

FINDING OF NO SIGNIFICANT IMPACT

NORTHEAST WARNER, LYNCH-FLYNN, NORTH RABBIT HILLS, EAST RABBIT HILLS, FRF FLYNN, LYNCH, AND BLUE CREEK SEEDING ALLOTMENTS GRAZING PERMIT RENEWALS

DOI-BLM-OR-L050-2013-0026-EA

The Bureau of Land Management, Lakeview Resource Area (BLM), has analyzed several alternative proposals related to renewing term grazing permit numbers 3601232, 3601213, 3601239 for the Northeast Warner, Blue Creek Seeding, Lynch-Flynn, Lynch, FRF Flynn, East Rabbit Hills, and North Rabbit Hills Allotments for a 10-year period. The allotments are scattered throughout the Warner Valley in central Lake County.

An environmental assessment (EA) was prepared that analyzed the potential direct, indirect, and cumulative environmental impacts of three alternatives. The alternatives included No Action (continue current grazing); continued grazing coupled with new range improvements; continued grazing, new range improvements, and a new rotational grazing system; and no grazing (see pages 10-16 of attached EA).

The Council on Environmental Quality (CEQ) regulations state that the significance of impacts must be determined in terms of both context and intensity (40 CFR 1508.27). The context of the proposed action is the Cox Individual Allotment. For this reason, the analysis of impacts in the attached Environmental Assessment (EA) is focused appropriately at this scale. The CEQ regulations also include the following ten considerations for evaluating the intensity of impacts:

- 1) Would any of the alternatives have significant beneficial or adverse impacts (40 CFR 1508.27(b)(1)?
() Yes (X) No

Rationale: Based on the analysis contained in the attached EA, none of the alternatives would have either significant beneficial or adverse impacts on the human environment. There are no prime or unique farmlands, forest or woodland habitat, wild horse management areas, wild and scenic rivers, significant caves, designated wilderness areas, special status plants, threatened or endangered plants and animals, hazardous waste sites, or low income or minority populations located in the project area. No measureable impacts would occur to climate, air quality, floodplains, hydrology, land status, or mineral and energy resources (Table 11, pages 15-16).

The potential impacts to existing soils, biological soil crusts, water quality, fisheries habitat, lotic riparian areas, lentic wetlands, upland vegetation, noxious weeds, wildlife, special status wildlife species, livestock grazing management, native American traditional practices, cultural resources, recreation, visual resources, ACEC/RNAs, wilderness study areas, other areas with wilderness characteristics, and social and economic values anticipated by the various alternatives have been analyzed in detail within Chapter 3 of the attached EA and found not to be significant (pages 16-79).

- 2) Would any of the alternatives have significant adverse impacts on public health and safety (40 CFR 1508.27(b)(2)? () Yes (X) No

Rationale: None of the alternatives analyzed in detail in the attached EA would have significant impacts on public health or safety because the project area is not located near any populated rural or urban area. For this reason, there would also be no impacts to low income or minority populations. Further, there are no known hazardous waste sites in the project area. There are no surface drinking water sources located in the project area. There would be no measureable impacts to air quality within and surrounding the project area (Table 11, page 16). Impacts to water quality associated with the one perennial stream located in the area are described as minor (pages 42-43).

- 3) Would any of the alternatives have significant adverse impacts on unique geographic characteristics (cultural or historic resources, park lands, prime and unique farmlands, wetlands, wild and scenic rivers, designated wilderness or wilderness study areas, or ecologically critical areas (ACECs, RNAs, significant caves)) (40 CFR

1508.27(b)(3)? Yes No

Rationale: There are no park lands, prime or unique farmlands, wild and scenic rivers, significant caves, designated wilderness areas, located in the project area (Table 11, page 16). Potential impacts to wilderness study areas, ACEC/RNAs, lotic riparian, and lentic wetland areas have been analyzed in Chapter 3 of the attached EA and found not to be significant.

4) Would any of the alternatives have highly controversial effects (40 CFR 1508.27(b)(4)? Yes No

Rationale: The BLM has extensive expertise planning, analyzing impacts, and implementing range management actions such as those proposed by the alternatives addressed in the attached EA. The potential impacts of these range management actions on soils, biological soil crusts, lotic riparian areas, water quality, fisheries habitat, lentic wetland areas, upland vegetation, noxious weeds, wildlife, special status wildlife species, livestock grazing management, native American traditional practices, cultural resources, recreation, visual resources, ACEC/RNAs, wilderness study areas, other areas with wilderness characteristics, and social and economic values can be reasonably predicted based on existing science and professional expertise. The attached EA analyzed these impacts (Chapter 3, pages 15-79). The nature of these impacts is not highly controversial, nor is there substantial dispute within the scientific community regarding the nature of these effects.

The public was been given an opportunity to review and comment on the analysis of effects. During the comment period, the BLM received five comment letters. Three of these letters articulated general support for renewing all of the grazing permits. The other two letters included more detailed comments or concerns. BLM prepared individual response letters to both parties addressing their comments and concerns. While some of the comments disagreed with BLM's conclusions regarding the nature or magnitude of effects or suggested that the more analysis was needed, they did not indicate there were highly controversial effects, as defined under 40 CFR 1508.27(b)(4).

5) Would any of the alternatives have highly uncertain effects or involve unique or unknown risks (40 CFR 1508.27(b)(5)? Yes No

Rationale: The BLM has extensive expertise planning, analyzing impacts, and implementing range management actions such as those proposed by the alternatives addressed in the attached EA. The potential impacts of these range management actions on soils, biological soil crusts, lotic riparian areas, water quality, fisheries habitat, lentic wetland areas, upland vegetation, noxious weeds, wildlife, special status wildlife species, livestock grazing management, native American traditional practices, cultural resources, recreation, visual resources, ACEC/RNAs, wilderness study areas, other areas with wilderness characteristics, and social and economic values can be reasonably predicted based on existing science and professional expertise. The attached EA analyzed these impacts (Chapter 3, pages 15-79). The nature of these impacts is not highly uncertain, nor does it involve unique or unknown risks.

6) Would any of the alternatives establish a precedent for future actions with significant impacts (40 CFR 1508.27(b)(6)? Yes No

Rationale: The BLM has extensive expertise planning, analyzing impacts, and implementing range management actions such as those proposed by the alternatives addressed in the attached EA. None of the alternative actions represents a new, precedent-setting range management technique or would establish a precedent for future similar actions with potentially significant effects.

7) Are any of the alternatives related to other actions with potentially significant cumulative impacts (40 CFR 1508.27(b)(7)? Yes No

Rationale: Based on the analysis contained within the Cumulative Effects section of Chapter 3 of the attached EA, none of the alternatives would have significant cumulative effects within the project area, even when added to the effects of other past, present, and reasonably foreseeable future actions (pages 77-79).

8) Would any of the alternatives have significant adverse impacts on scientific, cultural, or historic resources, including those listed or eligible for listing on the National Register of Historic Resources (40 CFR 1508.27(b)(8)?

Yes No

Rationale: The allotments are located within a broad area which was used historically by native Americans. However, there are no known native American religious or sacred sites, designated Traditional Cultural Properties, or important plant collecting sites known within any of the allotments. Potential impacts to cultural resources have been analyzed in Chapter 3 of the attached EA and found not to be significant (pages 62-66).

9) Would any of the alternatives have significant adverse impacts on threatened or endangered species or their critical habitat (40 CFR 1508.27(b)(9)? Yes No

Rationale: There are no threatened or endangered species or designated critical habitat within the project area (Table 11, page 16).

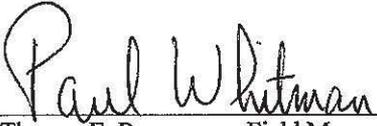
10) Would any of the alternatives have effects that threaten to violate Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)? Yes No

Rationale: All of the alternatives analyzed in the attached EA comply with all Federal, State, and local environmental laws or other environmental requirements, including the requirements of the National Environmental Policy Act, Clean Water Act, Clean Air Act, and Endangered Species Act.

The Federal Land Policy and Management Act requires that any action that BLM implements must also conform with the current land use plan and other applicable plans and policies. The purpose and need for the proposed action conforms with the management direction contained in the *Lakeview Resource Management Plan/Record of Decision* (BLM 2003b). The alternatives analyzed in the EA conform to the management direction requirements of this plan and the *Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington* (BLM 1997), the *Greater Sage-Grouse Conservation Strategy and Assessment for Oregon* (ODFW 2005), the *Greater Sage-Grouse Interim Management Policies and Procedures* (BLM 2011), and the grazing regulations (43 CFR Part 4100) in varying degrees (see EA Chapter 1, pages 4-10 and Chapter 3). Conformance with this direction will be addressed in more detail within the proposed decision as it represents important decision factors that I will consider in making my final decision (EA page 4).

Finding

On the basis of the analysis contained in the attached EA, the consideration of intensity factors described above, and all other available information, my determination is that none of the alternatives analyzed would constitute a major federal action which would have significant adverse or beneficial impacts on the quality of the human environment. Therefore, an Environmental Impact Statement (EIS) is unnecessary and will not be prepared.


Thomas E. Rasmussen, Field Manager
Lakeview Resource Area

8/13/2013
Date

Acting
for

**NORTHEAST WARNER (#00511), LYNCH-
FLYNN (#00520), NORTH RABBIT HILLS
(#00531), EAST RABBIT HILLS (#00530), FRF
FLYNN (#00501), LYNCH (#00505), AND BLUE
CREEK SEEDING (#00200) ALLOTMENTS
GRAZING PERMIT RENEWALS**

ENVIRONMENTAL ASSESSMENT

DOI-BLM-OR-L050-2013-0026-EA

Bureau of Land Management
Lakeview Resource Area
Lakeview District Office
1301 South G Street
Lakeview, Oregon 97630

June 2013

CHAPTER 1 – PURPOSE AND NEED

A. Introduction

The Bureau of Land Management (BLM) has prepared this Environmental Assessment (EA) to analyze the potential effects of renewing 10-year term grazing permit numbers 3601232, 3601213, 3601239 on the Northeast Warner (#00511), Blue Creek Seeding (#00200), Lynch Flynn (#00520), Lynch (#00505), FRF Flynn (#00501), East Rabbit Hills (#00530), and North Rabbit Hills (#00531) Allotments. This EA analyzes the direct, indirect, and cumulative environmental impacts that may result from the alternatives and serves as the analytical basis for making the determination as to whether any significant impacts to the human environment would result from the proposal, as well as provides general compliance with the National Environmental Policy Act of 1969 (NEPA).

The allotments are located in the general vicinity of Warner Valley between 5 and 65 miles north of the town of Adel, Oregon (Map 1).

Blue Creek Seeding Allotment

The Blue Creek Seeding Allotment encompasses approximately 600 acres of BLM-administered lands within a larger area totaling about 5,932 acres of both BLM and private land. This is a small allotment used in conjunction with private land owned by the permittee. BLM land comprises only about 10% of the allotment. Livestock currently graze this allotment from 9/15 to 11/15 with a total of 130 AUMs authorized on BLM-administered lands.

FRF Flynn Allotment

FRF Flynn Allotment encompasses about 8,696 total acres of which 2,780 acres are BLM-administered lands representing 32% of the land area in the allotment. This allotment is grazed by three permittees and is used in conjunctions with their private land at their discretion as needed. This allotment includes bitterbrush/squirrel tail and low sage/bluegrass communities.

Lynch Allotment

The Lynch Allotment, formerly named FRF Lynch, encompasses about 180 acres of BLM-administered land. The allotment is dominated by cheatgrass with some saltgrass, rabbitbrush, and sagebrush on site. It is grazed in conjunction with private land at the discretion of the permittee, at a variable time each year. The BLM lands on this allotment have no watering available for livestock and therefore must be grazed in conjunction with private land where water is available for livestock. The permitted use on the BLM-administered lands is 2 cattle from 3/1/ to 2/28 for a total of 20 AUMs by one permittee.

Northeast Warner Allotment

The Northeast Warner Allotment encompasses about 140,699 acres of which 139,019 are BLM-administered lands. There are 6 pastures in this allotment grazed by 4 permittees from 2/1-9/30 with a total of 6,155 AUMs. The east side and pastures in the Mule Springs Valley are grazed in common by three permittees. The west side of the allotment is primarily grazed by one permittee (under another permit). The two herds do mix some in the northern part of the allotment, but very little.

Livestock are typically put on the allotment in small bunches at waterholes that have water available early in the spring and then moved to water sources holding water later in the year. Water availability directs where livestock tend to graze and how they move throughout the pastures. The permittees on the allotment have developed best management practices when placing livestock on this allotment and moving livestock based on water availability. Permittees do not have a permanent range rider. However, all permittees take turns watching the water situation and moving livestock off in groups as water becomes limiting during the later summer months. During drier years permittees do not utilize all AUMs available and typically come off the allotment as early as July to mid-August. In 2001, the Juniper fire burned about 35,700 acres in this allotment. Some 2,700 acres of the burned area were reseeded to a native seed mix. (*Note:* the impacts associated with grazing this allotment under the fourth permit (3601273) will be addressed in this EA, but since that permit is not up for renewal at this time, a separate decision to renew that permit will be addressed at a later date).

