI	Ecol. Status #/Ac Prod.	Key Species Frequency
1981	7,676	4/16 t0 10/15						0.88		
1982	7,676	4/16 to 10/15	FEID 12 AGSP 5 ELCI2 12	8/5				2.01	MID 39 2,236	FEID 38.0 AGSP 24.5
1983	6,019	4/16 to 11/10						2.07		
1984	7,701	4/1 to 10/30						1.95		
1985	7,923	4/16 to 10/15						0.89		
1986	7,224	4/20 to 11/19						1.04		
1987	7,372 (6,368 c) (1,154 wh)	4/10 to 11/20			Severe 7% Heavy 28% Moderate 48% Light 10% Slight 7%	9/25	7,017	0.88	LATE 62 570	FEID 41.0 AGSP 21.0
1988	6,258	4/10 to 11/14						0.64		
1989	5,878	4/11 to 11/20						0.85		
1990	6,484	4/10 to 11/14	FEID 68 ELCI2 70	10/4				0.86		
1991	6,431	4/9 to 11/3	FEID 78	10/22				0.57		
1992	6,022	4/8 to 11/30	FEID 86	10/8				0.77		
1993	5,607	4/15 to 10/4						1.59		
1994	6,167 (6,167 c) (1,049 wh)	4/10 to 10/20	FEID 30 AGSP 10 ELCI2 43	7/15	Severe 3% Heavy 8% Moderate 23% Light 23% Slight 6% Not Mapped 37%	10/26 10/27	8,313	0.69	MID 36 2,125	FEID 27.0 AGSP 17.0
1995	5,415	4/11 to 11/12						1.59		
1996	6,426	4/10 to 11/18								
1997	6,311 (5,495 c) (1,694 wh)	3/16 to 12/30	FEID 56 AGSP 47 ELCI2 45	10/29	Severe 4% Heavy 28% Moderate 19% Light 13% Slight 6% Not Mapped 30%	10/16 10/29 10/30 11/4	6,757		MID 47 1,858	FEID 23.0 AGSP 33.0
1998	6,236	3/16 to 12/15	FEID 59	10/8						
1999	6,952									
2000	7,672									
2001	5,655									
Ave.	6,624						7,362		1,694	

[1] Numbers in paraenthesis indicate actual use in AUMs for the entire Little Humboldt and Tall Corral Allotments including wild horses and livestock as used up to the date use pattern mapping was completed. c= cattle, wh = wild horse

[2] Use pattern mapping results reflect mapping for the entire Little Humboldt Allotment.

[3] Carrying capacity is for the Little Humboldt and Tall Corral Allotments and reflects capacity for livestock and wild horses. Actual use and utilization data were compared to the desired utilization level of 50% for the allotment. The formula used was taken from Rangeland Monitoring Analysis, Interpretation, and Evaluation (TR 4400-7).

$$\frac{\text{ACTUAL USE (AUMS) x DESIRED UTILIZATION}}{\text{UTILIZATION}} = \text{ESTIMATED CARRYING CAPACITY}$$

LITTLE HUMBOLDT ALLOTMENT STUDIES SUMMARY - KEY AREA 2

Jakes Creek Pasture
Range Site: LOAMY SLOPE 12-16" 025XY012NV
Key Species: Bluebunch wheatgrass (AGSP)
Idahoe fescue (FEID)
Pursha tridentata (PUTR)

Year	Actual Use (AUMs) [1]	Periods Of Use	KMA Utiliz %	Daates Read	UPM Results [2]	Dates Mapped	Carrying Capacity (AUMS) [3]	CYI	Ecol. Status #/Ac Prod.	Key Species Frequency
1981	7,676	4/16 to 10/15						.88		
1982	7,676	4/16 to 10/15	FEID 23	8/6				2.01	MID 35 2,074	FEID 16.0 AGSP 0.0
1983	6,019	4/16 to 11/10	FEID 18	8/31				2.07		
1984	7,701	4/1 to 10/30						1.95		
1985	7,923	4/16 to 10/15						.89		
1986	7,224	4/20 to 11/19	FEID 69 PUTR 55	12/3				1.04		
1987	7,372 (6,368 c) (1,154 wh)	4/10 to 11/20	FEID 58	9/25	Severe 7% Heavy 28% Moderate 48% Light 10% Slight 7%	9/25	7,017	.88	MID 34 1,697	FEID 11.0 AGSP 7.5
1988	6,258	4/10 to 11/14						.64		
1989	5,878	4/11 to 11/20	FEID 66	11/15				.85		
1990	6,484	4/10 to 11/14	FEID 59	10/23				.86		
1991	6,431	4/9 to 11/3						.57		
1992	6,022	4/8 to 11/30	FEID 57	10/14				.77		
1993	5,607	4/15 to 10/4						1.59		
1994	6,167 (6,167 c) (1,049 wh)	4/10 to 10/20			Severe 3% Heavy 8% Moderate 23% Light 23% Slight 6% Not Mapped 37%	10/26 10/27	8,313	.69	MID 36 3,960	FEID 18.0 AGSP 0.0
1995	5,415	4/11 to 11/12	FEID 31	11/8				1.59		
1996	6,426	4/10 to 11/18								
1997	6,311 (5,495 c) (1,694 wh)	3/16 to 12/30	FEID 54	10/16	Severe 4% Heavy 28% Moderate 19% Light 3% Slight 6% Not Mapped 30%	10/16 10/29 10/30 11/4	6,757		MID 33 5,290	FEID 11.0 AGSP 10.0
1998	6,236	3/16 to 12/15	FEID 53	10/8						
1999	6,952									
2000	7,672									
2001	5,555									
AVE.	6,624						7,362		3,255	

[1] Numbers in paraenthesis indicate actual use in AUMs for the entire Little Humboldt and Tall Corral Allotments including wild horses and livestock as used up to the date use pattern mapping was completed. c= cattle, wh = wild horse

[2] Use pattern mapping results reflect mapping for the entire Little Humboldt Allotment.

[3] Actual use and utilization data were compared to the desired utilization level of 50% for the allotment. The formula used was taken from Rangeland Monitoring Analysis, Interpretation, and Evaluation (TR 4400-7).

$$\frac{\text{ACTUAL USE (AUMS)} \times \text{DESIRED UTILIZATION}}{\text{UTILIZATION}} = \text{ESTIMATED CARRYING CAPACITY}$$

LITTLE HUMBOLDT ALLOTMENT STUDIES SUMMARY -KEY AREA 3
OUST/Sawtooth Spring Seeding Pasture
Range Site: LOAMY SLOPE 8-10" 025XY019NV
Key Species: Cheatgrass (BRTE)
Cutleaf filarea (ERCI6)

Year	Actual Use (AUMs) [1]	Period Of Use	KMA Utiliz. %	Dates Read	UPM Results [2]	Dates Mapped	Carrying Capacity (AUMs) [3]	CYI	Ecol. Status #/Ac Prod.	Key Species Frequency
1981	7,676	4/16 t0 10/15						.88		
1982	7,676	4/16 to 10/15						2.01	EARLY 5 492	ND
1983	6,019	4/16 to 11/10	BRTE 1	8/30				2.07		
1984	7,701	4/1 to 10/30						1.95		
1985	7,923	4/16 to 10/15						.89		
1986	7,224	4/20 to 11/19						1.04		
1987	7,372 (6,368 c) (1,154 wh)	4/10 to 11/20	BRTE 75 ERCI6 75	9/25	Severe 7% Heavy 28% Moderate 48% Light 10% Slight 7%	9/25	7,017	.88	EARLY 9 104	ND
1988	6,258	4/10 to 11/14						.64		
1989	5,878	4/11 to 11/20	BRTE 9	11/8				.85		
1990	6,484	4/10 to 11/14						.86		
1991	6,431	4/9 to 11/3						.57		
1992	6,022	4/8 to 11/30						.77		
1993	5,607	4/15 to 10/4						1.59		
1994	6,167 (6,167 c) (1,049 wh)	4/10 to 10/20			Severe 3% Heavy 8% Moderate 23% Light 23% Slight 6% Not Mapped 37%	10/26 10/27	8,313	.69		ND
1995	5,415	4/11 to 11/12						1.59		
1996	6,426	4/10 to 11/18								
1997	6,311 (5,495 c) (1,694 wh)	3/16 to 12/30			Severe 4% Heavy 28% Moderate 19% Light 13% Slight 6% Not Mapped 30%	10/16 10/29 10/30 11/4	6,757			ND
1998	6,236									
1999	6,952									
2000	7,672									
2001	5,655									
AVE.	6,624						7,362		298	

[1] Numbers in paraenthesis indicate actual use in AUMs for the entire Little Humboldt and Tall Corral Allotments including wild horses and livestock as used up to the date use pattern mapping was completed. c= cattle, wh = wild horse

[2] Use pattern mapping results reflect mapping for the entire Little Humboldt Allotment.

[3] Actual use and utilization data were compared to the desired utilization level of 50% for the allotment. The formula used was taken from Rangeland Monitoring Analysis, Interpretation, and Evaluation (TR 4400-7).

$$\frac{\text{ACTUAL USE (AUMS) x DESIRED UTILIZATION}}{\text{UTILIZATION}} = \text{ESTIMATED CARRYING CAPACITY}$$

ND= No data

LITTLE HUMBOLDT ALLOTMENT STUDIES SUMMARY - KEY AREA 4
Castle Ridge Pasture
Range Site: LOAMY SLOPE 8-10" 025XY019NV
Key Species: Bluebunch wheatgrass (AGSP)

Year	Actual Use AUMs [1]	Period Of Use	KMA Utiliz %	Dates Read	UPM Results [2]	Dates Mapped	Carying Capacity AUMS [3]	CYI	Ecol. Status #/Ac Prod	Key Species Frequency
1982	1,416 wh	3/1 to 2/28						2.01	MID 45 782	AGSP 38.5
1983	1,356 wh (670 wh)	3/1 to 2/28	AGSP 11	8/30			3,045	2.07		
1984	1,284 wh	3/1 to 2/28						1.95		
1985	1,356 wh	3/1 to 2/28						.89		
1986	1,416 wh	3/1 to 2/28						1.04		
1987	2,016w h (1,146 wh)	3/1 to 2/28	AGSP 16	9/25	see footnote	9/25	3,581	.88	PNC 80 428	AGSP 43.5
1988	2,484 wh (1,683 wh)	3/1 to 2/28	AGSP 20	11/4			4,208	.64		
1989	1,716 wh (1,182 wh)	3/1 to 2/28	AGSP 30	11/8			1,970	.85		
1990	2,028 wh (1,306 wh)	3/1 to 2/28	AGSP 42	11/8			1,555	.86		
1991	2,088 wh (1,461 wh)	3/1 to 2/28	AGSP 34	11/12			2,148	.57		
1992	2,936 wh (1,817 wh)	3/1 to 2/28	AGSP 40	10/19			2,271	.77		
1993	2,162 wh	3/1 to 2/28						1.59		
1994	1,705 wh (1,070 wh)	3/1 to 2/28	AGSP 17	10/31	see footnote	10/26 10/27	3,147	.69	LATE 59 772	AGSP 26.5
1995	2,403 wh (1,445 wh)	3/1 to 2/28	AGSP 28	10/3			2,580	1.59		
1996	2,784 wh	3/1 to 2/28								
1997	2,544 wh (1,693 wh)	3/1 to 2/28	AGSP 54	10/30	see footnote	10/16 10/29 10/30 11/4	1,568		LATE 55 1,112	AGSP 32.0
1998	3,744 wh (2,204 wh)	3/1 to 2/28	AGSP 47	10/2			2,345			
1999	4,668 wh	3/1 to 2/28								
2000	4,116 wh	3/1 to 2/28								
2001	6,888 wh	3/1 to 2/28								
AVE.	2,332 wh						2,583		773	

1 Key Area #4 is representative of primarily wild horse use. When the Castle Spring Pipeline became dysfunctional, cattle discontinued using the majority of the area. Number in parenthesis is actual use by wild horses to the date that utilization was read.