Lynch-Flynn Allotment

The Lynch-Flynn allotment encompasses about 23,060 acres of which 18,800 are BLM-administered lands. There are two pastures within this allotment grazed from 4/1-7/15 with a total of 881 AUMs by three permittees who run livestock in common. This allotment is characterized by dry, scab rock flats with low sagebrush. Livestock typically graze the west pasture first where water is available early in the spring. Gates are opened between pastures and livestock pushed into East Pasture as conditions become drier. East pasture has limited water and is grazed dependent upon water availability.

East Rabbit Hills Allotment

The East Rabbit Hills Allotment is comprised of about 8,404 acres; all of which are BLM-administered lands grazed in common by two permittees from 11/15-4/20 for a total of 1198 AUMs. This allotment is characterized by stands of crested wheatgrass seedings.

North Rabbit Hills Allotment

The North Rabbit Hills Allotment is comprised of about 12,352 acres of which 11,712 acres are BLM-administered lands. This allotment is characterized by stands of crested wheatgrass seedings. This allotment is grazed by three permittees from 1/1-4/15 with a total of 1,317 AUMs.

B. Purpose and Need

Three permit renewal applications (#3601232, #3601213, and #3601239) have been submitted by the permittees for consideration by the BLM. The permits include 7 grazing allotments and are due to expire in 2013 (Table 1). The primary purpose of this analysis is to respond to the permittees' permit renewal application and consider whether or not to reissue or modify the 10-year term livestock grazing permit in accordance with 43 CFR Part 4130. When issued, grazing permits must also address appropriate terms and conditions designed to "achieve management and resource condition objectives for the public lands... and to ensure conformance with part 4180" (43 CFR Part 4130.3).

A secondary purpose of this analysis is to consider the effects of several range improvement project proposals within some of the allotments (Map 2).

C. Decisions to Be Made

The authorized officer will decide whether or not to renew the three Term Grazing Permits, and if so, under what terms and conditions. A typical grazing permit is issued for 10 years and the decision would be effective for the life of the

grazing permit. The authorized officer will also decide whether or not to implement several proposed range improvements including a well, associated pipeline and troughs, and a pasture division fence.

Table 1. Three Permits Due to Expire in 2013 and Associated Allotments

Authorization Number	Allotment Number	Allotment Name
3601232	00501	FRF FLYNN
	00511	NORTHEAST WARNER
	00520	LYNCH-FLYNN
	00530	NORTH RABBIT HILLS
	00531	EAST RABBIT HILLS
3601213	00501	FRF FLYNN
	00511	NORTHEAST WARNER
	00520	LYNCH-FLYNN
	00531	EAST RABBIT HILLS
3601239	00200	BLUE CREEK SEEDING
	00501	FRF FLYNN
	00505	LYNCH
	00511	NORTHEAST WARNER
	00520	LYNCH-FLYNN
	00530	NORTH RABBIT HILLS
	00531	EAST RABBIT HILLS

D. Decision Factors

Decision factors are additional criteria used by the decision maker to choose the alternative that best meet the purpose and need for the proposal. These include:

- a) How well does the decision conform to laws, regulations, and policies related to grazing use and protecting other resource values?
- b) How well does the decision conform to the resource management and allotment management plans?
- c) How well does the decision promote maintenance of rangeland health standards?
- d) How well does the decision conform with ODFW 2005 guidelines?
- e) How well does the decision conform with IM 2012-043 regarding interim sage-grouse management?

Conformance with Laws and Regulations

This EA has been prepared in conformance with National Environmental Policy Act of 1969. Grazing permits are issued or renewed in accordance with the provisions of the Taylor Grazing Act (1934), Federal Land Policy and Management Act (FLPMA, 1976), Public Rangelands Improvement Act (1978), and applicable grazing regulations at 43 Code of Federal Regulations (CFR) Part 4100.

In order for an applicant to lawfully graze livestock on public land, the party must obtain a valid grazing permit or lease. The grazing regulations, 43 CFR 4130.2(a), state “grazing permits or leases shall be issued to qualified applicants to authorize use on the public lands and other lands under the administration of the Bureau of Land Management that are designated as available for livestock grazing through land use plans.” The permit renewal applicant (current permittee) controls the base property associated with the grazing preference on the pasture and has been determined to be a qualified applicant.

A performance review of the three permittees' past use was completed and BLM found their record of performance, pursuant to 43 CFR 4110.1(b), to be in compliance. This conclusion was based on: grazing utilization at acceptable levels, bills were paid on time, actual use information was turned in yearly, use was within permitted dates (90% of the last 10 years), permit terms and conditions were adhered to, base property requirements were met, and history of trespass or unauthorized use has been none. A copy of this review is contained in the range administration files.

Conformance with Land Use Plan

Approved management actions or project decisions must conform to the appropriate land use plan. The *Lakeview Resource Management Plan/Record of Decision* (BLM 2003b, as maintained) is the governing land use plan for the area and provides the following goals and management direction related to livestock grazing use:

Livestock Grazing Management Goal—Provide for a sustainable level of livestock grazing consistent with other resource objectives and public land-use allocations (Page 52).

Management Direction

The allotments are all currently identified in the plan as open or allotted for grazing use (Table 5, Pages 46-49, and Appendix E1, as maintained; Map G-3). A summary of this existing forage allocation direction is included in Table 2 below.

Table 2. Forage Allocation for Allotments

Allotment #	Name	Livestock Forage Allocation	Wildlife Forage Allocation
00200	Blue Creek Seeding	131	50
00501	FRF Flynn	120	55
00505	Lynch	20	2
00511	Northeast Warner	6151	670
00520	Lynch-Flynn	882	85
00530	East Rabbit Hills	1200	40
00531	North Rabbit Hills	1317	40

The plan also states:

The current licensed grazing levels (Appendix E1) will be maintained until analysis or evaluation of monitoring data or rangeland health assessments identify a need for adjustments to meet objectives. Applicable activity plans (including existing allotment management plans, agreements, decisions and/or terms and conditions of grazing use authorizations) will be developed, revised where necessary, and implemented to ensure that resource objectives are met. The full permitted use level for each allotment has been and continues to be analyzed through individual allotment assessments, such as rangeland health and livestock grazing guidelines...." (Page 52).

Rangeland improvement projects will be implemented to meet resource objectives... Range improvement projects that do not enhance resource values and meet management objectives will be abandoned and rehabilitated (Page 53).

Operation and Maintenance Actions

Maintenance of existing and newly constructed facilities or projects will occur over time... Such activities could include, but are not limited to, routine maintenance of existing...water control structures..., wells, pipelines, waterholes, fences,... and other similar facilities/projects (Page 100).

Appendix E1 – Allotment Specific Management Direction Applicable to the Proposals under Consideration

Blue Creek Seeding Allotment (00200) (Page A-15, as maintained)

Livestock distribution/management -

Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and /or other actions.

Maintain existing exclosures.

Wildlife/wildlife management-

Intensively monitor utilization of (mule deer) browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Follow the greater sage-grouse livestock grazing guidelines (pages 75-76 of ODFW 2005), where appropriate.

FRF Flynn Allotment (00501) (Page A-74, as maintained)

Livestock distribution/management –

Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Wildlife/wildlife management-

Intensively monitor utilization of (mule deer) browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Follow the greater sage-grouse livestock grazing guidelines (pages 75-76 of ODFW 2005), where appropriate.

Lynch Allotment (00505) (Page A-77, as maintained)

Livestock distribution/management –

Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Watershed/riparian/fisheries-

Maintain existing exclosures.

Wildlife/wildlife management-

Intensively monitor utilization of (mule deer) browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants .

Monitor (elk) populations expansion to ensure that sufficient forage and habitat area available.

Follow the greater sage-grouse livestock grazing guidelines (pages 75-76 of ODFW 2005), where appropriate.

Northeast Warner Allotment (00511) (Page A-82, as maintained)

Livestock distribution/management –

Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Use management practices and /or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Wild Horses-

Remove wild horses outside of the Warm Springs Herd Management Area plan.

Wildlife/wildlife management-

Monitor (bighorn sheep) population expansion to ensure that sufficient forage and habitat are available.

Follow the greater sage-grouse livestock grazing guidelines (pages 75-76 of ODFW 2005), where appropriate.

Special Management Areas-

Manage grazing to protect wilderness values (Orejana Canyon WSA).

Lynch- Flynn Allotment (00520) (Page A-91, as maintained)

Livestock distribution/management –

Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Plant communities/vegetation-

Restore productivity and biodiversity in juniper and quaking aspen/bitterbrush stands. Manage juniper areas where encroachment or increased density is threatening other resource values. Maintain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain age class diversity and allow for species reestablishment.

Protect special status species/habitat from BLM authorized activities.

Wildlife/wildlife management-

Intensively monitor utilization of (mule deer) browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Monitor (elk) population expansion to ensure that sufficient forage and habitat are available.

Follow the greater sage-grouse livestock grazing guidelines (pages 75-76 of ODFW 2005), where appropriate.

Special Management Areas-

Manage grazing (Fish Creek Rim WSA/ACEC) in order to protect WSA values under the wilderness IMP. Adjust allotment management including levels and areas of authorized use, seasons of use, and grazing system, if required by future ACEC management plan.

East Rabbit Hills Allotment (00530) (Page A-97, as maintained)

Livestock distribution/management –

Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and /or other actions.

Wildlife/wildlife management-

Intensively monitor utilization of (pronghorn antelope) browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Follow the greater sage-grouse livestock grazing guidelines (pages 75-76 of ODFW 2005), where appropriate.

North Rabbit Hills Allotment (00531) (Page A-98, as maintained)

Livestock distribution/management –

Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Use management practices and/or better animal distribution; develop range improvements when appropriate; adjust permitted use as needed.

Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and /or other actions.

Wildlife/wildlife management-

Intensively monitor utilization of (pronghorn antelope) browse in winter range areas. Avoid livestock utilization levels that reduce the long-term viability of browse plants.

Follow the greater sage-grouse livestock grazing guidelines (pages 75-76 of ODFW 2005), where appropriate.

Conformance with Other Plans and Policies

The final decision must also conform to the following plans or policies, which also direct and provide a framework for management of BLM lands/resources within Lakeview Resource Area:

Standards for Rangeland Health and Guidelines for Livestock Management for Public Lands Administered by the BLM in the States of Oregon and Washington (BLM 1997a) - Rangeland Health Assessments have been completed on all of the allotments. The results are summarized in the Livestock Grazing Management section of Chapter 3.

Integrated Noxious Weed Control Program, EA#OR-010-2004-03 (BLM 2004a) - This document tiered to the noxious

weed management direction in the *Lakeview RMP/ROD* and provided more specific details on the locations of known noxious weed sites in the Lakeview Resource Area and how periodic treatments would be conducted on these sites, as well as new sites discovered during future inventory. The treatment methods addressed in this plan included cultural, mechanical, biological, and chemical. The type of treatment used and the frequency of treatment would be based on site/plant characteristics, treatment priorities identified in the plan, and budget.

Conducting Wilderness Characteristics Inventory on BLM Lands (BLM 2012a) – Represents the current manual providing guidance on the BLM process to be used to update wilderness characteristics inventories.

Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (ODFW 2005) - states “where livestock grazing management results in a level of forage use (use level) that is consistent with Resource Management Plans, Allotment Management Plans, Terms and Conditions of Grazing Permits or Leases, other allotment specific direction, and regulations, no changes to use or management are required if habitat quality meets Rangeland Health Standard and Guidelines” (Page 75). The plan also provides guidelines on how to construct or maintain range improvement projects to minimize impacts to sage-grouse habitat (Page 76).

Greater Sage-Grouse Interim Management Policies and Procedures (BLM 2011a) – represents the current BLM Washington Office interim policy for sage-grouse habitat management until such time as plan amendments can be completed throughout the range of the species that address a comprehensive conservation strategy. This policy addresses proposed grazing permit renewals and proposed water developments as follows:

Permit Renewals

Plan and authorize livestock grazing and associated range improvement projects on BLM lands in a way that maintains and/or improves Greater Sage-Grouse and its habitat. Analyze through a reasonable range of alternatives any direct, indirect, and cumulative effects of grazing on Greater Sage-Grouse and its habitats through the NEPA process:

- Incorporate available site information collected using the *Sage-Grouse Habitat Assessment Framework* when evaluating existing resource condition and developing resource solutions,
- Incorporate management practices that will provide for adequate residual plant cover (e.g., residual grass height) and diversity in the understories of sagebrush plant communities as part of viable alternatives. When addressing residual cover and species diversity, refer to the ESD (ecological site data) and “*State and Transition Model*,” where they are available, to guide the analysis.
- Evaluate and implement grazing practices that promote the growth and persistence of native shrubs, grasses, and forbs. Grazing practices include kind and numbers of livestock, distribution, seasons of use, and livestock management practices needed to meet both livestock management and Greater Sage-Grouse habitat objectives.
- Evaluate the potential risk to Greater Sage-Grouse and its habitats from existing structural range improvements. Address those structural range improvements identified as posing a risk during the renewal process.
- Balance grazing between riparian habitats and upland habitats to promote the production and availability of beneficial forbs to Greater Sage-Grouse in meadows, mesic habitats, and riparian pastures for Greater Sage-Grouse use during nesting and brood-rearing while maintaining upland conditions and functions. Consider changes to season-of-use in riparian/wetland areas before or after the summer growing season.