2 Use pattern mapping results reflect mapping for the entire Little Humboldt Allotment and so were not used for calculating carrying capacity for the Castle Ridge Allotment

3 Actual use and utilization data were compared to the desired utilization level of 50% for the allotment. The formula used was taken from Rangeland Monitoring Analysis, Interpretation, and Evaluation (TR 4400-7).

$$\frac{\text{ACTUAL USE (AUMS)} \times \text{DESIRED UTILIZATION}}{\text{UTILIZATION}} = \text{ESTIMATED CARRYING CAPACITY}$$

LITTLE HUMBOLDT ALLOTMENT STUDIES SUMMARY - KEY AREA 5
Jakes Creek Pasture
Range Site: LOAMY SLOPE 12-16" 025XY012NV
Key Species: Bluebunch wheatgrass (AGSP)
Idahoe fescue (FEID)

Year	Actual Use AUMs[1]	Period Of Use	KMA Utiliz. %	Dates Read	UPM Results[2]	Dates Mapped	Carrying Capacity (AUMS)[3]	CYI	Ecol. Status #/Ac Prod..	Key Species Frequency
1981	7,676	4/16 t0 10/15						.88		
1982	7,676	4/16 to 10/15						2.01	MID 46 703	FEID 45.0
1983	6,019	4/16 to 11/10	FEID 10	8/31				2.07		
1984	7,701	4/1 to 10/30						1.95		
1985	7,923	4/16 to 10/15						.89		
1986	7,224	4/20 to 11/19						1.04		
1987	7,372 (6,368 c) (1,154 wh)	4/10 to 11/20	FEID 37	9/25	Severe 7% Heavy 28% Moderate 48% Light 10% Slight 7%	9/25	7,017	.88	MID 47 1,414	FEID 47.5
1988	6,258	4/10 to 11/14						.64		
1989	5,878	4/11 to 11/20						.85		
1990	6,484	4/10 to 11/14	FEID 43	10/23				.86		
1991	6,431	4/9 to 11/3						.57		
1992	6,022	4/8 to 11/30	FEID 37	10/15				.77		
1993	5,607	4/15 to 10/4						1.59		
1994	6,167 (6,167 c) (1,049 wh)	4/10 to 10/20			Severe 3% Heavy 8% Moderate 23% Light 23% Slight 6% Not Mapped 37%	10/26 10/27	8,313	.69	MID 35 2,587	FEID 33.0
1995	5,415	4/11 to 11/12						1.59		
1996	6,426	4/10 to 11/18								
1997	6,311 (5,495 c) (1,694 wh)	3/16 to 12/30	FEID 17	8/20	Severe 4% Heavy 28% Moderate 19% Light 13% Slight 6% Not Mapped 30%	10/16 10/29 10/30 11/4	6,757		LATE 50 2,359	FEID 39.5
1998	6,236	3/16 to 12/15	FEID 13	10/8						
1999	6,952									
2000	7,672									
2001	ID									
AVE.	6,601						7,362		1,765	

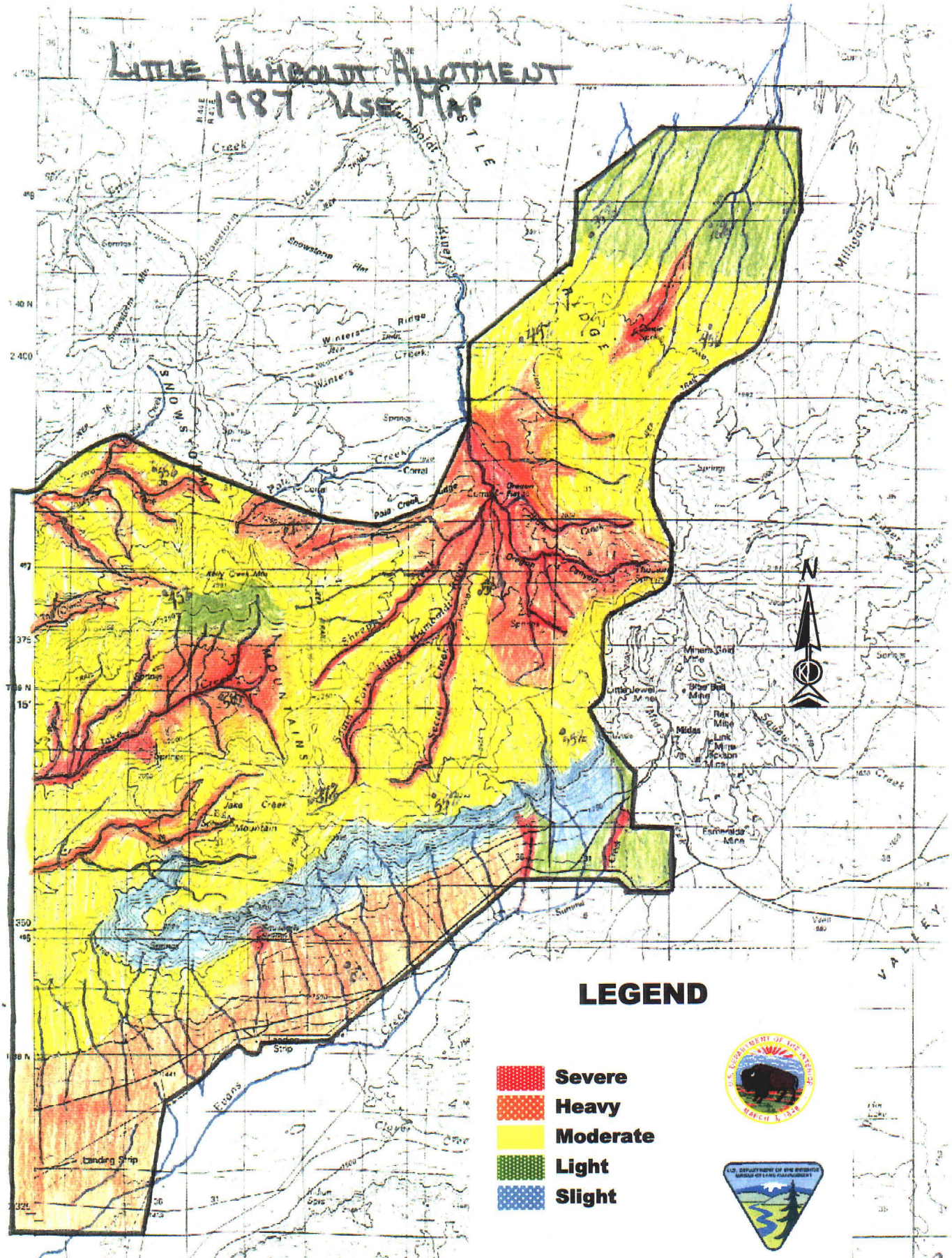
1 Numbers in paraenthesis indicate actual use in AUMs for the entire Little Humboldt and Tall Corral Allotments including wild horses and livestock as used up to the date use pattern mapping was completed. c= cattle, wh = wild horse

2 Use pattern mapping results reflect mapping for the entire Little Humboldt Allotment.

3 Actual use and utilization data were compared to the desired utilization level of 50% for the allotment. The formula used was taken from Rangeland Monitoring Analysis, Interpretation, and Evaluation (TR 4400-7).

$$\frac{\text{ACTUAL USE (AUMS)} \times \text{DESIRED UTILIZATION}}{\text{UTILIZATION}} = \text{ESTIMATED CARRYING CAPACITY}$$

LITTLE HUMBOLDT ALLOTMENT
1987 USE MAP

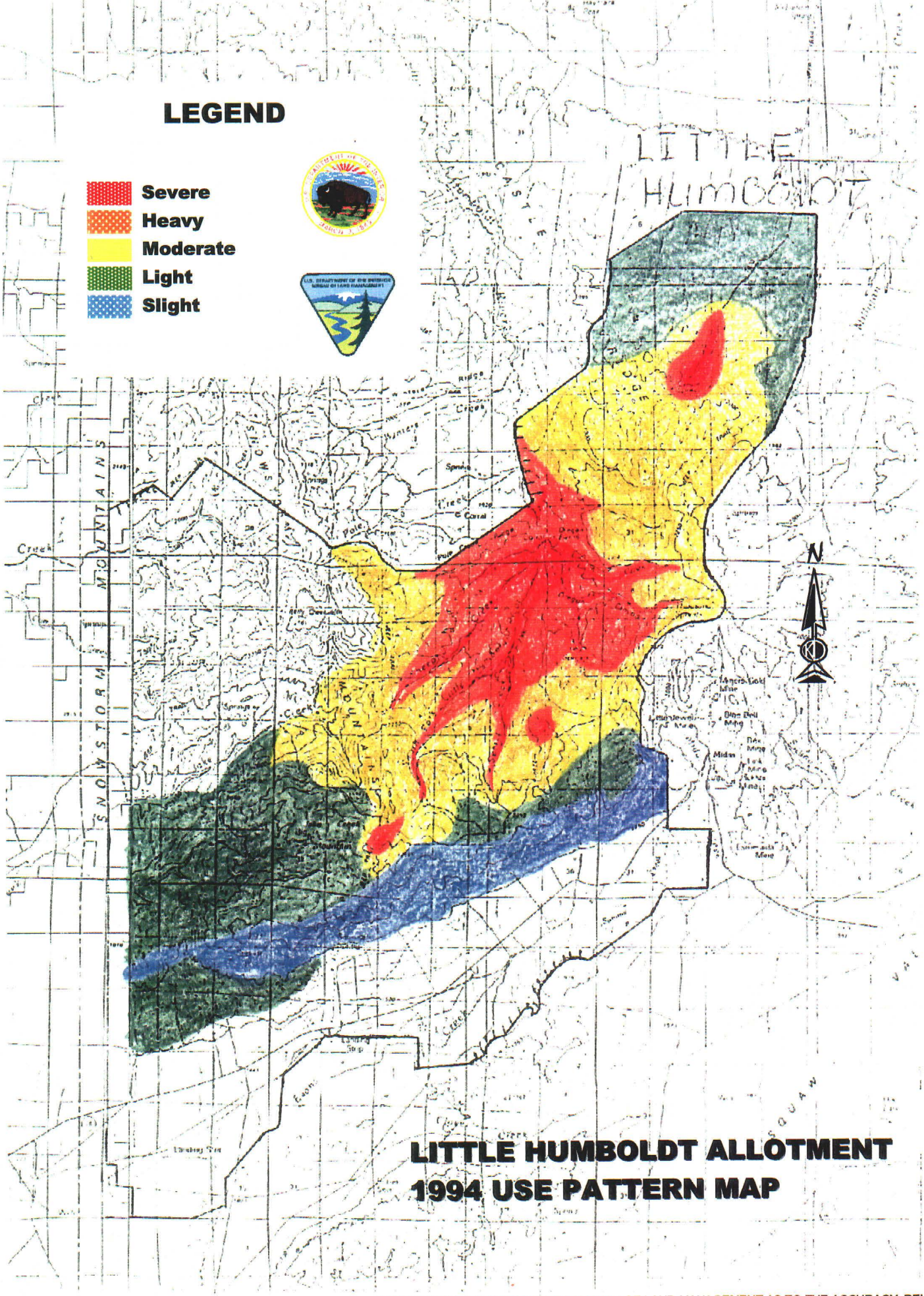


LEGEND

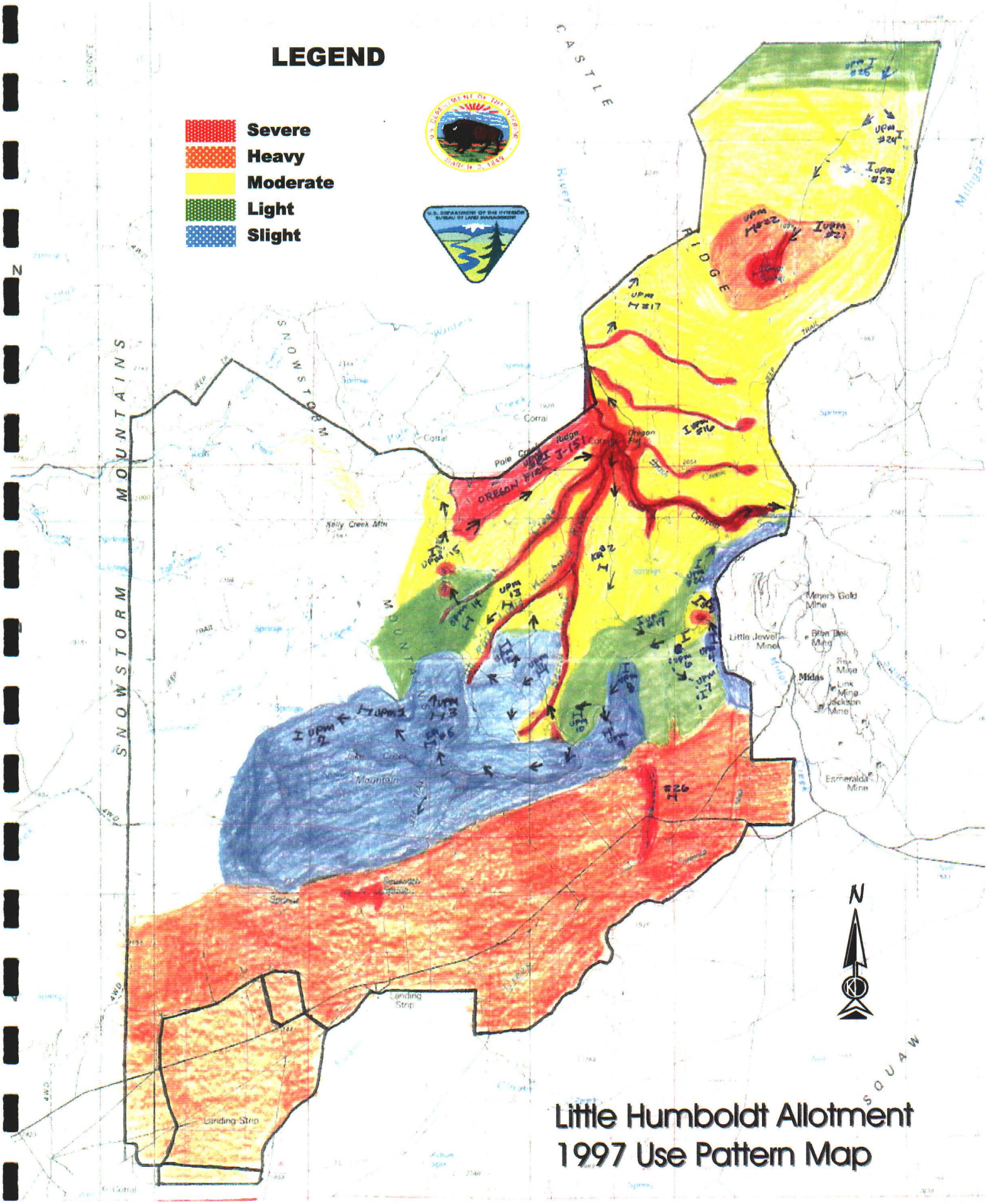
- Severe
- Heavy
- Moderate
- Light
- Slight

Use mapped by helicopter.
Very dry year

9-25-87 WB



LITTLE HUMBOLDT ALLOTMENT
1994 USE PATTERN MAP



"NO WARRANTY IS MADE BY THE BUREAU OF LAND MANAGEMENT AS TO THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THESE DATA FOR INDIVIDUAL USE OR AGGREGATE USE WITH OTHER DATA."

APPENDIX 5
BIG GAME
HABITAT RATING

APPENDIX 5

6630 - WILDLIFE HABITAT RATING INFORMATION

Disturbance or Interference Rating. These influences can be observed in a general way and are a professional judgement of the evaluator, but where major interference or disturbance is indicated, it should be explained in a narrative.

Historically crucial, reproduction and/or migration areas are undisturbed by an influx of people and/or their facilities with little change in the last 10 years. Few if any facilities with little change in the last 10 years. Few if any conflicts or hazards are documented, enter 18 points.

Historically crucial, reproduction and/or migration areas have been slightly disturbed in the last 10 years; only a few new roads or facilities have been constructed; a small number of conflicts or hazards are obvious enough to be documented, enter 13 points.

Historically crucial, reproduction and/or migration areas have been noticeably disturbed in the last 10 years. Conflicts and hazards could easily be identified and documented, enter 9 points.

Historically crucial, reproduction and/or migration areas have been severely disturbed in the last 10 years, enter 5 points.

APPENDIX 6
ASPEN PHOTO POINTS

Figure 1

Figure 1. Upland Quaking Aspen Stand on Public lands Approximately 0.75-mile east of Secret Creek, Little Humboldt Allotment. Legal Description: T. 39 N., R. 45 E., Section 14 SENE The retreat of stands (loss of potential stand size) in upland areas is attributed to overutilization of aspen suckers and years of use as shade by livestock.

Figure 2.

Figure 2. Overutilization of aspen sapling potentially affecting stand size and dynamics. This sapling could potentially be at least 10 to 12 feet tall.

APPENDIX 7
PRONGHORN ANTELOPE HABITAT STUDIES

Appendix 7

Vegetation Quality Rating	**Point Range**	**Data Results 1987**	**Points**	**Data Results 1994**	**Points**	**Data Results 1997**	**Points**
Forbs	0-20	6.5%	6.5	27.8%	18.5	9.6%	9.6
Grasses	0-5	52.1%	5.0	46	5.0	30.6%	5.0
Shrubs	0-10	41.4%	5.0	26.2%	9.0	59.8%	1.0
Vegetation Quantity Rating	0-10	428 #/ac	9.25	773 #/ac	10.0	1,112 #/ac	10.0
Vegetation Height Rating	0-10	19.8 inches	10.0	19.8 inches (1987 reading used)	10.0	16.7 inches	10.0
Vegetation Diversity Rating	**Point Range**	**Data Results 1987**	**Points**	**Data Results 1994**	**Points**	**Data Results 1997**	**Points**
Forbs	0-15	3 forb spp.	1.5	6 forb spp.	3.0	9 forb spp.	4.5
Grasses	0-10	5 grass spp.	5.0	5 grass spp.	5.0	5 grass spp.	5.0
Shrubs	0-10	2 shrub spp.	2.0	2 shrub spp.	2.0	2 shrub spp	2.0
Water Availability Rating	0-10	2-4 miles	7.0	2-4 miles	7.0	2-4 miles	7.0
Water Quantity Rating	0-10	1-4 qts/animal/day	10.0	1-4 qts/animal/day	10.0	1-4 qts/animal/day	10.0
Limiting Factors (can subtract 60 points)	**Point Range**	**Data Results 1987**	**Points**	**Data Results 1994**	**Points**	**Data Results 1997**	**Points**
Fences	0-60	unknown if barriers exist	0	unknown if barriers exist	0	unknown if barriers exist	0
Snow Depth	0-60		0		0		0
Habitat Disturbance	0-60		0		0		0
Total Points	0-110		61.0		79.5		64.1
Pronghorn Antelope Habitat Condition Rating[1]			**FAIR**		**GOOD**		**FAIR**

[1] 0-40 = Poor; 41-70 = Fair; 71-90 = Good; 91-110 = Excellent

APPENDIX 8
SFLHR STREAM RIPARIAN HABITAT STUDIES

SOUTH FORK LITTLE HUMBOLDT RIVER BASIN, LITTLE HUMBOLDT ALLOTMENT
Average Stubble Height of Herbaceous Riparian Vegetation, 2000-2001

Table 1

	2000								2001 (New fencing completed)				
	June	July	July	July	Aug.	Aug.	Sept.	Oct	June	June	July	Oct	Comments
	14-15	6-7	19	27	3	14	7	4-5	15	28	18-19	3	
South Fork Little Humboldt River	Season long livestock use (June 1 - Oct 31, 2000)								Livestock use from June 1 - July 15, 2001				
Station 1	2.0	1.5	-	1.1	0.8	-	-	-	1.6	-	2.2	-	Pole Creek private pasture
Station 2	-	-	-	-	-	-	-	2.0	-	-	6.1	1.0	BLM administered public land
Station 3	2.2	2.0	1.1	1.2	1.3	-	-	1.4	-	2.7	1.8	-	Oregon Flat private pasture
Station 4	-	2.3	1.2	2.0	1.6	-	-	1.4	-	-	-	-	BLM administered unfenced private land
Station 5	2.5	2.0	1.1	-	-	-	1.0	1.0	1.7	1.6	1.4	1.2	BLM administered unfenced private land
St. 5A	-	-	-	-	-	-	-	-	-	-	1.0	0.9	BLM administered unfenced private land
Station 6	-	-	-	-	-	-	-	0.6	-	-	1.0	-	BLM administered unfenced private land
Station 7	0.9	-	-	-	-	-	-		-	-	-	-	BLM administered unfenced private land
Secret Creek	Season long livestock use (June 1 - Oct 31, 2000)								Livestock use from June 1 - July 15, 2001				
Station 1	2.4	2.8	1.4	-	-	-	-	-	1.9	-	-	1.8	BLM administered unfenced private land
Station 2	3.1	-	-	-	-	-	-	1.2	-	-	2.0	0.9	BLM administered public land
Station 3	-	-	-	-	-	-	-	-	-	-	3.5	2.2	BLM administered unfenced private land
Sheep Creek	Season Long livestock use (June 1 - Oct. 31, 2000)								Livestock use from Sept. 15-Nov. 15, 2001				
Station 1	3.6	-	-	-	-	-	-	1.5	-	-	-	-	BLM administered public land
Station 2	4.6	-	-	-	-	-	-	3.8	-	-	11.4	1.0	BLM administered unfenced private land
St. 2A	-	-	-	-	-	-	-	-	-	5.5	6.5	2.0	BLM administered unfenced private land
Station 3	2.0	1.9	-	-	-	1.1	1.0	0.9	-	-	4.5	0.8	BLM administered unfenced private land
Station 4	-	-	-	-	-	-	-	1.2	-	-	-	-	BLM administered public land

SOUTH FORK LITTLE HUMBOLDT RIVER BASIN, LITTLE HUMBOLDT ALLOTMENT
Percent Utilization of Herbaceous Riparian Vegetation, 2000-2001 (Rounded to nearest whole number)

Table 2.