To ensure the NEPA analysis for permit/lease renewal has a range of reasonable alternatives:

- Include at least one alternative that would implement a deferred or rest-rotation grazing system, if one is not already in place and the size of the allotment warrants it.
- Include a reasonable range of alternatives (e.g., no grazing or a significantly reduced grazing alternative, current grazing alternative, increased grazing alternative, etc.) to compare the impacts of livestock grazing on Greater Sage-Grouse habitat and land health from the proposed action.
- If land treatments and/or range improvements are the primary action for achieving land health standards for Greater Sage-Grouse habitat maintenance or enhancement, clearly display the effects of such actions in the alternatives analyzed.

Fences

- Evaluate the need for proposed fences, especially those within 1.25 miles of leks that have been active within the past 5 years and in movement corridors between leks and roost locations. Consider deferring fence construction unless the objective is to benefit Greater Sage-Grouse habitat, improve land health, promote successful reclamation, protect human health and safety, or provide resource protection. If the BLM authorizes a new fence, then, where appropriate, apply mitigation (e.g., proper siting, marking, post and pole construction) to minimize or eliminate potential impacts to Greater Sage-Grouse as determined in cooperation with the respective state wildlife agency.
- To improve visibility, mark existing fences that have been identified as a collision risk. Prioritizing fences within 1.25 miles of a lek, fences posing higher risks to Greater Sage-Grouse include those:

On flat topography;
Where spans exceed 12 feet between T-posts;
Without wooden posts; or
Where fence densities exceed 1.6 miles of fence per section (640 acres)

Water Developments

- NEPA analysis for all new water developments must assess impacts to Greater Sage-Grouse and its habitat.
- Install escape ramps and a mechanism such as a float or shut-off valve to control the flow of water in tanks and troughs.
- Design structures in a manner that minimizes potential for production of mosquitoes which may carry West Nile virus.

CHAPTER 2 – ALTERNATIVES

Actions Common to All Alternatives

Management Flexibility

Knowing uncertainties exist in managing for sustainable ecosystems, changes to grazing may be authorized within the annual application process for reasons such as, but not limited to:

- Adjust the rotation/timing of grazing based on previous year's monitoring and current year's climatic conditions, within the permitted season of use. An example of this would be; to turn livestock out later in the season on a year with a wet cold spring; or to bring livestock off the allotment early as conditions warrant this need
- Drought causing lack of available water in certain areas originally scheduled to be used. An example would be resting a pasture with low water and shifting livestock use to a pasture with adequate water. Conversely in wet years, livestock could be moved to areas near more dependable water sources.
- Changes in use periods to balance utilization levels An example of this would be to shorten the time period or number of livestock in a pasture that had 65% average utilization and or increase the time period and number of livestock in another pasture that had 30% average utilization if the target utilization in both pastures is 50%.

Flexibility in grazing management would be authorized and any changes would continue to meet resource objectives. Flexibility is dependent upon the demonstrated stewardship and cooperation of the permittee. Rangeland monitoring is a key component of grazing management. If monitoring indicates changes in grazing management are needed to meet resource objectives, they can be implemented annually working with the permittee.

Monitoring

Monitoring would continue, as specified in the Lakeview Resource Management Plan (RMP), incorporated herein by reference, (BLM 2003b, pages 53-55). In summary, trend monitoring studies include nested frequency and 180° step-toe and photo station and observed apparent trend methodologies are used to measure cover, species composition, and frequency. Utilization studies would be conducted using the key forage plant method. Utilization is a measure of the amount of the current year’s forage consumed by livestock. Monitoring methodology will follow the latest protocol, such as Technical Reference 1734-3 and 1734-4 (BLM 1996a, 1996b) incorporated herein by reference. Table 3 describes the key species and utilization targets identified in the *Lakeview RMP/ROD* (BLM 2003b).

Table 3. Key Species and Target Utilization Levels by Allotment

Allotment #	Allotment Name	Key species	Target Utilization (%)
00200	Blue Creek Seeding	Sandberg bluegrass (<i>Poa Secunda</i>) Basin wildrye (<i>Leymus cinereus</i>)	50
00501	FRF Flynn	Sandberg bluegrass (<i>Poa Secunda</i>) Squirreltail (<i>Elymus elymoides</i>) Thurber needlegrass (<i>Achnatherum thurberianum</i>)	50
00505	Lynch	Monitor for long term trend	50
00511	Northeast Warner	Sandberg bluegrass (<i>Poa Secunda</i>), Squirreltail (<i>Elymus elymoides</i>), Thurber needlegrass (<i>Achnatherum thurberianum</i>), Bluebunch Wheatgrass (<i>pseudoroegneria spicata</i>), Idaho Fescue (<i>Festuca idahoensis</i>), Basin wildrye (<i>Elymus cinereus</i>), Prairie Junegrass (<i>Koeleria macrantha</i>)	50
00520	Lynch-Flynn	Sandberg bluegrass (<i>Poa Secunda</i>), Squirreltail (<i>Elymus elymoides</i>), Thurber needlegrass (<i>Achnatherum thurberianum</i>), Idaho Fescue (<i>Festuca idahoensis</i>),	50
00530	East Rabbit Hills	Crested Wheatgrass (<i>Agropyron cristatum</i>)	50
00531	North Rabbit Hills	Crested Wheatgrass (<i>Agropyron cristatum</i>)	50

Other Terms and Conditions

Other stipulations, as required by state or federal policy, would be included in the permit. Typical items include; payment of fees, submission of actual use reports, administrative access across private land, compliance with Standards and Guidelines, and maintenance of range improvements.

Trailing Use

Trailing use will occur in the permit renewal area by two permittees (Map 3). Permit authorization number 3601232 trails livestock to the Northeast Warner Allotment. This typically includes livestock use for one day and night on BLM lands on the North Rabbit Hills Allotment, before moving to state lands, and subsequently to the Northeast Warner Allotment. This trailing use is repeated in reverse order at the end of the grazing season. This use will be authorized on the permit and incidental trailing would not to exceed 4 days per grazing season.

Trailing use will also continue to occur to and from the Northeast Warner Allotment by a separate permit authorization number 3601273, which is not up for renewal until 2015. This takes a total of three days and has two overnight stays on other allotments. The first day is from the home ranch in Plush moving cows north on the drift fence travelling through the Warner Lakes Allotment, the South Rabbit Hills Allotment, and the East Rabbit Hills Allotment. Livestock typically overnight in the East Rabbit Hills Allotment at one of two water holes along the drift fence depending on how livestock are moving with calves. The second day livestock continue to travel north along the drift fence through North Rabbit Hills Allotment and into the Corn Lake Allotment. Livestock typically overnight in the Corn Lake Allotment near the Lower Bacon Camp water holes. The third day livestock are moved onto the Northeast Warner allotment. Livestock repeat this in the fall when coming off the allotment in reverse order.

Range Improvement Maintenance

Maintenance will be conducted on existing water developments and fences in the allotments on an as needed basis. Reservoir maintenance would include cleaning or other actions to ensure continued function. This may include, but is not limited to: application of bentonite clay or dam reconstruction. Waterhole maintenance would include periodic cleaning (within the original area of disturbance) to ensure continued function.

Best Management Practices for Alternatives 2 and 3

Noxious weed monitoring would be conducted for 2-3 years post-project completion. Any weeds found would be treated in a timely fashion in accordance with BLM's latest integrated weed treatment plans (such as BLM 2004, 2007a, 2007b) using appropriate methods.

Alternative 1 – No Action

Under this alternative, the three grazing permits would be re-issued for a term of ten years. The grazing permits would authorize the same level of livestock use on all allotments and contain the same terms and conditions as the expiring permit (Table 4). Forage allocation, season of use, grazing system, and grazing management would remain the same. Existing range improvements would continue to be maintained as needed, but no new range improvements would be constructed.

Alternative 2 – Range Improvements

Under this alternative, several new range improvement projects would be constructed in the Northeast Warner Allotment (Map 2d). Specifically, two additional wells with 4 miles of buried pipeline, a water storage tank associated with each well, and 6 associated troughs would be constructed in the West Pasture to provide additional sources of water in the pasture. The wells will be surrounded by a small enclosure fence (constructed out of panels or barbed wire). This would provide additional water sources for livestock in the West Pasture to promote increased distribution of livestock across the pasture, particularly during dry years.

In addition, a coordinated project with Oregon Department of State Lands is currently underway to increase available water in the Northeast Warner Allotment by building approximately 3 miles of pipeline on state lands from an existing well. A second line of buried pipe would be built to provide water to the south border of the East Pasture. All construction of pipeline would occur on state lands; however, one new trough would be placed on BLM lands (Map 2d).

A permittee to the north of the East Rabbit Hills Allotment is currently proposing a water improvement project including pipeline directly across the fence from the main pasture in East Rabbit Hills. This alternative would analyze an additional

Table 4. Current Permitted Levels of Grazing Use for each Allotment under each Permit

Allotment Name/#	Authorization number	Livestock number	Date of use	Permitted AUM	Suspended AUM	Total
Blue Creek Seeding/00200	3601239	64	9/15-11/15	130		130
Northeast Warner/00511	3601213	241	3/11-8/30	1450	78	1525
	3601232	241	3/1-8/30	1450	78	1525
	3601239	222	2/1-9/30	1771	78	1849
	3601273	287	2/1-9/30	1484		1484
Total				6155	234	6389
FRF Flynn/00501	3601213	7	3/1/2012-2/28/2013	84		84
	3601232	6	5/1-6/30	12		12
	3601239	2	3/1/2012-2/28/2013	26		26
Total				122		122
Lynch/00505	3601239	2	3/1/2012-2/28/2013	20		20
Lynch-Flynn/00520	3601213	231	4/1-7/15	805		805
	3601232	37	5/10-6/15	38		38
	3601239	25	5/1-9/15	38		38
Total				881		881
East Rabbit Hills/00530	3601239	115	11/15-4/20	598		598
	3601232	115	11/15-4/20	600		600
Total				1198		1198
North Rabbit Hills/00531	3601213	147	1/1-2/28	285		285
	3601213	102	3/1-4/15	154		154
	3601232	180	2/1-4/15	439		439
	3601239	180	2/1-4/15	439		439
Total				1317		

water trough and less than a 1/8 mile of pipeline into the East Rabbit Hills Allotment to improve livestock distribution in the main pasture. This would be a coordinated project with a neighboring permittee.

The storage tanks and troughs would be painted a neutral color that does not contrast with the natural surroundings to minimize visual impacts. All new water troughs would include wildlife escape ramps to minimize the potential for small animal mortality. In addition, all new troughs would include a float with an automatic shut-off or a shut-off valve to control the water flow and minimize over spilling.

Construction of 2.5 miles of fence would occur on the East Rabbit Hills Allotment following BLM Pronghorn Antelope fencing standards (BLM and Forest Service 1988, page 147), creating an additional pasture. BLM antelope fencing standards recommend a 3-strand fence with a smooth bottom wire installed 18 inches above the ground to allow for antelope movement under the fence. This additional pasture would provide some relief to the Steer Field Pasture and allow the permittee increased flexibility of use in the winter season (Tables 5 and 6, Map 2d). This permittee would like to provide some relief to the Steer Field Pasture and use it more in the fall and less in the spring. For the first three

years he would use the Rabbit Creek Pasture in the spring and the Steer Field Pasture in the fall (Table 5). This would allow the Steer Field Pasture some rest from consistent spring use. The dates are a flexible range to enable the permittee to utilize the area when water is available.

After three years, the two pastures would be used in a rotation so each pasture does not get too much spring use. One permittee (authorization number 3601239) would eliminate winter use and only graze in spring authorized on the permit to reflect actual use is always in the spring (Table 6). Authorization number 3601213 would maintain winter and spring livestock use.

Table 5. New Rotation Schedule for the East Rabbit Hill Allotment

	2014		2015		2016		2017	
	Livestock #	Date	Livestock #	Date	Livestock #	Date	Livestock #	Date
Rabbit Creek Pasture	118	3/15-5/30	118	3/15-5/30	118	3/15-5/30	1	11/15-4/20
Steer Pasture	195	11/15-4/20	195	11/15-4/20	REST		1	3/15-5/30
	2018		2019		2020		2021	
	Livestock #	Date	Livestock #	Date	Livestock #	Date	Livestock #	Date
Rabbit Creek Pasture	195	11/15-4/20	195	11/15-4/20	REST		118	3/15-5/30
Steer Pasture	118	3/15-5/30	118	3/15-5/30	118	3/15-5/30	195	11/15-4/20
	spring use	winter use	rested					

Table 6. East Rabbit Hills Proposed Permit Adjustment for Alternative 2

Allotment Name/#	Authorization number	Livestock number	Date of use	Permitted AUM
East Rabbit Hills/00530	3601239	227	2/1-4/20	598
	3601232	118	3/15-5/30	299
	3601232	195	11/15-4/20	301
Total				1198

Alternative 3 –Rotational Grazing System on the Northeast Warner Allotment

This alternative would include the same proposed range improvement project development and grazing management changes discussed in Alternative 2. In addition, it would change the grazing season in the Northeast Warner Allotment to a rotational grazing system (Table 7). This alternative would put all livestock on the allotment in one common herd on the westside first and then move the herd across the allotment ending the season in the eastside of the allotment. The following year the herd would start in the opposite side of the allotment moving livestock in the opposite direction. This would provide a rotation of livestock that would be achievable with the existing fences and topographic features in the allotment. Table 7 depicts approximate pasture move dates; livestock would be moved by rider as needed from one side to the other throughout the season as forage and water conditions warrant, and would be flexible within the permit dates.

Alternative 4 - No Grazing

Under this alternative, the current permits would not be renewed and livestock grazing would not be authorized on public lands within the seven allotments for a term of 10 years. Owners of livestock who desire to continue grazing on private lands fenced inside some of the allotments would be required to keep livestock off of public lands and encouraged to construct boundary fences to prevent trespass. All current range improvements on public lands within the interior of the allotments would not be maintained for the same 10-year period. However, allotment boundary fences would still need to be maintained to prevent trespass from livestock authorized to graze on surrounding allotments.

Table 7. Two Pasture Rotation System with One Common Herd

<u>Pasture</u>	<u>Year 1</u>			<u>Year 2</u>		
	<u>Livestock #</u>	<u>Dates</u>	<u>AUM</u>	<u>Livestock #</u>	<u>Dates</u>	<u>AUM</u>
Southwest	873	3/1-5/31	2641	873	7/1-9/30	2641
Westside/Rawhide						
Mule Springs Valley/North	873	6/1-7/15	1292	873	5/16-6/30	1292
Windmill						
Monohan	873	7/16-9/30	2210	873	3/1-5/15	2210
Eastside/Logger Head						
Total			6142			6142
	early season use	mid season use	late season use			

Alternatives Considered but Eliminated from Further Analysis

Three-Pasture Rotation System on the Northeast Warner Allotment

This alternative considered grazing this allotment with a three pasture rotational grazing system. Livestock would graze the westside (Southwest and West Pastures), middle pastures (Mule Springs Valley, Windmill, and Monohan Pastures), and eastside pastures (Eastside/Loggerhead Pasture) of the allotment as three separate grazing areas (Table 8). After discussing this alternative with the permittees, BLM determined it would be very difficult to implement without a substantial investment in new water developments and pasture division fences. In addition, this rotational grazing system may be too intensive for the large size of pastures and large number of livestock. The primary concern is limited water for the large number of livestock and secondarily the size of pastures and topography would make it difficult to

Table 8 - Three-Pasture Rotation System for the Northeast Warner Allotment

<u>Pasture</u>	<u>Year 1</u>			<u>Year 2</u>			<u>Year 3</u>		
	<u>Livestock #</u>	<u>Dates</u>	<u>AUM</u>	<u>Livestock #</u>	<u>Dates</u>	<u>AUM</u>	<u>Livestock #</u>	<u>Dates</u>	<u>AUM</u>
Southwest (west)	300	3/1-5/31	907	300	7/1-9/30	907	300	5/16-8/15	907
Westside/Rawhide (west)	573	3/1-5/31	1733	573	7/4-9/30	1733	573	5/16-8/15	1733
Mule Springs Valley/(middle)	350	6/1-7/15	518	350	3/1-4/15	529	350	8/16-9/30	529
Windmill (middle)	173	6/1-7/15	256	173	3/1-4/15	262	173	8/16-9/30	262
Monohan (middle)	350	6/1-7/15	518	350	3/1-4/15	529	350	8/16-9/30	529
Eastside/Logger Head (east)	873	7/16-9/30	2210	873	4/16-6/30	2181	873	3/1-5/15	2181
Total			6142						
	early season use	mid season use	late season use						

move livestock in the pattern needed for year 2 and year 3. For these reasons, this alternative was eliminated from further analysis.

Two pasture rotation with two herds on the North East Warner Allotment

This alternative would divide the herd into two, with one herd grazing the west half (southwest and west pastures) of the allotment in a two pasture rotation system (Table 9). The other half of the herd would graze the east half (Mule Springs, Windmill, Monohan, and east side pastures) of the allotment on a two-year rotation (Table 9). This alternative would be difficult to implement due to lack of adequate water in the pastures. The primary concern with this alternative

is the Southwest and Middle Pastures (including Monohan, Windmill, and Mule Springs) do not have adequate water to supply the number of livestock and length of season proposed. The south end of the Southwest Pasture is more suitable for winter grazing. They are primarily early season pastures with water available in the spring. Water would not be available later in the year. Without more improved water developments it would be difficult to use these pastures during the fall or late summer. For these reasons, this alternative was eliminated from further analysis.

Rotation Grazing System on the Lynch-Flynn Allotment

Another alternative considered was to rotate livestock on the Lynch-Flynn Allotment with livestock going to the East Pasture in the spring and moving to the West Pasture later in the season every other year (Table 10). This alternative would not be advisable to implement due to a higher elevation environment in the East Pasture maintaining wet soil moisture early in the spring. Fewer stock ponds exist in the East Pasture and livestock would cause more damage to existing water holes during wet conditions in the spring. This pasture is better suited for use later in the season when snow has melted and soil conditions are drier and vegetation has had a chance to grow prior to allowing livestock grazing. For these reasons, this alternative was eliminated from further analysis.

Table 9. Two Pasture Rotation with Two Herds on the North East Warner Allotment

<u>Pasture</u>	Year 1			Year 2		
	<u>Livestock #</u>	<u>Dates</u>	<u>AUM</u>	<u>Livestock #</u>	<u>Dates</u>	<u>AUM</u>
Southwest	400	3/1-5/10	934	400	7/22-9/30	934
Westside/Rawhide	400	5/11-9/30	1881	400	3/1-7/21	1881
Mule Springs Valley/North						
Windmill	473	8/2-9/30	933	473	3/1-4/29	933
Monohan						
Eastside/Logger Head	473	3/1-8/1	2395	473	4/30-9/30	2395
Total			6142			6142
	early use		late use			

Table 10. Two Pasture Rotation in the Lynch-Flynn Allotment

<u>Pasture</u>	Year 1			Year 2		
	<u>Livestock #</u>	<u>Dates</u>	<u>AUM</u>	<u>Livestock #</u>	<u>Dates</u>	<u>AUM</u>
East	205	4/1-5/9	263	205	6/16-7/15	202
East	340	5/10-5/31	246	340	6/1-6/15	168
West	340	6/1-6/15	168	340	5/10-5/31	246
West	205	6/16-7/15	202	205	4/1-5/9	263
Total			879			879
	early use	late use				

CHAPTER 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section presents a description of the current environment within the allotments and a discussion of the potential changes resulting from implementation of the alternative management actions. An inter-disciplinary (ID) team has reviewed and identified the resources values and uses that potentially could be affected by the alternative actions. Those resources or uses identified as “not affected” or “not present” are listed in Table 11 and will not be discussed or further analyzed in this EA. The remainder of this chapter describes the potential direct, indirect, and cumulative effects on resources and uses that may result from each alternative.

Climate

Affected Environment:

The climate in the vicinity of these allotments is variable, but typical of the Northern Great Basin or high desert system. Mean annual precipitation ranges from 10-16 inches. Precipitation occurs mostly in the form of snow during December through March with spring rains common. The soil temperature regime is frigid. Mean annual air temperatures range from 40 to 43 degrees F. The frost-free time period is from 50 to 80 days. The period of optimum plant growth is from April through June.

Table 11. Resources or Uses that Would not be Affected

Elements of the human environment		ale
Air Quality (Clean Air Act)	Not Affected	None of the alternatives are expected to have measureable impacts to air quality or regulated air pollutants.
Environmental Justice (Executive Order 12898)	Not Present	None of the alternatives would have disproportionately high or adverse effects on minority populations or low-income populations as such populations do not exist within the allotment areas.
Fire and Fuels Management	Not Affected	No fire or fuel treatments are being proposed in this EA.
Forest/Woodlands	Not Affected	Generally not present within most of the allotments. The Lynch-Flynn and Northeast Warner Allotments have some western juniper present which is discussed in the upland vegetation section.
Flood Plains (Executive Order 13112)	Not Affected	No proposed construction or other modifications would occur within flood plains. Therefore, there would be no floodplain or related hydrologic impacts.
Hazardous or Solid Waste	Not Present	No such sites or issues are known within the allotments.
Lands	Not Affected	None of the alternatives analyzed would have any effects on current land status or land tenure.
Minerals and Energy	Not Affected	None of the alternatives analyzed would have any effects on mineral or energy resources or uses.
Prime or Unique Farmlands	Not Present	No such lands have been identified in the allotments.
Significant Caves	Not Present	No caves are known in these allotments.
Special Status Plants	Not Present	No known special status plant species occur within any of the allotments. Field surveys were recently completed at the locations of proposed range improvements. No special status plants were found.
Threatened and Endangered Plants and Animals	Not Present	No known federally listed plant or animal species or their habitat are found within the allotments.
Wild Horses (Wild Horse and Burro Act)	Not Present	The allotments are located outside of designated wild horse herd management areas. Individual horses may occasionally wander into allotment 00511 from the Warm Springs herd management area, but are removed in accordance with BLM horse management policy, the herd management plan, and allotment-specific direction in the Lakeview RMP/ROD (page A-82).
Wild and Scenic Rivers	Not Present	There are no Wild or Scenic Rivers within the allotments.

Environmental Consequences:

Effects Common to All Alternatives

Based on analyses contained in several recent permit renewal EAs (BLM 2012d, 2012e), the utilization of 0 to 9,823 AUMs of forage would have no scientifically verifiable effects on regional or global climate change, nor would it have any significant effects on either greenhouse gas emissions or carbon sequestration processes. Therefore, none of the alternatives would have any measureable effects on climate.

Soils/ Biological Crusts

Affected Environment:

Soil information was collected from the Soil Survey of Lake County, Southern Part (NRCS 2010) as well as unpublished soil data on file at the Lakeview District BLM Office for the northern portion of the Lake County and western portion of

Harney County. This data is herein incorporated by reference in its entirety and is summarized in the following section, as well as in Appendix A.

Biological soil crusts (BSCs) consist of lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing in a thin layer on or just below the soil surface. BSCs function as living mulch by retaining soil moisture, reducing wind and water erosion, and can be used as an indicator of a site's characteristics (Belnap *et al.* 2001). Lichen species diversity is poorly known in the Pacific Northwest (Root *et al.* 2011). Further, identification of BSCs at the species level is not practical for fieldwork, as it is very difficult and may require laboratory culturing (Belnap *et al.* 2001).

BSC cover data was not collected during the South Lake Ecological Site Inventory (ESI) process, but was collected in the North Lake County and western Harney County inventories. BSC cover data has also been collected in some of the frequency trend plots within some of the allotments. This data collected was part of the plant cover data collected at established trend locations.

Although no intensive survey for biological crusts have been conducted in the analysis area; Some BSC monitoring work is on-going within and outside of the Civilian Conservation Corps (CCC) enclosure located near several of the allotments (T30S, R24E, Sections 17 and 18). This enclosure was built by the CCC in 1938, is about 80 acres in size, and has been used periodically as a rangeland study site. No authorized livestock grazing has occurred in the enclosure since 1938. The same year the CCC enclosure was built; the south side was cleared of brush by hand and may have been burned. The north side of the enclosure was left untouched. Results of studies both inside and outside of the enclosure may have application to a large portion of the Lakeview Resource Area.

Studies by Ponzetti (2000) and Ponzetti and McCune (2001) examined biotic soil crust cover and composition at several locations in central and eastern Oregon in 1995. One of the sites examined was the CCC enclosure. The study compared species richness of microbiotic crusts inside and outside of several enclosures to provide a grazed-verses-ungrazed comparison. Results of the study found that all of the sites had between one and six more taxa inside the enclosures than in the grazed pastures, with the exception of the CCC enclosure, which had three more species in the grazed transect. Generally, total crust cover was inversely related to vascular plant cover, as there is a positive relationship of crust cover to available soil surfaces (BLM 2003a). Ponzetti and McCune (2001) found that the differences in crust cover and species composition between study sites were most strongly related to soil pH, electrical conductivity, and the relative calcium carbonate content of the soil. Soil chemistry and climate differences were a stronger factor affecting cover and species composition than livestock exclusion. However, the study found a lower cover of biotic crusts, lichens, and species richness in grazed areas.

Another study examined the results of burned vs. unburned areas. Approximately one third of the CCC enclosure burned during the 2001 Big Juniper wildfire. Joseph Wagner, a fire ecologist monitored plant and crust responses to wildfire inside and outside of the enclosure following the fire. Four plots were established in 2002 inside and outside in the burned and unburned areas. The plots were visited in 2002, 2004, and 2006. Some general observations have been made (Joseph Wagner, Interagency Fire Ecologist, Lakeview BLM/Fremont-Winema National Forest, personal communication, June 2006):

- 1) Visually, the crusts appear to have been severely affected by fire. Very little moss was observed in the burned area, both inside and outside of the enclosure.
- 2) The crusts in the unburned plot are highly associated with low sagebrush plants, but are fairly frequent in the interspaces. It is suspected that the more intense burning and longer duration of burning under the sagebrush is responsible for the higher mortality of mosses associated with the sagebrush plants.
- 3) During the 2006 visit, mosses were observed in most of the plots inside the burned area. The excluded burned area had small clumps of mosses (size of a dime or nickel). Outside of the enclosure, mosses were present, but were much smaller in size (about 1 cm).