	2000								2001 (New fencing completed)				
	June	July	July	July	Aug.	Aug.	Sept.	Oct	June	June	July	Oct	Comments
	14-15	6-7	19	27	3	14	7	4-5	15	28	18-19	3	
South Fork Little Humboldt River	Season long livestock use (June 1 - Oct 31, 2000)								Livestock use from June 1 - July 15, 2001				
Station 1	29	46	-	55	68	-	-	-	69	-	36	-	Pole Creek private pasture
Station 2	-	-	-	-	-	-	-	45	-	-	4	56	BLM administered public land
Station 3	26	35	46	52	60	-	-	56	-	18	45	-	Oregon Flat private pasture
Station 4	-	29	43	32	41	-	-	50	-	-	-	-	BLM administered unfenced private land
Station 5	22	35	46	-	-	-	65	65	54	49	57	50	BLM administered unfenced private land
St. 5A	-	-	-	-	-	-	-	-	68	-	71	60	BLM administered unfenced private land
Station 6	-	-	-	-	-	-	-	75	-	-	72	-	BLM administered unfenced private land
Station 7	13	-	-	-	-	-	-	67	-	-	-	-	BLM administered unfenced private land
Secret Creek	Season long livestock use (June 1 - Oct 31, 2000)								Livestock use from June 1 - July 15, 2001				
Station 1	23	-	-	-	-	-	-	-	64	-	-	36	BLM administered unfenced private land
Station 2	16	22	38	-	-	-	-	56	-	-	30	60	BLM administered public land
Station 3	-	-	-	-	-	-	-	60	-	-	17	29	BLM administered unfenced private land
Sheep Creek	Season Long livestock use (June 1 - Oct. 31, 2000)								Livestock use from Sept. 15-Nov. 15, 2001				
Station 1	12	-	-	-	-	-	-	54	-	-	-	-	BLM administered public land
Station 2	7	37	-	-	-	-	-	23	-	-	10	63	BLM administered unfenced private land
St. 2A	-	-	-	-	-	-	-	-	-	-	0	56	BLM administered unfenced private land
Station 3	29	-	-	-	-	56	65	67	-	16	3	32	BLM administered unfenced private land
Station 4	-	-	-	-	-	-	-	60	-	-	-	-	BLM administered public land

APPENDIX 9
PROPER FUNCTIONING CONDITION
DESIRED FUTURE CONDITION
MONITORING CRITERIA

Appendix 9

The following riparian objectives outlined below will be used to determine when grazing may resume in the SFLHR Basin. The short-term or Desired Future Condition (DFC) objectives must be met prior to grazing resuming in the SFLHR Basin. DFC objectives outlined below (short-term objectives) are based on site potential for having sufficient aspen, willow, or other woody species to provide shading cover and stabilize streambanks. Selected stream survey data will also be used to trigger when livestock grazing can resume. Significant progress will be achieved if short-term objectives are achieved.

Bank cover and bank stability will be monitored as specified in Revised BLM Manual Handbook 6720-1, Phase III Inventory, Elko District 2002 draft (BLM 2002). Bank cover and bank stability will be combined to determine the riparian condition class. The standards to be met are a minimum of 70% of optimum on all channel types before livestock grazing will be allowed.

The ratio of stream width to depth will be determined as specified in BLM 2002. At each transect, the water depth will be recorded to the nearest 0.05 feet at ¼ , ½, and ¾ of the distance across the stream. Average depth will be based on the total of the depth of the depth measurements divided by four, if the shoreline water depth is zero, or by three, if one or both shoreline water depths are greater than zero (Platts et al 1983, USFS 1990). The wetted stream width will also be measured along each depth transect. At least five width/depth transects will be measured at each stream monitoring station. The standard to be met and maintained are 15:1 for all transects except SFLHR S6, S7, S8, and S9, which are dryer sites in the upper SFLHR before livestock grazing will be allowed. Sites SFLHR S6, S7, S8, and S9 should show a decrease in stream width/depth ratio of at least 30% from baseline. This application does not apply in areas where beaver have established and constructed dams.

Increase type B riparian zone plants (Revised BLM manual handbook 6720-1, release 1, 2002 draft)(areas with >50% basal cover of herbaceous and or woody riparian vegetation) width by 30% or more, or until it is greater than type A riparian zones (areas with <50% basal cover of herbaceous and or woody riparian vegetation). Vegetation to be considered should be limited to that adjacent to and is being maintained by the active stream channel for both banks. The beginning of the riparian zone is defined where the riparian vegetation is within half of its average ungrazed height to the waters edge (16" plants, ½ of ungrazed height = 8" from waters edge). Where riparian plant species become gradually, but increasingly scattered, the zone will be defined as ending where the average distance between riparian plant species is greater than the average ungrazed height of those plants (Revised BLM manual handbook 6720-1, release 1, 2002 draft).

Streambank angle is effective for monitoring land uses that can change the morphology and location of the streambank. A clinometer is used to measure the angle formed by the downward sloping streambank as it meets the more horizontal stream bottom. If the streambank is undercut, the angle is always less than 90 degrees. If the bank is not undercut, then the angle is 90 degrees

or more. The angle being measured must be within bankfull channel during low flow conditions. This is the zone where the streambank is normally affected during annual runoff, and will show angle changes as the habitat improves or degrades. Desired bank angle should be 130 degrees or less unless the stream channel is incised. For incised channels (Rosgen G channel) it is desirable for bank angle to flatten before recovery can take place.

Achievement of long-term objectives will ensure that streams will have a low width to depth ratio appropriate for the associated channel type with streambanks and floodplain areas in stable and densely vegetated condition with a riparian herbaceous plant community dominated by Nebraska sedge and a woody plant community dominated by willow or aspen where appropriate to site potential. Achievement of the long-term objective will go beyond PFC and will ensure good quality fishery habitat for LCT and good riparian conditions for other riparian dependent species.

Table 1. Short and Long Term Objectives for SFLHR.

South Fork Little Humboldt River			
HABITAT PARAMETERS	1999 Baseline	SHORT-TERM OBJECTIVES (5 Yrs)	LONG-TERM OBJECTIVES (10 Yrs)
Riparian Condition Class (Percent Optimum)	59%	70%	Maintain or improve
Stream width/depth ratio	25 to 35	15:1 on S2, S4, S5, S5A and Improve 30% on S6-S9	Maintain or improve
Mean B riparian zone width (feet)	20'	30% increase over baseline	Maintain or improve
Proper Functioning Condition [1]	PFC-1.69 mi. FAR-1.26 mi. NF – 4.19 mi.	PFC – 2.95 miles FAR↑- 4.19 miles	Maintain PFC Improve to PFC

[1] PFC was completed on the entire SFLHR basin drainages and including ephemeral and intermittent reaches. Therefore, totals for miles in PFC rating classes are different than the miles of perennial streams shown in Table 6.

Table 2. Short and Long Term Objectives for Secret Creek

Secret Creek			
HABITAT PARAMETERS	1999 Baseline	SHORT-TERM OBJECTIVES (5 Yrs)	LONG-TERM OBJECTIVES (10 Yrs)
Riparian Condition Class (Percent Optimum)	63%	70%	Maintain or improve
Stream width/depth ratio	38 to 51	15:1 on S1, S1A, S2, S3	Maintain or improve
Mean B riparian zone width (feet)	11'	30% increase over baseline	Maintain or improve

Secret Creek			
HABITAT PARAMETERS	1999 Baseline	SHORT-TERM OBJECTIVES (5 Yrs)	LONG-TERM OBJECTIVES (10 Yrs)
Proper Functioning Condition	PFC- 0.56 mi. FAR- 1.04 mi. NF- 0.62 mi.	PFC – 1.60 miles FAR↑ - 0.62 miles	Maintain PFC Improve to PFC
[1] PFC was completed on the entire SFLHR basin drainages and including ephemeral and intermittent reaches. Therefore, totals for miles in PFC rating classes are different than the miles of perennial streams shown in Table 6.			

Table 3. Short and Long Term Objectives for Sheep Creek

Sheep Creek			
HABITAT PARAMETERS	1999 Baseline	SHORT-TERM OBJECTIVES (5 Yrs)	LONG-TERM OBJECTIVES (10 Yrs)
Riparian Condition Class (Percent Optimum)	68%	70%	Maintain or improve
Stream width/depth ratio	19 to 27	15:1 on S2, S2A, A1A, A2A	Maintain or improve
Mean B riparian zone width (feet)	8'	30% increase over baseline	Maintain or improve
Proper Functioning Condition	PFC- 0.57 mi. FAR- 1.88 mi. NF- 2.91	PFC – 2.45 miles FAR↑-2.91	Maintain PFC Improve to PFC
[1] PFC was completed on the entire SFLHR basin drainages and including ephemeral and intermittent reaches. Therefore, totals for miles in PFC rating classes are different than the miles of perennial streams shown in Table 6.			

Table 4. Short and Long Term Objectives for Oregon Canyon

Oregon Canyon			
HABITAT PARAMETERS	1992Baseline	SHORT-TERM OBJECTIVES (5 Yrs)	LONG-TERM OBJECTIVES (10 Yrs)
Riparian Condition Class (Percent Optimum)	26%	70%	Maintain or improve
Stream width/depth ratio	21 to 26	15:1 on S1	Maintain or improve
Mean B riparian zone width (feet)	0'	30% increase over baseline	Maintain or improve
Proper Functioning Condition	PFC- .30 mi. FAR- .89 mi. NF- 5.14 mi.	PFC- 1.19 miles FAR↑- 5.14 miles	Maintain PFC Improve to PFC
[1] PFC was completed on the entire SFLHR basin drainages and including ephemeral and intermittent reaches. Therefore, totals for miles in PFC rating classes are different than the miles of perennial streams shown in Table 6.			

Table 5. Short and Long Term Objectives for Upper Pole Creek

Upper Pole Creek			
HABITAT PARAMETERS	1999 Baseline	SHORT-TERM OBJECTIVE (5 Yrs.)	LONG-TERM OBJECTIVES (10 Yrs.)
Riparian Condition Class	No data	70%	Maintain or improve
Stream width/depth ratio	No data	30% increase over baseline	Maintain or improve
Mean B riparian zone width	No data	30% increase over baseline	Maintain or improve
Proper Functioning Condition	PFC- .41 mi. FAR- 1.32 mi.	PFC – 1.73	Maintain PFC Improve to PFC

[1] PFC was completed on the entire SFLHR basin drainages and including ephemeral and intermittent reaches. Therefore, totals for miles in PFC rating classes are different than the miles of perennial streams shown in Table 6.

MAP 1
BASE MAP
(INCLUDING ALLOTMENT BOUNDARIES, FENCES, PASTURE NAMES KEY AREAS AND LAND STATUS)

KEY AREA LEGEND

- CDS-LH-01-92
- CDS-LH-02-92
- CDS-LH-03-92
- CDS-T-87-33/LH-01
- CDS-T-87-34/LH-02
- CDS-T-87-36/LH-05
- CDS-T-87-37
- LH-03
- LH-04
- JC-01

R44E
R45E
R46E
T40N
T39N
T38N
T37N
T36N

CASTLE RIDGE PASTURE
BASIN PASTURE NORTH
BASIN PASTURE SOUTH
JAKE'S CREEK PASTURE
RIM PASTURE
SPRING CREEK PASTURE
TALL CORRAL
LITTLE HUMBOLDT
KELLY CREEK SEEDING NORTH
KELLY CREEK SEEDING SOUTH
DIVIDE PASTURE
DUST PASTURE/ SAWTOOTH SPRING SEEDING
1993 EFR PASTURE
DRIFT THRU PASTURE
RANCH SEEDING PASTURE
JAKES CREEK
FLAT PASTURE

N

2 0 2 MILES

MAP 1

JAKES CREEK, LITTLE HUMBOLDT & TALL CORRAL ALLOTMENT OVERVIEW AND KEY AREAS

- DOMESTIC SHEEP USE AREA
- PROPOSED FENCE
- PASTURE FENCES
- ALLOTMENT BOUNDARY

LAND STATUS

- PUBLIC (BLM ADMIN.)
- PRIVATE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ELKO FIELD OFFICE

1 : 135000

022602 ~ KMD

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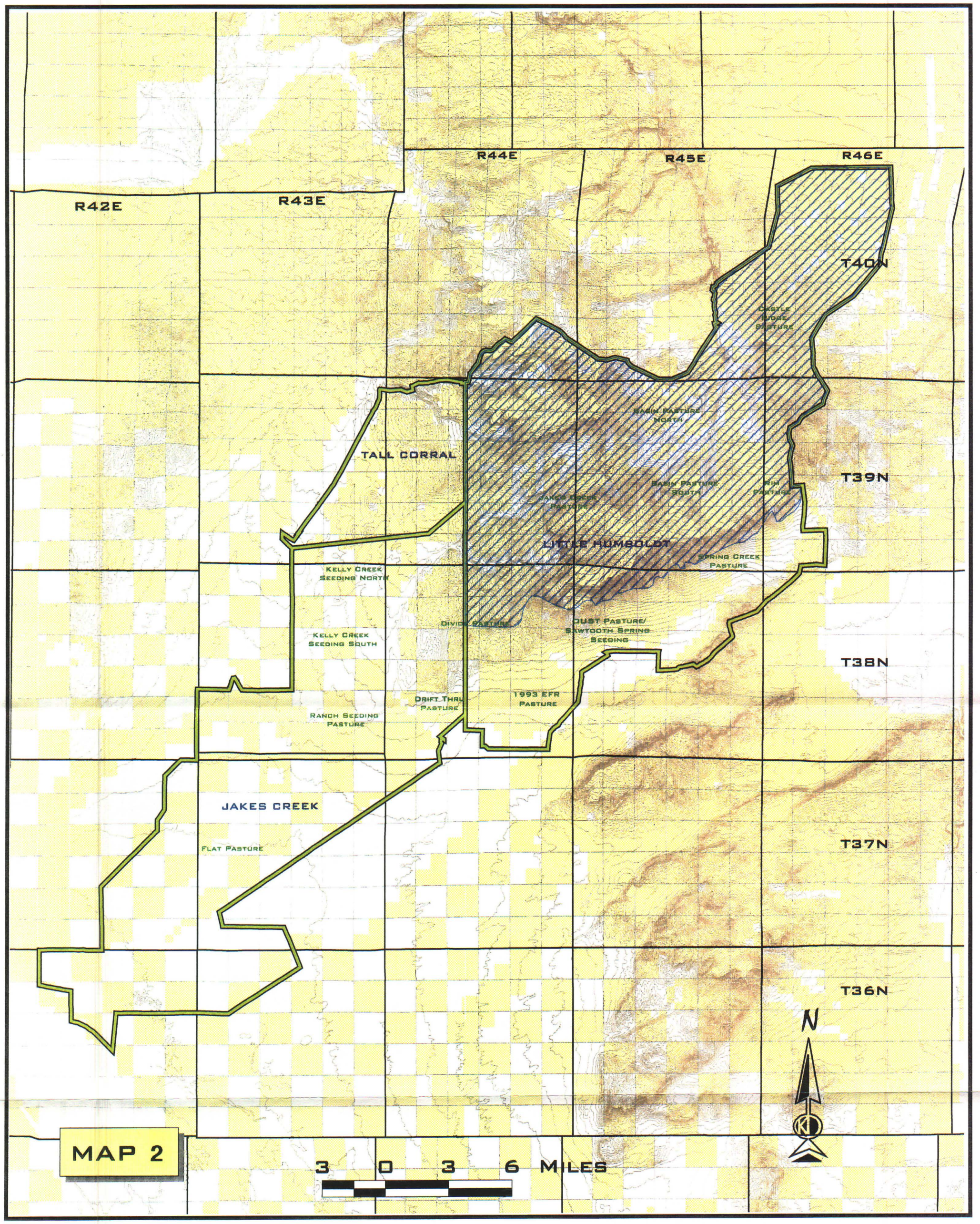
MAP 2
LITTLE HUMBOLDT
HERD MANAGEMENT AREA



LITTLE HUMBOLDT HMA DETAIL

LITTLE HUMBOLDT HMA

TOWNSHIP/RANGE

ALLOTMENT BOUNDARY

LAND STATUS

PUBLIC (BLM ADMIN.)

PRIVATE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ELKO FIELD OFFICE

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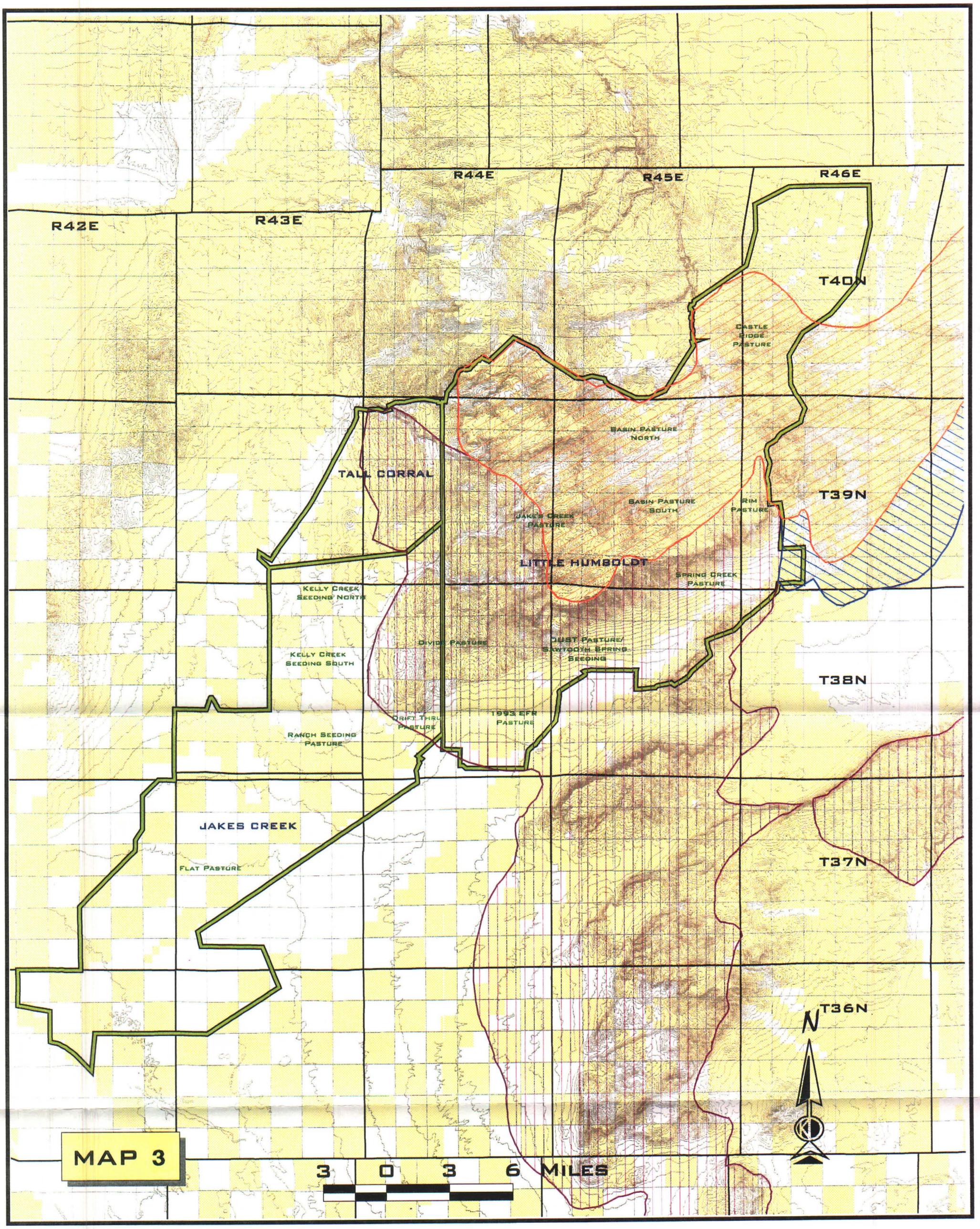
MAP 3
MULE DEER HABITAT