At about the same time, the Lakeview BLM botanist set out permanent plots to look at the species composition of lichen and mosses. In general terms, more lichens were found within the enclosure and within the area that had not been

burned or grazed. A few lichens were found outside of the enclosure in the unburned area. No lichens were found in the burned areas inside or outside of the enclosure.

Effects Common to Alternatives 1-3

Review of the available literature on BSCs near the allotments indicate that soil crusts are more strongly correlated to soil pH, electrical conductivity, and the relative calcium carbonate content of the soil rather than presence or absence of grazing. The second greatest factor/threat would be disturbance by fire. Generally areas grazed in the moderate to heavy utilization category would have a lower threat of wildfire and, therefore, a greater likelihood of maintaining some BSCs within the systems. However, these areas would likely have a lower crust cover compared to lightly grazed or ungrazed areas. Conversely, ungrazed to lightly grazed areas would likely have higher amounts of BSCs, but would also have a greater wildfire risk and a higher likelihood of losing BSCs from a wildfire event. Throughout the allotments there is a large variability of grazing utilization levels and, therefore, variable impacts to BSCs.

BSCs in high livestock concentration areas, such as trails along fences and near water sources, would have impacts similar to soils which are described further in this document.

Alternative 4: No Grazing

Over time BSC cover would likely increase without the influence of livestock grazing. However, the number of species and type of BSCs would likely remain similar those present in the existing community. Generally, the risk of future wildfire would increase without grazing removing fine fuels from the allotments. Therefore, the risk of loss of BSCs from wildfire would increase over the 10-year analysis timeframe.

Blue Creek Seeding Allotment

The Blue Creek Seeding Allotment is made up of 11 different soil map units (Table A-1, Map 4a). The Booth-Nuss-Royst Association, 0-15% slope soil map unit comprises 53% of the allotment with 1,476 acres. This soil complex is comprised of 40% booth soils found on foot slopes and benches of hills are moderately deep and well drained. These soils have a claypan at a depth of 1 to 7 inches. The surface layer is very stony loam. The subsoil is clay. The soil is well drained with slow permeability and the available water capacity is 3 inches. The erosion hazard by water is moderate and a high shrink swell potential between depths of 4 and 24 inches. Because of the slow permeability of the subsoil the surface layer is saturated following snowmelt. These soils support predominantly low sagebrush and associated vegetation.

This soil complex is comprised of 30% Nuss soils formed from basalt and tuff parent material. These soils are shallow and well drained with surface layer of gravelly loam and a subsoil of clay loam. These soils support predominantly mountain big sagebrush and Idaho fescue plant communities. Permeability is moderate with a water capacity of 2 inches. Erosion hazard by water is severe.

This soil complex is comprised of 20% Royst soils formed from basalt and tuff parent material. These soils are moderately deep and well drained. Permeability is slow with a water capacity of 3 inches. Erosion hazard by water is severe with a high shrink-swell potential between depths of 4 to 27 inches. The surface layer is stony loam with a subsoil of extremely stony clay. Cold soil temperatures and a short growing season limits the period of plant growth. The low available water capacity limits forage production and seedling survival with a restricted rooting depth due to bedrock. These soils support dominantly bitterbrush with Idaho fescue and bluebunch wheatgrass understory.

The Booth Complex, 2 to 15% slopes, comprises 27% of the allotment which comprises only 5% of BLM owned acres in the allotment. These soils are typified with a thick surface and are well drained with slow permeability. The available water capacity is 3 inches with a severe hazard of erosion by water. The shrink-swell potential is high in the subsoil.

Observed apparent trend (OAT) data was used to determine trend indicators correlated to soil stability. These indicators are: surface litter, pedestals, and gullies. OAT data collected indicates stable soils within Blue Creek Seeding Allotment; i.e. the litter is accumulating in place, there is little evidence of pedestaling, and gullies are absent.

The Rangeland Health Assessment found upland soils in the allotment exhibit infiltration and permeability rates, moisture storage, and stability appropriate for soil, climate, and land form. Root occupancy for soil is appropriate and therefore, Standard 1 is being met (BLM 2003d). Soil surface factors (SSF) are used to assign an erosion class rating and potential susceptibility of soil to accelerated erosion. The SSF rating for the Blue Creek Seeding Allotment rated in the slight erosion condition class was 26% and 74% of the allotment was in stable erosion condition class.

BSCs are present in the allotment, but occupy a very small percentage of the total ground cover. Lacking any other information, BLM assumes the general condition of the BSCs in the allotment would be similar to the condition of the soils, litter, and vegetation with which they co-exist.

FRF Flynn Allotment

The FRF Flynn Allotment is made up of 27 different soil map units (Table A-2, Map 4a). The most prominent soil type that occurs on the allotment is the Hager complex, 2-15 percent slopes, which comprises 23% of the allotment. The parent material is a colluvium, residuum formed from basalt and tuff. Hager soils are found on tablelands and are moderately deep to the hardpan and well drained. These soils have moderately slow permeability with an available water capacity of 4 inches, and have a slight to moderate erosion hazard by water. These soils support native vegetation of Wyoming big sagebrush, bottlebrush squirreltail, Indian ricegrass, spiny hopsage, and Thurber's needlegrass.

The Booth Complex 2 to 15% slopes comprises about 22% of the allotment. Booth complex soils are found on foot slopes and benches of hills and are moderately deep and well drained. These soils have a claypan at a depth of 1 to 7 inches. The surface layer is very stony loam. The subsoil is clay. These soils are typified with a thick surface and are well drained with slow permeability. The available water capacity is 3 inches with a severe hazard of erosion by water. The shrink-swell potential is high in the subsoil. Because of the slow permeability of the subsoil the surface layer is saturated following snowmelt. These soils support predominantly low sagebrush and associated vegetation.

The Rangeland Health Assessment found upland soils in the allotment exhibit infiltration and permeability rates, moisture storage, and stability appropriate for soil, climate, and land form. Root occupancy for soil is appropriate and therefore, Standard 1 is being met (BLM 2003d). Soil surface factors (SSF) are used to assign an erosion class rating and potential susceptibility of soil to accelerated erosion. The SSF rating for the FRF Flynn Allotment rated in the slight erosion condition class was 29% and 17% of the allotment was in stable erosion condition class.

BSCs are present in the allotment, but occupy a very small percentage of the total ground cover. There is one long term monitoring transect in this allotment established in 2012 that recorded moss cover to be about 2% of the total ground cover. Lacking any other information, BLM assumes the general condition of the BSCs in the allotment would be similar to the condition of the soils, litter, and vegetation with which they co-exist.

Lynch Allotment

The Lynch Allotment is made up of 5 different soil map units (Table A-3, Map 4a). The most prominent soil type that occurs on the allotment is the McConnel very gravelly sandy loam, 2 to 15 percent slopes, which comprises 42% of the allotment. The parent material is alluvium formed from basalt and tuff. These soils occur on high lake terraces and fans. These soils are very deep excessively drained and have moderately rapid to very rapid permeability with a water holding capacity of 2 inches. The surface layer is typically a very gravelly sandy loam, with a subsoil that is very gravelly coarse sandy loam to extremely gravelly loam. The slight salinity of soils at depths between 22 and 60 inches can reduce water availability to plants. These soils have a slight or moderate hazard of erosion by water.

Observed apparent trend (OAT) data was used to determine trend indicators correlated to soil stability. These indicators are: surface litter, pedestals, and gullies. Current OAT data collected indicates stable soils within Lynch Allotment; i.e. the litter is mostly accumulating in place, there is little evidence of pedestaling, and gullies are absent.

The Rangeland Health Assessment found upland soils in the allotment exhibit infiltration and permeability rates, moisture storage, and stability appropriate for soil, climate, and land form. Root occupancy for soil is appropriate and therefore, Standard 1 is being met (BLM 2003e). Soil surface factors (SSF) are used to assign an erosion class rating and potential susceptibility of soil to accelerated erosion. The SSF rating for the Lynch Allotment rated in the slight erosion condition class was 55%, otherwise unknown (Table 12).

Table 12. Soil Surface Factor in Lynch Allotment (00505) from ESI Data

	Erosion Condition Classes				
	Stable	Slight	Moderate	Critical	Unknown
Acres	0	99	0	0	81
Percent of Allotment	0	55%	0	0	45%

BSCs are present in the allotment, but occupy a very small percentage of the ground cover. One long-term trend transect was established in 2012 on the Lynch Allotment and no moss cover was present at the time. Lacking any other information, BLM assumes the general condition of the BSCs in the allotment would be similar to the condition of the soils, litter, and vegetation with which they co-exist.

Northeast Warner Allotment

The Northeast Warner Allotment is made up of 44 different soil map units (Table A-4, Map 4b). The most prominent soil type that occurs on the allotment is the Raz-Brace complex 2 to 20 % slope, which comprises 24% of the allotment. These soils occur on high lake plateaus and hills are shallow and well drained. The parent material is colluvium and alluvium formed from basalt and welded tuff. Raz and Brace soils are well drained with a water holding capacity of 2 inches and moderate to slow permeability. Hazard of wind or water erosion is slight. Depth to bedrock limits construction of water impoundments. Raz soils have a high corrosivity to steel.

The Anawalt-Raz complex 2 to 10 percent slopes occur on 15% of the allotment. These soils occur on hills and plateaus and are shallow and well drained. The parent material is colluvium and residuum formed from basalt, andesite, rhyolite, and welded tuff. These soils are well drained with a water holding capacity of 3 inches and have slow permeability. Erosion potential by wind and water is slight. The surface layer is very cobbly loam with a subsoil surface of gray clay loam.

The Anawalt gravelly clay loam 0 to 12 percent slopes occurs on 13% of the allotment. The parent material is residuum and colluvium formed from basalt and welded tuff. These are shallow well drained soils characterized by a surface soil of gray clay loam and a subsoil of clay. This soil has a water holding capacity of 3 inches and slow permeability with slight hazard for wind and water erosion. These soils have a high shrink swell potential and are highly corrosive to steel.

The Rangeland Health Assessment found upland soils in the allotment exhibit infiltration and permeability rates, moisture storage, and stability appropriate for soil, climate, and land form. Root occupancy for soil is appropriate and therefore, Standard 1 is being met (BLM 2003d). Soil surface factors (SSF) are used to assign an erosion class rating and potential susceptibility of soil to accelerated erosion. The SSF rating for the Northeast Warner Allotment rated 60% of the allotment in the slight erosion condition class (Table 13).

The Rangeland Health Assessment performed in 2003 reported 60% of the allotment was in a moderate SSF rating based on ESI surveys completed in 1992 and 1984 (BLM 2003f). Over the last two decades, vegetation conditions have

Table 13. Soil Surface Factor in Northeast Warner Allotment (00511) from ESI Data

	Erosion Condition Classes				
	Stable	Slight	Moderate	Critical	Unknown
Acres	428	8,5170	4,1333	14739	356
Percent of Allotment	0.2%	60%	29%	10%	0.2%

changed and SSF ratings have improved. A field tour of the allotment by an interdisciplinary team found improved rangeland health conditions (see Lakeview allotment files). Following the field tour, a partial assessment showed some ESI polygons previously assessed as moderate are improved to a slight soil condition class. With this new information it can be estimated at least ½ of the allotment previously reported in the moderate class has changed to the slight category (Table 13).

Observed apparent trend (OAT) data (Table 14) was used to determine trend indicators correlated to soil stability. These indicators are: surface litter, pedestals, and gullies. OAT data collected in 1984, 1992, indicated 15% of acres on the allotment was in an upward trend, 36% in static trend, and 39% in downward trend. Recent trend indicates the allotment has been in an upward trend on all 8 transects in the allotment representing.

Table 14. Observed Apparent Trend in Northeast Warner Allotment (00511) from ESI Data

	Observed Apparent Trend*			
	Upward	Static	Downward	Unknown**
Acres	21,945	55,030	58,827	15,283
Percent of Allotment	15%	36%	39%	10%

* The Observed Apparent Trend (OAT) is a numerical rating which considers vigor, seedlings, surface litter, pedestals and gullies to estimate the trend of a particular site and SWA.

** Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different vegetation communities. The transect data for the SWA may not apply to these inclusion, therefore the acres in these inclusions are considered unknown. The unknown also includes acres of types for which the SWA transect was run in a different allotment and the data from that transect may not apply to this allotment.

BSC cover data was not collected during the western Harney County Ecological Site Inventory (ESI) process. BSCs are present in the allotment, but occupy a very small percentage of the ground cover. Lacking any other information, BLM assumes the general condition of the BSCs in the allotment would be similar to the condition of the soils, litter, and vegetation with which they co-exist.