MULE DEER USE AREAS

- CRUCIAL WINTER
- INTERMEDIATE RANGE
- SUMMER RANGE
- TOWNSHIP/RANGE
- ALLOTMENT BOUNDARY

LAND STATUS

- PUBLIC (BLM ADMIN.)
- PRIVATE

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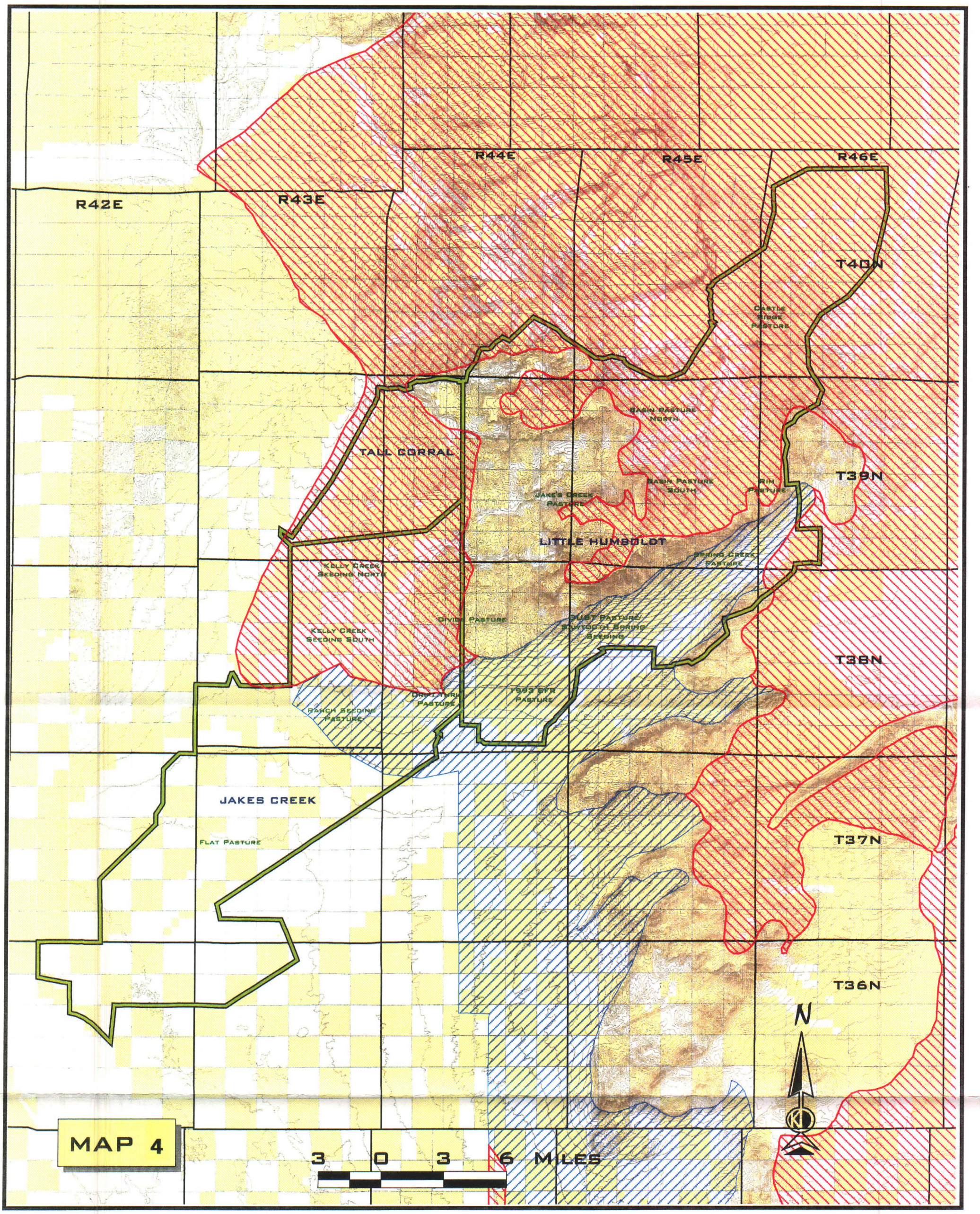
MAP 4
ANTELOPE HABITAT



PRONGHORN ANTELOPE USE AREAS

- SUMMER RANGE
- CRUCIAL WINTER RANGE
- TOWNSHIP/RANGE
- ALLOTMENT BOUNDARY

LAND STATUS

- PUBLIC (BLM ADMIN.)
- PRIVATE

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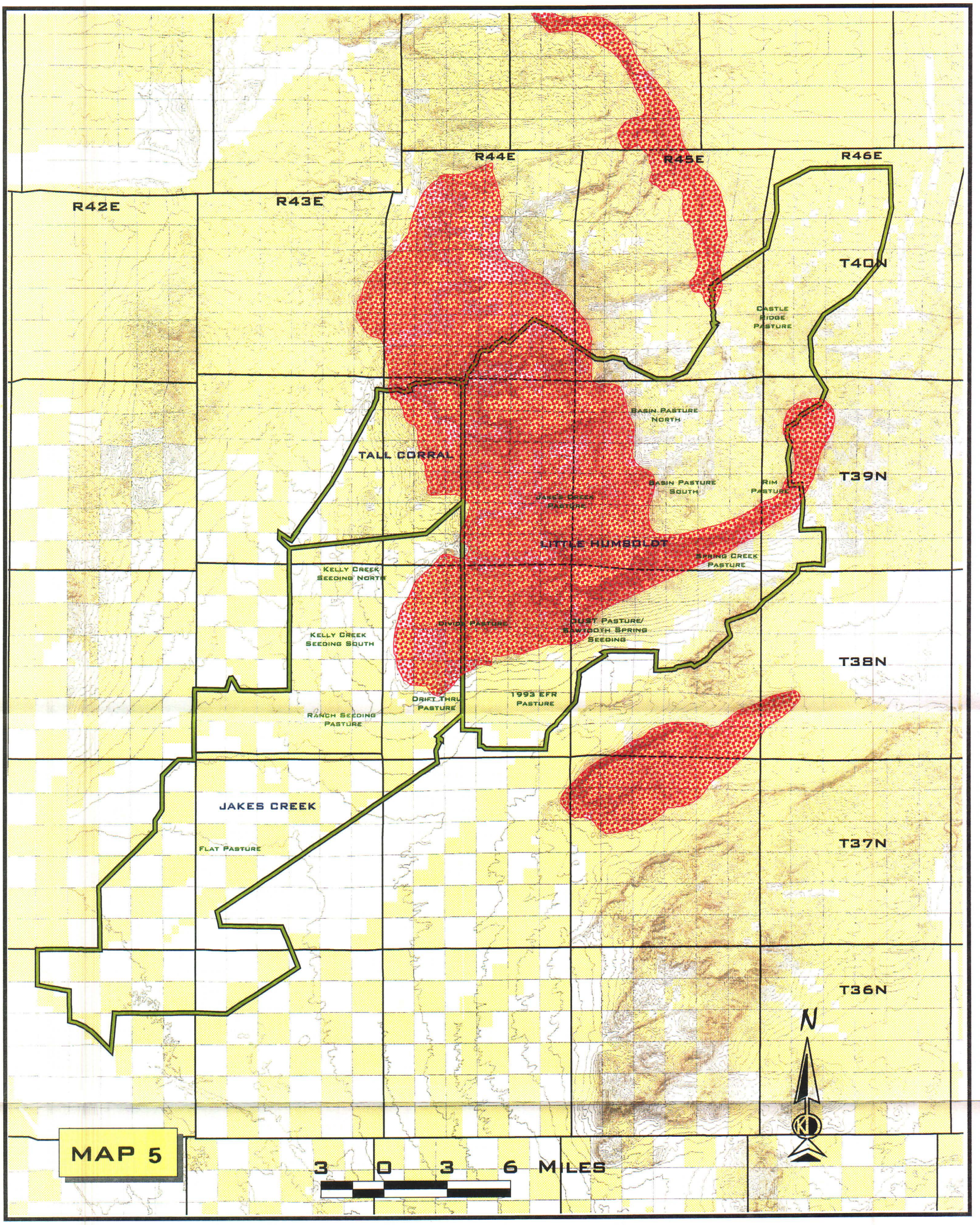
MAP 5
BIGHORN SHEEP
HABITAT



CALIFORNIA BIGHORN SHEEP RANGE

BIGHORN SHEEP RANGE
TOWNSHIP/RANGE
ALLOTMENT BOUNDARY

LAND STATUS
PUBLIC (BLM ADMIN.)
PRIVATE

UNITED STATES
DEPARTMENT OF THE INTERIOR
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MAP 6
SAGE GROUSE LEKS
AND
KEY AREAS

KEY AREA LEGEND

- CDS-LH-01-92
- CDS-LH-02-92
- CDS-LH-03-92
- CDS-T-87-33/LH-01
- CDS-T-87-34/LH-02
- CDS-T-87-36/LH-05
- CDS-T-87-37
- LH-03
- LH-04
- JC-01

R44E
R45E
R46E
T40N
T39N
T38N
T37N
T36N
N

CASTLE RIDGE PASTURE
BASIN PASTURE NORTH
BASIN PASTURE SOUTH
RIM PASTURE
JAKE'S CREEK PASTURE
TALL CORRAL
LITTLE HUMBOLDT
SPRING CREEK PASTURE
KELLY CREEK SEEDING NORTH
KELLY CREEK SEEDING SOUTH
DIVIDE PASTURE
DUST PASTURE/ SAWTOOTH SPRING SEEDING
DRIFT THRU PASTURE
1993 EFR PASTURE
RANCH SEEDING PASTURE
JAKES CREEK
FLAT PASTURE

MAP 6

3 0 3 6 MILES

IDENTIFIED SAGE GROUSE LEK AREAS

- IDENTIFIED LEKS
- PROPOSED SEEDING FENCE
- PASTURE FENCES
- TOWNSHIP/RANGE
- ALLOTMENT BOUNDARY

LAND STATUS

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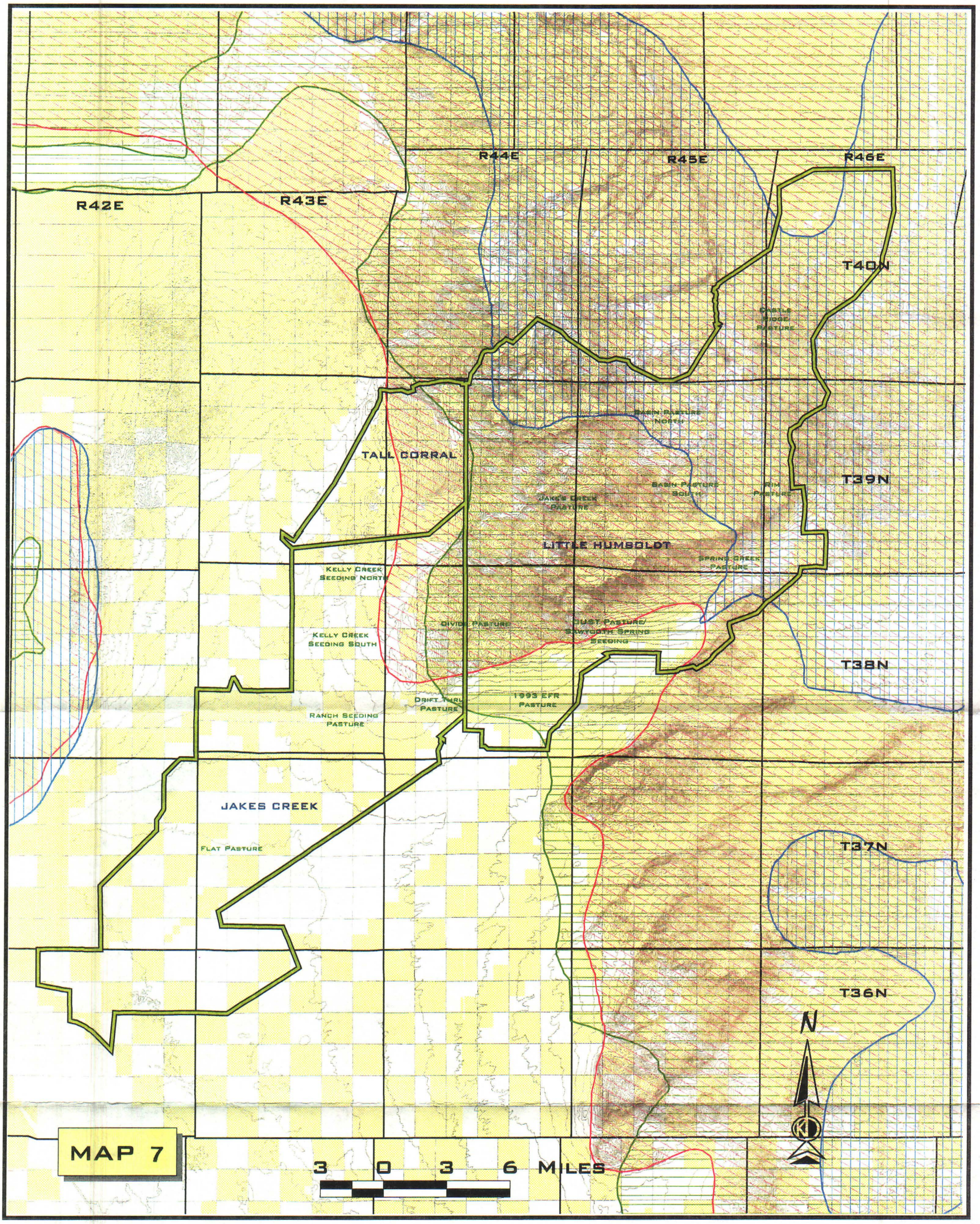
MAP 7
SAGE GROUSE
HABITAT



SAGE GROUSE USE AREA DETAIL

- NESTING AREAS
- WINTER RANGE
- SUMMER RANGE
- TOWNSHIP/RANGE
- ALLOTMENT BOUNDARY

LAND STATUS

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- PRIVATE

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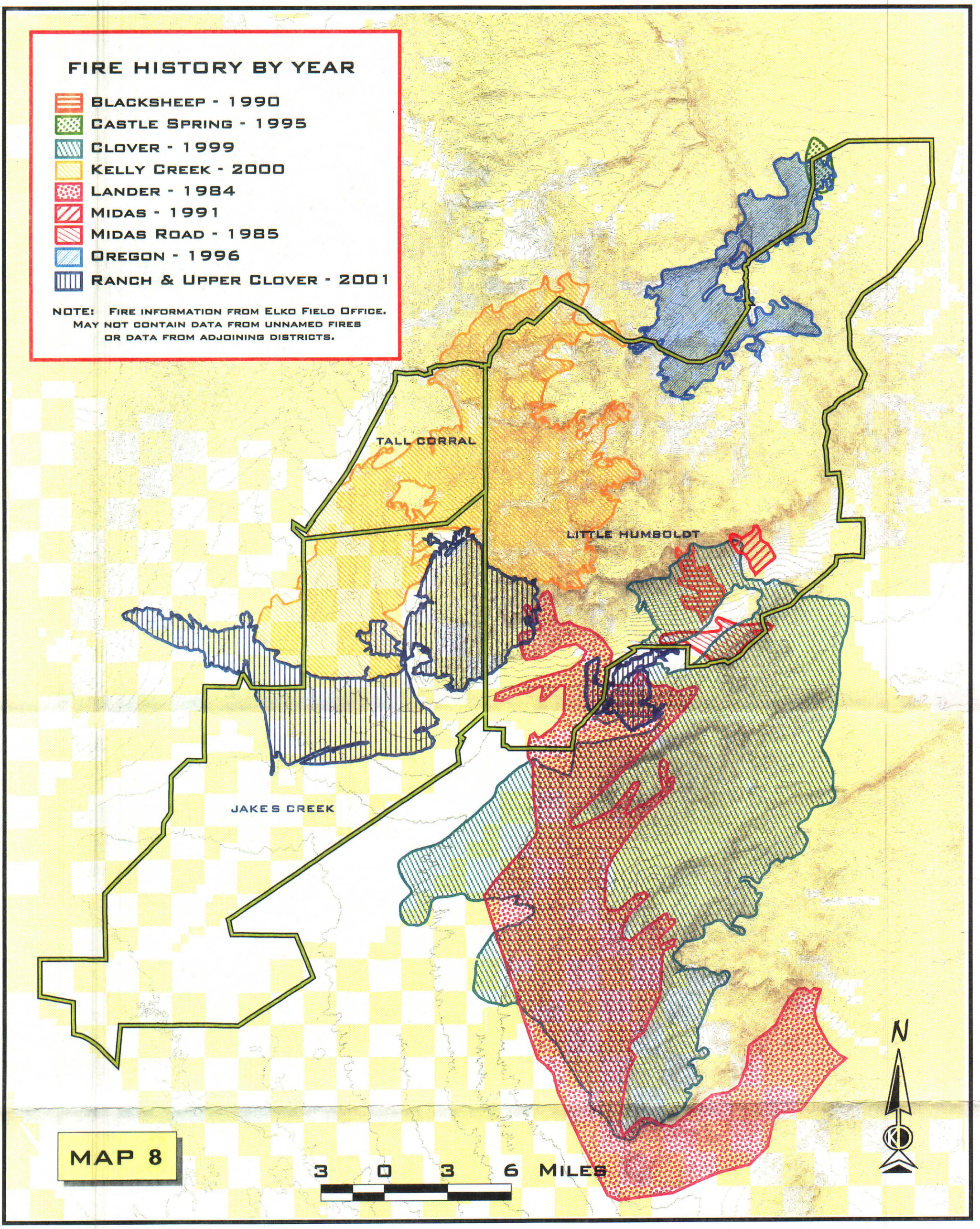
MAP 8
WILDLAND FIRES



FIRE HISTORY BY YEAR - JAKES CREEK, LITTLE HUMBOLDT AND TALL CORRAL ALLOTMENTS

UNITED STATES
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ELKO FIELD OFFICE

SEE ABOVE INSET FOR FIRE LEGEND

ALLOTMENT BOUNDARY

LAND STATUS

PUBLIC (BLM ADMIN.)

PRIVATE

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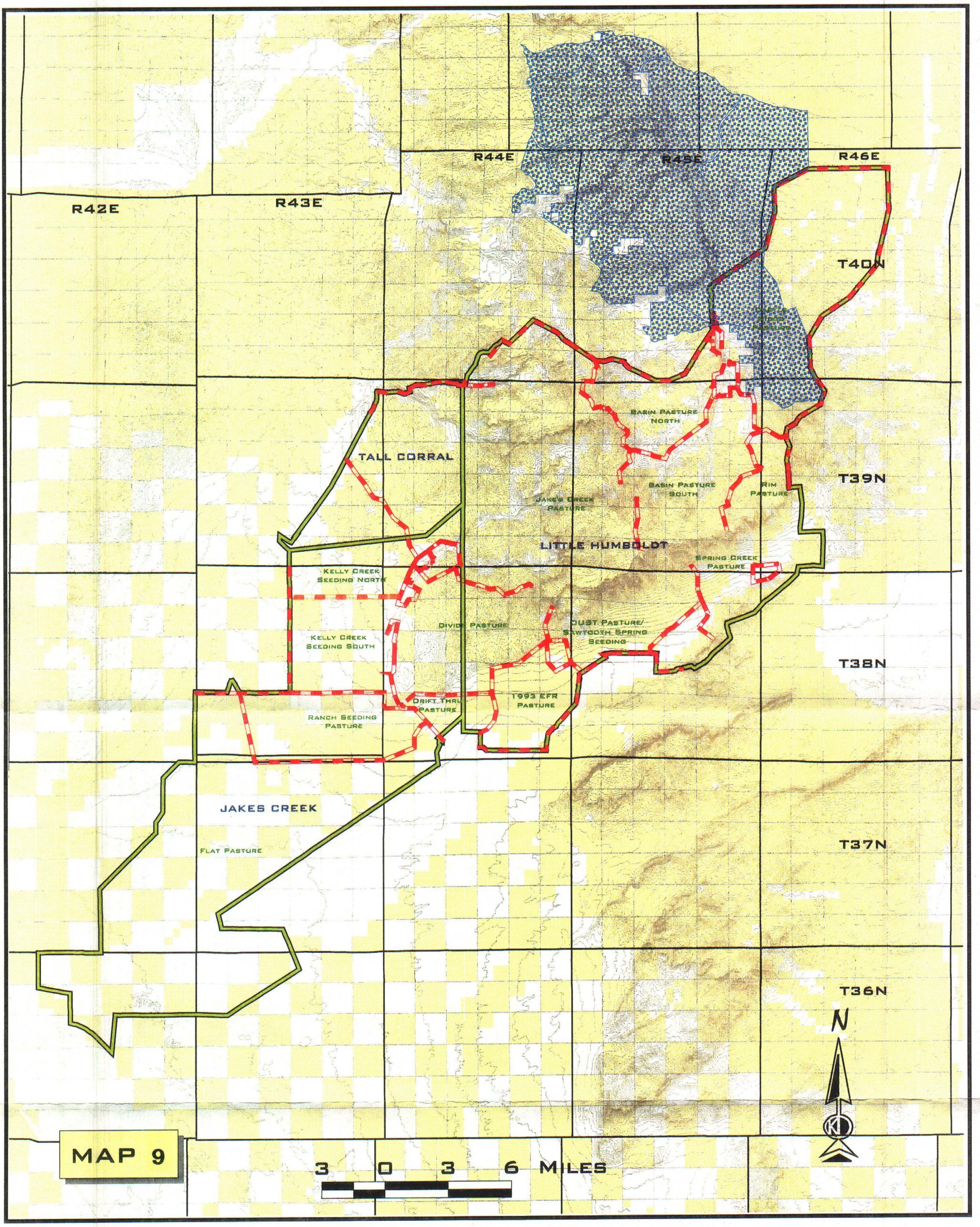
MAP 9
WILDERNESS STUDY AREA



NV 010-132 WILDERNESS STUDY AREA DETAIL

WILDERNESS STUDY AREA
PROPOSED SEEDING FENCE
PASTURE FENCES
TOWNSHIP/RANGE
ALLOTMENT BOUNDARY

LAND STATUS
PUBLIC (BLM ADMIN.)
PRIVATE

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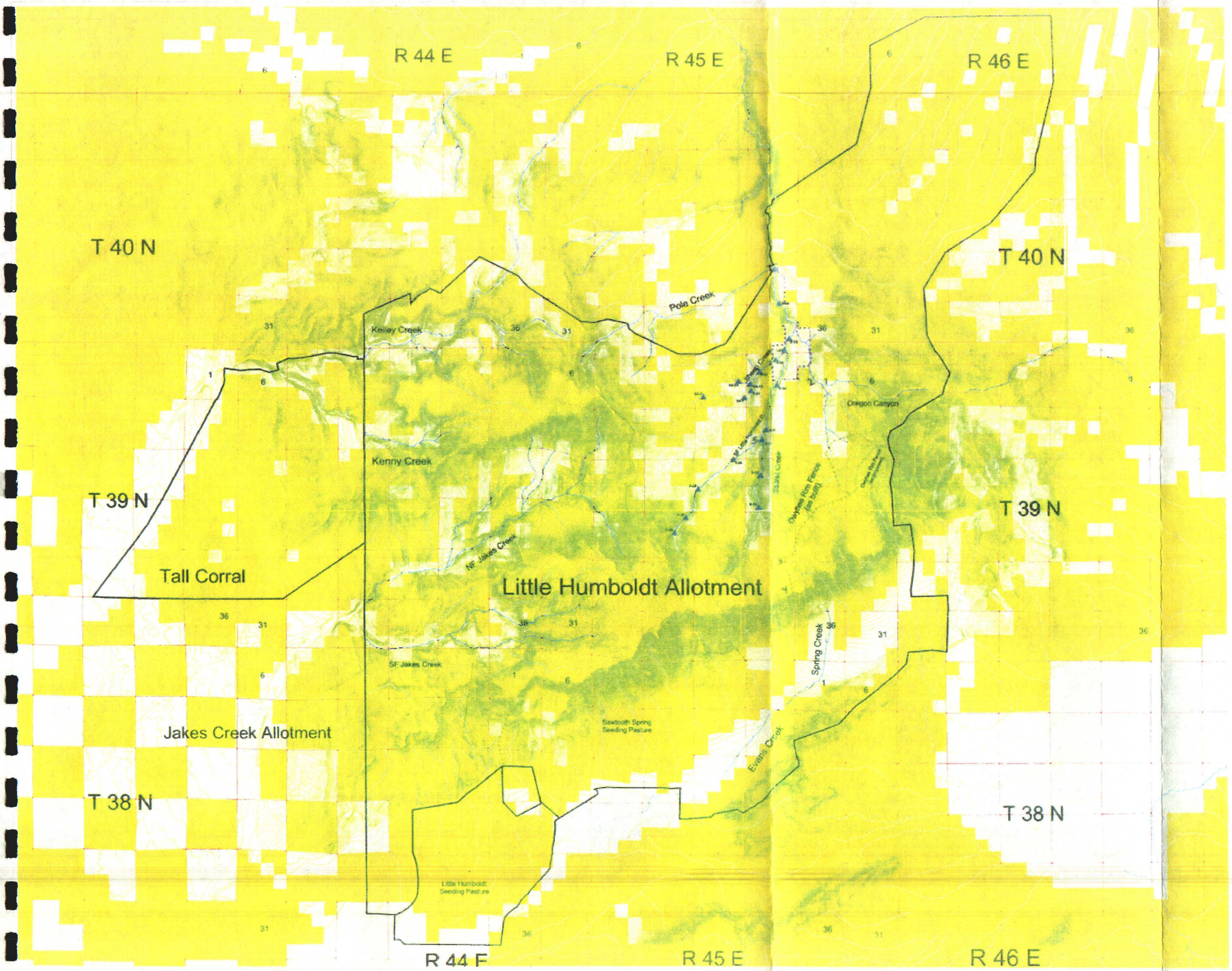
MAP 10
STREAM SURVEY LOCATIONS