Lynch Flynn Allotment

The Lynch Flynn Allotment is made up of 25 different soil map units (Table A-5, Map 4a). The most prominent soil type that occurs on the allotment is the Carryback very cobbly loam, 2 to 15 percent slope, which comprises 22% of the acres of the allotment. The parent material for these soils is colluvium, residuum formed from tuff. Carryback soils are on tablelands and are moderately deep well drained soils that have a claypan at 4 to 10 inches. These soils have a moderate erosion hazard and a high shrink-swell potential with a water holding capacity of 4 inches. The second most prominent soil type is the Carryback complex, 0-5% slopes and occurs on 13% of the allotment. This soil has a parent material of colluvium, residuum formed from basalt and tuff. This soil is moderately deep well drained soils with slow permeability, and an available water capacity of 4 inches. These soils have a moderate erosion hazard by water and wind and a high shrink-swell potential.

The Rangeland Health Assessment found upland soils in the Lynch Flynn Allotment to exhibit infiltration and permeability rates, moisture storage, and stability appropriate for soil, climate, and land form. Root occupancy for soil is appropriate and therefore, Standard 1 is being met (BLM 2003d). Soil surface factors (SSF) are used to assign an erosion

class rating and potential susceptibility of soil to accelerated erosion. The SSF rating for the Lynch Flynn Allotment rated 62% of the allotment in the stable erosion condition class, 35% in the slight, otherwise unknown (Table 15).

Table 15. Soil Surface Factor in Lynch Flynn Allotment (00520) from ESI Data

	Erosion Condition Classes				
	Stable	Slight	Moderate	Critical	Unknown
Acres	11,656	6,611			533
Percent of Allotment	62%	35%	0	0	3%

Observed apparent trend (OAT) data (Table 16) was used to determine trend indicators correlated to soil stability. These indicators are: surface litter, pedestals, and gullies. OAT data collected in 1988, indicate that about 64% of the allotment in an upward trend, 32% in static trend, and 3% is unknown. Photo trend and observed apparent trend on three transects in the allotment indicate the allotment is in an upward trend.

Table 16. Observed Apparent Trend in Lynch Flynn Allotment (00520) from ESI Data

	Observed Apparent Trend*			
	Upward	Static	Downward	Unknown**
Acres	12,033	6,234	0	533
Percent of Allotment	64%	32%	0	3%

* The Observed Apparent Trend (OAT) is a numerical rating which considers vigor, seedlings, surface litter, pedestals and gullies to estimate the trend of a particular site and SWA..

** Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different vegetation communities. The transect data for the SWA may not apply to these inclusion, therefore the acres in these inclusions are considered unknown. The unknown also includes acres of types for which the SWA transect was run in a different allotment and the data from that transect may not apply to this allotment.

BSC cover data was not collected during the South Lake Ecological Site Inventory (ESI) process. However, there are four long-term monitoring transects in this allotment that recorded an average crust cover of about 5% of the total ground cover. Lacking any other information, BLM assumes the general condition of the BSCs in the allotment would be similar to the condition of the soils, litter, and vegetation with which they co-exist.

East Rabbit Hills Allotment

The East Rabbit Hills Allotment is made up of 12 different soil complexes (Table A-6, Map 4c). The most prominent soil type that occurs on 51% of the allotment is the Rabbit hills gravely loamy sand, 2-15% slope. These soils have a parent material of alluvium and lacustrine deposits derived from mixed volcanic rock. Found on lake terraces these soils are well drained and a surface soil of sandy loam with a subsoil of loam. The soils can be slightly saline and have a low (3 inches) water holding capacity.

The Rangeland Health Assessment found upland soils in the East Rabbit Hills Allotment to exhibit infiltration and permeability rates, moisture storage, and stability appropriate for soil, climate, and land form. Root occupancy for soil is appropriate and therefore, Standard 1 is being met (BLM 2003d). Soil surface factors (SSF) are used to assign an erosion class rating and potential susceptibility of soil to accelerated erosion. The SSF rating for the East Rabbit Hills Allotment rated 37% of the allotment in the slight erosion condition class (Table 17).

Observed apparent trend (OAT) data (Table 18) was used to determine trend indicators correlated to soil stability. These indicators are: surface litter, pedestals, and gullies. OAT data collected in 1995 with the ESI data collection effort indicate 21 % of the allotment in a static trend. Photo trend and observed apparent trend on two transects in the allotment indicate the allotment is in a stable upward trend.

Table 17. Soil Surface Factor in East Rabbit Hills Allotment (00530) obtained from the ESI data

	Erosion Condition Classes				
	Stable	Slight	Moderate	Rockland/Playa	Unknown
Acres	36	2835	96	171	4580
Percent of Allotment		37%	1%	2%	59%

* Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different vegetation communities. The transect data for the SWA may not apply to these inclusion, therefore the acres in these inclusions are considered unknown. The unknown also includes acres of types for which the SWA transect was run in a different allotment and the data from that transect may not apply to this allotment.

Table 18. Observed Apparent Trend in East Rabbit Hills Allotment (00530) from ESI Data

	Observed Apparent Trend				
	Upward	Static	Downward	Rockland/Playa	Unknown**
Acres	0	1629	1338	171	4580
Percent of Allotment	0%	21%	17%	2%	59%

** Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different vegetation communities. The transect data for the SWA may not apply to these inclusion, therefore the acres in these inclusions are considered unknown. The unknown also includes acres of types for which the SWA transect was run in a different allotment and the data from that transect may not apply to this allotment.

BSC cover data was collected during the North Lake Soil Survey. About 72% of the allotment to had varying levels of crust cover (Table 19). Two long-term monitoring transects in this allotment did not record any crust cover present. Lacking any other information, BLM assumes the general condition of the BSCs in the allotment would be similar to the condition of the soils, litter, and vegetation with which they co-exist.

Table 19. Summary of Biological Soil Crust Data for the East Rabbit Hills Allotment from ESI Data

Rating	Description	Acres	% of Allotment
0	Bare Ground	0	0
1	Crust present	0	0
2	Cyanobacteria present	1596	19%
4	Lichen and Mosses 1-5%	1343	16%
6	Lichen and Mosses 5-10%	2528	29%
8	Lichen and Mosses 10-20%	690	8%
10	Lichen and Mosses >20%	0	0
ND	Not Determined	2444	28%

North Rabbit Hills Allotment

The North Rabbit Hills Allotment is made up of 12 different soil map complexes (Table A-7, Map 4c). The most prominent soil type that occurs on 24% of the allotment is the Calderwood-McConnel complex, 0-20% slopes. These soils have a parent material of colluvium formed from volcanic rock such as andesite or basalt. Found on lava plateaus these soils are well drained, with a surface soil of sandy loam and a subsurface of gravelly sandy loam. These soils have a very low water holding capacity (0.9 inches). The second most common soil on the allotment occurring on 21% of the allotment is the Enko-McConnel complex, 0-5% slopes. These soils occur in basins, swales, and lake terraces are well drained and are very slightly saline. The surface and subsurface soil is comprised of a sandy loam and have a low water holding capacity (6 inches).

The Rangeland Health Assessment found upland soils in the allotment exhibit infiltration and permeability rates, moisture storage, and stability appropriate for soil, climate, and land form. Root occupancy for soil is appropriate and therefore, Standard 1 is being met (BLM 2003d). Soil surface factors (SSF) are used to assign an erosion class rating and

potential susceptibility of soil to accelerated erosion. The SSF rating for the North Rabbit Hills Allotment rated 48% of the allotment in the slight erosion condition class (Table 20).

Table 20. Soil Surface Factor in North Rabbit Hills Allotment (00530) from ESI Data

	Erosion Condition Classes				
	Stable	Slight	Moderate	Rockland/Playa	Unknown
Acres	376	6,031	0	326	5,810
Percent of Allotment	3%	48%	0	3%	46%

* Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different vegetation communities. The transect data for the SWA may not apply to these inclusion, therefore the acres in these inclusions are considered unknown. The unknown also includes acres of types for which the SWA transect was run in a different allotment and the data from that transect may not apply to this allotment.

Observed apparent trend (OAT) data (Table 21) was used to determine trend indicators correlated to soil stability. These indicators are: surface litter, pedestals, and gullies. OAT data collected in 1995 with the ESI data collection effort indicate 46 % of the allotment in a downward trend. The statement in the health assessment completed in 2003 stated: “of the 5,817 acres determined to be in a downward trend, about 58% contain significant amounts of cheatgrass (*Bromus tectorum*) and about 21% are crested wheatgrass seeding. The current practice of grazing in late winter and early spring should actually reduce cheatgrass production in relation to perennial grasses, and therefore is probably not responsible for the downward trend ratings in the cheatgrass dominated sites.” In 2012, this assessment is still accurate. Additional data from long-term trend sites shows cheatgrass has decreased on one long term trend site and frequency of crested wheatgrass has increased in frequency on both sites providing increased soil stability. Photo trend and OAT on both long term trend transects indicate the allotment is in a stable trend.

Table 21. Observed Apparent Trend in North Rabbit Hills Allotment (00530) from ESI Data

	Observed Apparent Trend				
	Upward	Static	Downward	Rockland/Playa	Unknown**
Acres	0	590	5,817	326	5,810
Percent of Allotment	0	5%	46%	3%	46%

** Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different vegetation communities. The transect data for the SWA may not apply to these inclusion, therefore the acres in these inclusions are considered unknown. The unknown also includes acres of types for which the SWA transect was run in a different allotment and the data from that transect may not apply to this allotment.

BSC cover data was collected during the North Lake Soil Survey and found 78% of the allotment to had varying levels of crust cover (Table 22). Of the two long-term monitoring transects in this allotment one recorded crust cover present at 7% in the allotment. Lacking any other information, BLM assumes the general condition of the BSCs in the allotment would be similar to the condition of the soils, litter, and vegetation with which they co-exist.

Table 22. Summary of Biological Soil Crust Data for the North Rabbit Hills Allotment from ESI Data

Rating	Description	Acres	% of Allotment
0	Bare Ground	0	0
1	Crust present	0	0
2	Cynobacteria present	57	0.004%
4	Lichen and Mosses 1-5%	3694	29%
6	Lichen and Mosses 5-10%	2915	23%
8	Lichen and Mosses 10-20%	946	7%
10	Lichen and Mosses >20%	2171	17%
ND	Not Determined	2926	23%

Environmental Consequences:

Effects Common to All Allotments

The impacts of livestock grazing on soils and BSCs within the Lakeview Resource Area were analyzed in the *Lakeview Proposed RMP/Final EIS* (BLM 2003a) and that analysis is incorporated herein by reference in its entirety. In summary, livestock use would continue to negatively impact area soils, primarily due to removal of cover vegetation, and hoof action causing trampling and compaction in high concentration areas near waterholes and along livestock trails. Cattle do not consume BSCs and the primary impact is due to hoof action or trampling. For this reason, impacts to BSCs would vary by soil type (pages 4-34 to 4-36). For purposes of this analysis, BLM assumes that the impacts to BSCs would be similar to, or highly correlated with those described for soils.

Cattle trails tend to be located along fence lines and near water sources and are typically less than 5 feet wide. This area of trailing disturbance can be estimated based on the number of miles of fence located in an allotment (X miles x 5 ft. x 5,280 ft. per mile/43,560 ft.² per acre). BLM does not have a quantifiable means of estimating disturbed acres associated with cross-country livestock trailing between water sources, but based on estimates associated with trailing along fences, it represents a very small percentage of each allotment. Most concentrated livestock use occurs within 0.25 miles around existing water sources and can be estimated for each allotment (a 0.25-mile buffer represents approximately 126 acres per water source).

Environmental Consequences:

Blue Creek Seeding Allotment

Effects Common to Alternatives 1-3

Soils and BSCs would continue to be negatively impacted in livestock concentration areas near water sources and cattle trails. There are no developed water sources on BLM lands within Blue Creek Seeding Allotment, so there is a low risk of high concentrated livestock around water sources. Peddlers Creek and an unnamed creek, both intermittent tributaries to Parsnip Creek, run on BLM lands within the allotment, but these streams are generally not impacted with higher grazing as livestock are not present during the spring when water may be present and lack a defined riparian zone. There are about 18 miles of fence located within the allotment (Map 2a) representing about 11 acres of disturbance associated with past fence construction and livestock trailing. This equals about 0.002% of the allotment.

These alternatives would maintain slight to moderate forage utilization across the allotment and continue to provide for some BSC retention and litter accumulation, resulting in the maintenance of existing organic matter, soil structure and productivity. While wind and water erosion would still have an on-going negative impact on soils and BSCs, the allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Alternative 4: No Grazing

Under the No Grazing Alternative, little change to soils would occur on the allotment in the short-term (up to 5 years). Most of the concentrated livestock use areas (11 acres) associated with the cattle trails would reclaim naturally with vegetation and BSC over the long term (5-10 years). Some of this disturbance may persist due to continued use by large wildlife such as antelope and deer. The allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

FRF Flynn Allotment

Effects Common to Alternatives 1-3

Soils and BSCs would continue to be negatively impacted in livestock concentration areas near water sources and cattle trails. There are 7 total water source areas within FRF Flynn Allotment (Map 2a). Approximately 882 acres around water sources would continue to be impacted by concentrated grazing use. There are about 30 miles of fence located within the allotment (Map 2a) representing another 18 acres of disturbance associated with past fence construction and livestock trailing. The area impacted by livestock concentration around fences and water is estimated at about 10% of the allotment.

These alternatives would maintain slight to moderate forage utilization across the allotment and continue to provide for some BSC retention and litter accumulation, resulting in the maintenance of existing organic matter, soil structure and productivity. While wind and water erosion would still have an on-going negative impact on soils and BSCs, the allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Alternative 4: No Grazing

Under the No Grazing Alternative, little change to soils would occur on the allotment as a whole in the short-term (up to 5 years). Most of the concentrated livestock use areas (2 acres) associated with the cattle trails would reclaim naturally with vegetation and BSCs over the long term (5-10 years). Some of this disturbance may persist due to continued use by wildlife such as antelope and deer. The allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Lynch Allotment

Effects Common to Alternatives 1-3

Soils and BSCs would continue to be negatively impacted in livestock concentration areas along cattle trails. There are no water sources on the Lynch Allotment. Livestock water on neighboring private land outside the allotment. Therefore, there would be no impact directly associated with watering areas. There is approximately 2 miles of fence located within the allotment (Map 2a) representing about 1 acre of disturbance associated with past fence construction and livestock trailing. The area estimated to be impacted by livestock concentration around fences equals about 0.006% of the allotment.

These alternatives would maintain slight forage utilization across the allotment and continue to provide for some BSC retention and litter accumulation, resulting in the maintenance of existing organic matter, soil structure and productivity. While wind and water erosion would still have an on-going negative impact on soils and BSCs, the allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Alternative 4: No Grazing

Under the No Grazing Alternative, little change to soils would occur on the allotment as a whole in the short-term (up to 5 years). Most of the concentrated livestock use areas (about 1 acre) associated with the cattle trails would reclaim naturally with vegetation and BSCs over the long term (5-10 years). Some of this disturbance may persist due to continued use by large wildlife such as antelope and deer. The allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Northeast Warner Allotment

Effects of Alternative 1: No Action

Soils and BSCs would continue to be negatively impacted in livestock concentration areas near water sources and cattle trails. There are a total of 104 total water source areas within Northeast Warner Allotment (Map 2c). Approximately 13,104 acres around existing water sources could continue to be impacted by concentrated grazing use in high precipitation years. While many water sources exist, they typically only hold water on moderately wet to wet years. Water availability varies by year. In a year with average precipitation it is estimated only about half of the water sources within the allotment are typically used by livestock. For this reason, a more accurate estimate of livestock impacts near water sources in a typical average or below average moisture year would be approximately 6,552 acres. There are about 67 miles of existing fence located within the allotment (Map 2c) representing about 41 acres of disturbance associated with past fence construction and livestock trailing. The area assumed to be impacted by livestock concentration around fences, and water holes and equals approximately 9% of the allotment.

This alternative would maintain slight to moderate forage utilization across the allotment and continue to provide for some BSC retention and litter accumulation, resulting in the maintenance of existing organic matter, soil structure and productivity. While wind and water erosion would still have an on-going negative impact on soils and BSCs, the allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Effects of Alternative 2: Range Improvements

In addition to a similar level of ground disturbance around existing water sources and along fences (13,145 acres) described under Alternative 1, there would be some additional surface disturbance to soils and BSCs from vehicle traffic during construction and future maintenance of the proposed range improvements under Alternative 2. There would be an additional small, disturbed area (estimated at 3.6 acres; 10 feet wide swath 3 miles long) associated with the well and pipeline construction and maintenance.

Some increased concentrated livestock disturbance would also occur in the vicinity of the new well and water troughs (Map 2c). This alternative would increase the water sources on the allotment by 7 incurring an additional 882 acres of disturbed area. The increased impacts of livestock trailing to these water holes would decrease impacts to other water holes therefore no overall increased impacts would occur. Impacts of livestock to water holes would be more dispersed and less concentrated.

These additional improvements would likely reduce the severity of hoof impacts at other watering locations to some degree due to livestock being dispersed across more functioning watering sites in a given year. This would allow for some additional recovery time for soils and the associated biotic community around existing water sources through natural processes such as frost heaving, plant maturation, and reproduction (through deferment). Rangeland health standards would continue to be met.

Effects of Alternative 3: Range Improvements and Rotation System

Livestock are typically moved on the allotment early to water holes holding water only in the spring and then gradually moved to areas near water holes that hold water later into the season to take advantage of forage in areas where water is available. Livestock will be kept in one herd and moved from one side of the allotment to the other. The number of livestock in a given pasture would put added pressure on water holes and surrounding forage in that pasture, compared to Alternative 1. As livestock move across the allotment, some water holes on the deferred pasture side will likely have already dried out causing livestock to congregate in areas where water remains. This would add additional livestock impacts on those watering areas. It is likely reliable watering areas will have increased livestock grazing pressure on them and some water holes will be very under used. Rangeland health standards are still likely to be met.

Effects of Alternative 4: No Grazing

Under the No Grazing Alternative, little change to soils would occur on the allotment as a whole in the short-term (up to 5 years). Most of the existing concentrated livestock use areas (13,145 acres) associated with water sources and cattle trails would reclaim naturally with vegetation and BSCs from surrounding areas over the long term (5-10 years). Some of these trails may persist due to continued use by large wildlife such as antelope and deer. It is likely that interspace areas (bare spots between grass/shrub species) may be reduced across the allotment due to the lack of cattle grazing. However, this change would likely be undetectable over the short-term. The allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Lynch-Flynn Allotment

Effects Common to Alternatives 1-3:

Soils and BSCs would continue to be negatively impacted in livestock concentration areas near water sources and cattle trails. There are 42 water sources on the Lynch-Flynn Allotment (Map 2a). Approximately, 5,292 acres around water sources would continue to be impacted by concentrated grazing use. There are about 32 miles of fence located within the allotment (Map 2a) representing another 20 acres of disturbance associated with past fence construction and livestock trailing. This total area estimated to be impacted by livestock concentration around fences and water sources is about 23% of the allotment.

These alternatives would maintain slight to moderate forage utilization across the allotment and continue to provide for some BSC retention and litter accumulation, resulting in the maintenance of existing organic matter, soil structure, and productivity. While wind and water erosion would still have an on-going negative impact on soils and BSCs, the allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Alternative 4: No Grazing

Under the No Grazing Alternative, little change to soils would occur on the allotment as a whole in the short-term (up to 5 years). Most of the concentrated livestock use areas (5,312 acres) associated with the water sources and cattle trails would reclaim naturally with vegetation and BSCs over the long term (5-10 years). Some of this disturbance may persist due to continued use by large wildlife such as antelope and deer.

East Rabbit Hills Allotment

Effects of Alternative 1: No Action

Soils and BSCs would continue to be negatively impacted in livestock concentration areas near water sources and cattle trails. Rabbit Creek is an intermittent creek that runs through this allotment, but water is only occasionally available when livestock are grazing in this area and no defined riparian area exists. Therefore, that area along the creek was not included as high concentration areas. There are 5 water sources on the East Rabbit Hills Allotment (Map 2b). Approximately 630 acres around water sources would continue to be impacted by concentrated grazing use. There are about 21 miles of fence located within the allotment (Map 2b) representing another estimated 13 acres of disturbance associated with past fence construction and livestock trailing. This total area estimated to be impacted by livestock concentration around fences and water sources comprises about 7% of the allotment.

This alternative would maintain slight to moderate forage utilization of the allotment and continue to provide for some BSC retention and litter accumulation, resulting in the maintenance of existing organic matter, soil structure, and productivity. While wind and water erosion would still have an on-going negative impact on soils and BSCs, the allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Effects Common to Alternative 2 and 3:

Under these alternatives an additional 2.5 miles of fence would be built to create a total of three pastures in the allotment. This proposed fence would add an additional estimated 1.5 acres of concentrated disturbance to this allotment due to livestock trailing and vehicle traffic during construction and future maintenance. This would increase the total area impacted along fences to about 14.5 acres. This slight increase would not change the overall percentage of disturbed area (7%) across the allotment.

This alternative would maintain slight to moderate forage utilization of the allotment and continue to provide for some BSC retention and litter accumulation, resulting in the maintenance of existing organic matter, soil structure, and productivity. While wind and water erosion would still have an on-going negative impact on soils and BSCs, the allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Effects of Alternative 4: No Grazing

Under the No Grazing Alternative, little change to soils would occur on the allotment as a whole in the short-term (up to 5 years). Most of the concentrated livestock use areas (517 acres) associated with the cattle trails would reclaim naturally with vegetation and BSCs over the long term (5-10 years). Some of this disturbance may persist due to continued use by large wildlife such as antelope and deer. The allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

North Rabbit Hills Allotment

Effects Common to Alternatives 1-3:

Soils and BSCs would continue to be negatively impacted in livestock concentration areas near water sources and cattle trails. There are 7 water sources on the North Rabbit Hills Allotment (Map 2b). Approximately, 882 acres around existing water sources would continue to be impacted by concentrated livestock use. There are about 18 miles of fence located within the allotment representing another estimated 11 acres of disturbance associated with past fence construction and livestock trailing. The total area estimated to be impacted by livestock concentration around fences and water sources is less than 7% of the allotment.

These alternatives would maintain slight to moderate forage utilization of the allotment and continue to provide for some BSC retention and litter accumulation, resulting in the maintenance of existing organic matter, soil structure, and productivity. While wind and water erosion would still have an on-going negative impact on soils and BSCs, the allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Alternative 4: No Grazing

Under the No Grazing Alternative, little change to soils would occur on the allotment as a whole in the short-term (up to 5 years). Most of the concentrated livestock use areas (882 acres) associated with the cattle trails would reclaim naturally with vegetation and BSCs over the long term (5-10 years). Some of this disturbance may persist due to continued use by large wildlife such as antelope and deer. The allotment would be expected to continue to meet rangeland health standard 1 into the foreseeable future.

Lentic Wetland Vegetation Communities

Affected Environment:

The Rangeland Health Assessments for the allotments noted the following for palustrine wetlands: 9 acres in the Blue Creek Seeding Allotment, 18 acres in the FRF Flynn Allotment, 0 acres in the Lynch Allotment, 1,687 acres in the

Northeast Warner Allotment, 128 acres in the Lynch-Flynn Allotment, 5 acres in the East Rabbit Hills Allotment, and 5 acres in the North Rabbit Hills Allotment. These wetland areas were all rated at Proper Functioning Condition (PFC) and were meeting Rangeland Health Standard 2 (related to riparian/wetland function). Livestock grazing did not appear to be a factor limiting Riparian/Wetland function in any of the allotments (BLM 2003d, 2003e, 2003f, 2003g, 2003h).

Environmental Consequences:

Effects of Alternative 1

Since the existing wetlands in the allotments are all in PFC and livestock grazing does not appear to be a factor limiting riparian/wetland function (BLM 2003d, 2003e, 2003f, 2003g, 2003h), continuing current grazing management would be expected to maintain this condition. Rangeland Health Standard 2 would continue to be met in all allotments over the 10-year permit lifetime.

Effects of Alternative 2

Under this alternative, the impacts to wetland habitat would be similar to Alternative 1 in most allotments. Specifically within the East Rabbit Hills Allotment, the existing wetland condition (PFC) would be maintained or improved slightly due to the additional rest provided. Rangeland Health Standard 2 would continue to be met in all allotments over the 10-year permit lifetime.

Effects of Alternative 3

Under this alternative, the impacts to wetland habitat would be similar to Alternative 2 in most allotments. Specifically within the Northeast Warner Allotment, the existing wetland condition (PFC) would be maintained or improved slightly due to the additional rest provided. Rangeland Health Standard 2 would continue to be met in all allotments over the 10-year permit lifetime.

Effects of Alternative 4 - No Grazing

Under this alternative, the wetland habitat would be expected to maintain or improve its existing condition (PFC) due to the removal of livestock grazing. Rangeland Health Standard 2 would continue to be met in all allotments over the 10-year analysis time frame.

Upland Vegetation Communities

Affected Environment:

Vegetation data for the allotments comes from an Ecological Site Inventory (ESI) performed in the 1980s and 1990s where several indicators of plant community health were collected (available in Lakeview range files). This information is summarized for each allotment in Appendix A along with associated maps. Data included in the tables includes range ecological site potential, current dominant vegetation, OAT, condition rating, and ecological status. These parameters are discussed as needed for each allotment, along with short-term utilization monitoring and long-term trend monitoring.

Blue Creek Seeding Allotment

Due to the high percentage of private lands located in this allotment, data on existing vegetation is largely lacking (Table A-8). Of the area that has had vegetation mapping completed, the most dominate vegetation is mountain big sagebrush and antelope bitterbrush. This vegetation type occurs on about 1,452 acres, of which approximately 320

acres are BLM-administered lands. The ESI rated this site to be in mid ecological status, a fair condition rating, and an upward trend.

A long-term photo monitoring trend site was established in 1969 within this vegetation type on BLM-administered lands. This area was seeded to crested wheatgrass after a fire in 1961. From photo analysis shrubs over the last 50 years have increased in dominance on the site. This long term transect recorded shrub cover at 36%, forb cover at 6%, and grass cover at 35% in 2012. The dominant understory species are Sandberg’s bluegrass with hits on crested wheatgrass, and basin wildrye. The overstory is dominated by bitterbrush and mountain sagebrush. Three canopy cover transects of shrub species showed cover of sagebrush to be 22%, and bitterbrush cover to be 26% and rabbitbrush cover to be 4% (Table 23, Map5a). Trend at this site was recorded as upward. This allotment is grazed in conjunction with private lands with no water. The rangeland health assessment noted utilization of less than 20% observed by the interdisciplinary

Table 23. Percent of Cover by Species Observed in 2012 using Line Intercept Methods

BC-01	% cover			average
	LI-1	LI-2	LI-3	
Mountain big sagebrush	16	27	23	22
Bitterbrush	27	20.6	31	26
Rabbitbrush	4	6	1	4
Total % cover	50	53	55	53
Average Total % cover	52.6			
Average height (ft.)	3-5 ft.			

team in 2002. No other utilization data has been recorded on this custodial allotment in the past, but due to limited use of public lands it is assumed past utilization has been slight to light due to limited use.