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MAP 10

MAP 11
PROPER FUNCTIONING CONDITION RATINGS

South Fork Little Humboldt Allotment
PFC, Topography and Fences

Pole Creek
Little Humboldt Allotment
brush creek
oregon canyon
sheep creek
sf little humboldt river
secret creek
Owyhee Rim Fence (as built)
Little Humboldt Allotment
lakes Creek

MAP 11

Legend

- Proposed Fences for 2001 (approximate location)
- Oregon Flat Private Land Fence

Streams
- intermittent
- perennial
- Allotment Boundary
- Basin Fence
- Owyhee Rim Fence
- Square Mile Sections
- Topography Lines

Landownership Status
- Public (Administered by BLM)
- Private

Proper Functioning Condition Ratings
- Non-Functional/Perennial
- Functional-At-Risk/Perennial (Trend Indicated by Arrows)
- Proper Functioning Condition (PFC/Perennial)
- Impacted by Livestock/Intermittent
- Non-Functional Spring

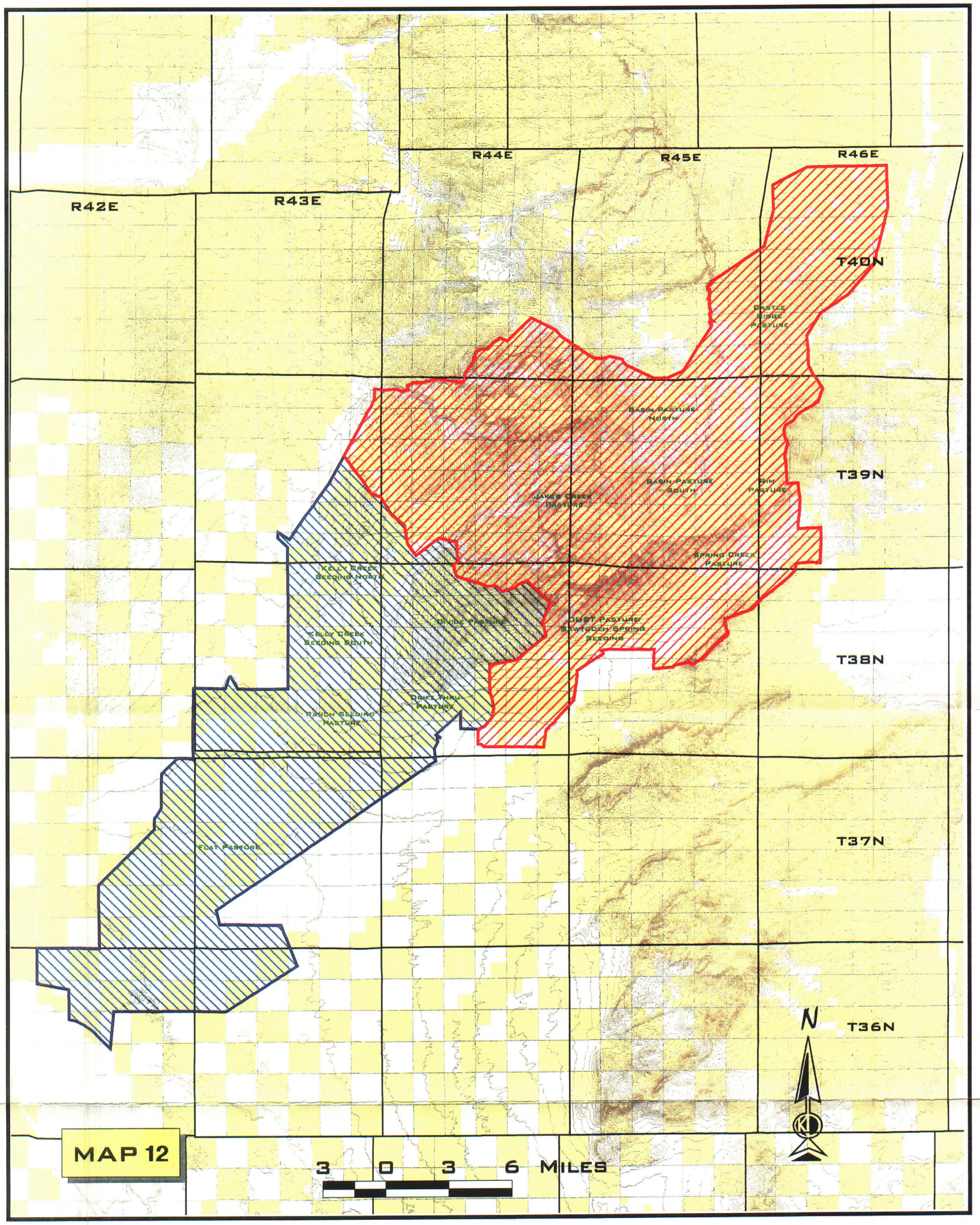
N W E S

Scale 1:50,000

1 0 1 Miles

agk

MAP 12
PROPOSED ALLOTMENT BOUNDARY ADJUSTMENTS



PROPOSED ALLOTMENT BOUNDARY RELOCATION

PROPOSED JAKES CREEK ALLOTMENT

PROPOSED LITTLE HUMBOLDT ALLOTMENT

TOWNSHIP/RANGE

LAND STATUS

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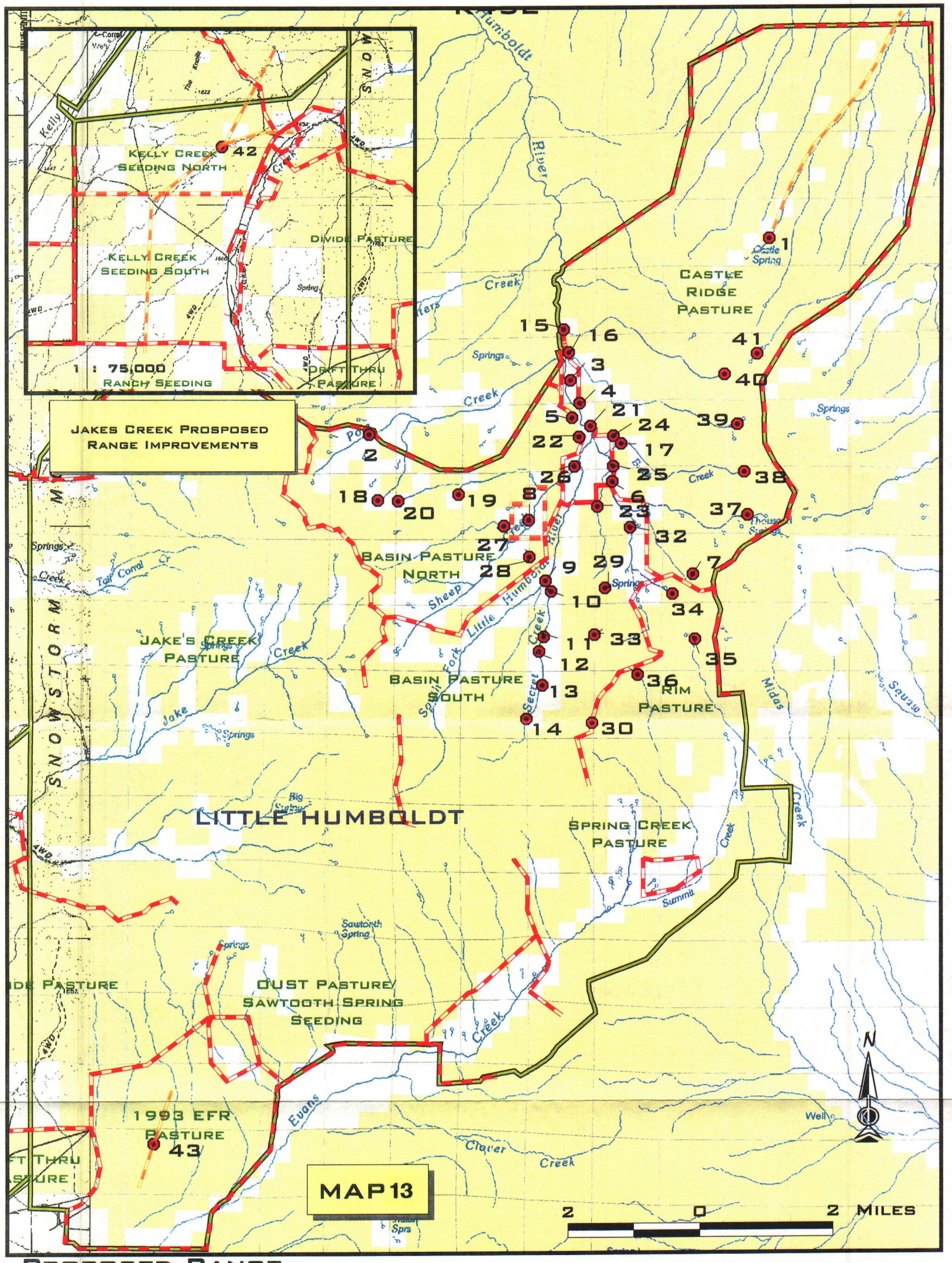
MAP 13
PROPOSED RANGE IMPROVEMENT PROJECTS



PROPOSED RANGE IMPROVEMENT PROJECTS

- PROPOSED RANGE IMPROVEMENTS
- PROPOSED FENCE & PIPELINE
- PASTURE FENCES
- ALLOTMENT BOUNDARY

LAND STATUS

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