FRF Flynn Allotment

Due to the high percentage of private lands located in this allotment, data on existing vegetation is largely lacking. Of the area that has had vegetation mapping completed, the most abundant vegetation type (Table A-9, Map 5a) is dominated by mountain big sagebrush, Thurber’s needlegrass, and bluebunch wheatgrass and is being invaded by western juniper. This vegetation type occurs on about 1,905 acres or 30% of the allotment. The ESI inventory rated this site to be in mid to late ecological status with a fair and good condition rating and an upward trend. The second most common vegetation type is dominated by mountain big sagebrush, and bottlebrush squirreltail (12.3%). The ESI rated this site in a late ecological status in fair condition with an upward trend.

One long-term trend transect was established in a low sage vegetation plant community in 2012. Low sagebrush on this site averaged 17% and bitterbrush averaged 3%. This site is dominated by Sandberg’s bluegrass with a presence of thurbers needlegrass, bottlebrush squirreltail, and some cheatgrass present. This site was rated at an upward trend. Utilization on this allotment in 2012 was recorded as slight averaging 22%. Current observations show cheatgrass has invaded many areas of the allotment.

Table 24. Percent of Cover by Species Observed in 2012 Using Line Intercept Method

FFRF-01	% cover			average
	LI-1	LI-2	LI-3	
Low sagebrush	24	13	15	17
Bitterbrush	1		4	3
Western Juniper		1		1
Total % cover	25	14	19	
Average Total % cover	19			
Average height (ft.)	<1 ft.			

Lynch Allotment

The most abundant vegetation type in the Lynch Allotment (Table A-10, Map 5a) is dominated by rabbitbrush and cheatgrass. This vegetation type occurs on 51% of the allotment. The ESI rated this site in poor condition in an early ecological status due to the large component of cheatgrass. Photos taken in 2012 show the site is still dominated by cheatgrass and in an early ecological condition. Trend is stable to downward with invasion from cheatgrass and little native grasses present. No utilization was observed during an allotment inspection in 2012. No other utilization data has been collected in the past due to limited amount of public lands. It is assumed that past utilization has been none to slight due to limited use.

Northeast Warner Allotment

The Northeast Warner Allotment has a variety of sagebrush/grass vegetation types. In August of 2001, the Juniper fire burned 35,700 acres in this allotment. Fences were constructed to protect the burn area from grazing for 2 years and were kept as livestock management fences. Approximately, 2,700 acres of the burned area were aerial seeded with a native seed mix. The majority of the burned area has recovered naturally to a good stand of native grasses and forbs, and is still in an early seral stage. The sagebrush vegetation types with a perennial grass understory are generally in the mid to late seral stages and appear stable.

The most common vegetation type on the Northeast Warner Allotment (Table A-11, Map5b) is dominated by low sagebrush with an understory of Sandberg's bluegrass. This vegetation type occurs on about 27% of the allotment in late ecological status with a good condition rating and a stable trend.

The second most common vegetation type is dominated by bluebunch wheatgrass, and Wyoming big sagebrush. This vegetation type occurs on 26% of the allotment. The ESI inventory rated this site to be in mid ecological status, a fair condition rating, and a static to downward trend. This downward trend was due to cheatgrass stands resulting from past fires and greasewood vegetation types. Since the fire and some reseeding much of these areas have recovered and are no longer in a downward but stable trend.

There are 10 long-term monitoring plots located within this allotment (Table 25). All transects show an abundance of grass species and appropriate plant composition for the site showing an upward trend. Plant composition of these sites and community structure are showing to be appropriate with good plant vigor. Plants are able to complete their reproductive cycle either before or after grazing with the implementation of best management practices on the allotment. Utilization of this allotment recorded since 1996 has shown to be slight to light in all pastures. Observed Apparent Trend on long term transects and trend based on photo analysis shows upward on all transects. Other than some areas with cheatgrass and one Canada thistle site no other known noxious weeds are currently invading the area.

Lynch Flynn Allotment

This allotment is comprised of dry, scab rock flats with low sagebrush mixed with annual and perennial forbs and grasses as well as wet meadows from natural springs. The most abundant vegetation type in the Lynch-Flynn Allotment (Table A-12, Map 5c) is dominated by bottlebrush squirreltail, Sandberg's bluegrass, Idaho fescue, and low sagebrush. This vegetation type occurs on 73% of the allotment. This vegetation is in good to fair condition in a mid to late ecological status with a stable to upward trend. There is some western juniper in this allotment that does contain old-growth trees. However, it is a very small portion of the East Pasture, where livestock grazing is minimal. The Dingo Fire in 1996 burned 300 acres of the East pasture. Approximately, 100 acres of the burned area was reseeded with a native seed mix. The majority of the burned area has recovered naturally to a good stand of native grasses and forbs. All rangeland health standards are being met for vegetation within this allotment.

Table 25. Ecological Trend for the Northeast Warner Allotment Pastures Based on Long-term Monitoring Photos and Plots

Pasture	Monitoring plot#	Photo Trend Years Taken	Transect Method Years	OAT Trend	Shrub cover
West	NEW-01 burned in fire	Upward 1987-2011	Nested frequency 1985-2010 Increased perennial grasses and overall vegetative cover	Upward	NA
West	NEW-02 not burned	Upward 1998-2012	Nested Frequency 1987-2011 Increased perennial grasses and overall vegetative cover	Upward	27-31% cover of Wyoming sagebrush
West	NEW-04	Upward 1977-2012	Pace 2012 Abundant grass and vegetative cover	Upward	15-24% cover of Wyoming sagebrush
West	NEW-08	Upward 1983-2012	Pace 2012 Abundant grass and vegetative cover	Upward	22-28% cover of Low sagebrush
East	NEW-05	Upward 1983-2012	Pace 2012 Abundant grass and vegetative cover	Upward	18-28% Basin big sagebrush
East	NEW-06	Upward 1983-2012	Pace 2012 Abundant grass and vegetative cover	Upward	25-37% Low sagebrush
Mule Springs	NEW-07	Upward 2008-2012	Pace 2012 Abundant grass and vegetative cover	Upward	17-31% Wyoming big sagebrush
Windmill	NEW-03	Upward 1977-2012	Pace 2012 Abundant grass and vegetative cover	Stable to Upward	10-12% Wyoming big sagebrush
Southwest	NEW-09	Upward 2012	Pace 2012 Abundant grass and vegetative cover	Upward	10-24% Wyoming big sagebrush
Monohan	NEW-10	Upward 2012	Pace 2012 Abundant grass and vegetative cover	Upward	11-22% Wyoming big sagebrush

Three long-term transects have been established on the Lynch-Flynn Allotment. All transects show an abundance of grass species and appropriate plant composition for the site showing an upward trend (Table 26). Plant composition of these sites and community structure are showing to be appropriate with good plant vigor. Plants are able to complete their reproductive cycle either before or after grazing with the implementation of best management practices on the allotment. Utilization of this allotment recorded since 1986 has shown to be slight to moderate. Observed Apparent Trend on long term transects and trend based on photo analysis shows upward on all transects.

East Rabbit Hills Allotment

This most dominant vegetation is comprised primarily of crested wheatgrass seeding's and Wyoming big sagebrush covering 61% of the allotment (Table A-14, Map 5c). These areas are in poor to fair condition with a downward trend due to the early seral status of crested wheat grass, and invasion from cheatgrass. The current winter and early grazing does not significantly impact this vegetation and utilization of cheatgrass when it's young and green may actually reduce cheatgrass production. All rangeland health standards are being met for vegetation within this allotment.

Table 26. Ecological Trend per Pasture Based on Long-term Monitoring Photos and Plots in the Lynch-Flynn Allotment

Pasture	Monitoring plot#	Photo Trend Years Taken	Transect Method Years	OAT Trend	Shrub cover
West	LF-1	Upward 1983-2011	Pace-2012 Abundant and diverse grass and shrub composition providing excellent cover	Upward 2008-2011	9-11% bitterbrush, 25-30%
East	LF-2	Upward 1983-2012	Pace 1987-2011 Increased species diversity of grass and overall vegetative cover.	Upward 2011	13-29% low sagebrush
West	LF-3	Upward 1973-2012	Pace 2012 Abundant and diverse grass, forb and shrub composition providing excellent cover	Upward 2012	20-30% low sagebrush

Two long-term transects have been established on the allotment. Photo trend and observed apparent trend shows stable and upward as these sites are a monoculture of crested wheatgrass, and cheatgrass (Table 27). The current winter and early spring grazing allow plants to complete their vegetative reproductive cycles after the grazing season. In the six years grazing of the Steer Field has had utilization recorded to be heavy. Utilization in the main field has been moderate.

Table 27. Ecological Trend per Pasture Based on Long-term Monitoring Photos and Plots in the East Rabbit Hills Allotment

Pasture	Monitoring plot#	Photo Trend Years Taken	Transect Method Years	OAT Trend
Main	RB-4	Upward/Stable 1987-2011	Pace-2012 Appropriate vegetative cover	Stable 2008-2011
Main	RB-7	Upward/Stable 1985-2012	Pace 1987-2011 Appropriate vegetative cover	Upward 2005-2011

North Rabbit Hills Allotment

This dominant vegetation is comprised primarily of crested wheatgrass seedings and Wyoming big sagebrush covering 41% of the allotment (Table A-14, Map 5c). These areas are in poor to fair condition with a downward trend due to the early seral status of crested wheat grass, and invasion from cheatgrass. The current winter and early spring grazing does not significantly impact this vegetation. Utilization of cheatgrass occurs when it is young and green and may actually reduce cheatgrass production. All rangeland health standards related to vegetation are being met within this allotment.

Two long-term transects have been established on the North Rabbit Hills Allotment. Photo trend and observed apparent trend shows stable as these sites are a monoculture of crested wheatgrass, and cheatgrass. The current winter and early spring grazing allow plants to complete their vegetative reproductive cycles after the grazing season. Utilization for the last 10 years has been recorded as moderate to heavy, which is allowable under a spring and winter grazing system (see *Lakeview RMP/ROD*; BLM 2003b, pg. A-142).

Environmental Consequences:

Effects Common to all Allotments

The impacts of livestock grazing on vegetation within the Lakeview Resource Area were analyzed in the *Lakeview Proposed RMP/Final EIS* (BLM 2003a) and that analysis is incorporated herein by reference in its entirety. In summary, the vegetation composition of key species is expected to be maintained or improved over time under these grazing systems (BLM 2003a; pages 4-5 to 4-9).

Blue Creek Seeding Allotment

Effects Common to Alternatives 1-3:

These alternatives propose to graze the Blue Creek Seeding Allotment during the fall/winter season. No changes are proposed in any of the alternatives. Current management is meeting management objectives and, therefore, no changes are proposed. Vegetation and forage in this allotment would continue to be provided with growing season rest. Plants would be grazed during the fall/winter when they are dormant allowing plants to complete their reproductive cycle each year. Perennial grasses are dormant during the winter and primarily survive off of energy stored in their roots (Porath *et al.* 2003). Utilization would continue at an appropriate level to promote healthy vegetative communities and provide for a diversity of residual grass cover heights across the pasture. Approximately 11 acres (0.002%) of the vegetation communities within the pasture would continue to be impacted by concentrated livestock use (near cattle trails and water sources). This alternative would maintain slight to moderate forage utilization of the allotment and would be expected to continue to meet rangeland health standard 1 into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

Effects of Alternative 4: No Grazing

Under this alternative, grazing would be limited to wildlife species and would not likely utilize all available forage on the pasture. With limited plant defoliation, regrowth could be restricted by previous year's growth causing decreased evapotranspiration rates (Manske2001, McNaughton 1979). Older vegetation and higher shrub populations would favor an increase in above ground biomass. However, with a lack of livestock on the pasture there would be a decreased need for forage production for animals and communities would change accordingly. Due to the high density and cover of shrub species presently the stand would become even more susceptible to wildfire and possible increased juniper encroachment. The vegetative community is likely to become less resilient to wildfire as previous years ungrazed material accumulates and increases fuel loading. With the absence of non-native grass species on the Blue Creek Seeding Allotment however, the community would continue to meet rangeland health standards into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

FRF Flynn Allotment

Effects Common to Alternative 1-3:

All grazing alternatives propose to continue to graze the FRF Flynn Allotment at the permittees' discretion. No changes are proposed in any of these alternatives. Current management is appropriate for plants. Utilization would continue at an appropriate level to promote healthy vegetative communities and provide for a diversity of residual grass cover heights across the pasture. Approximately 10% of the vegetation communities within the pasture would continue to be impacted by concentrated livestock use (near cattle trails and water sources). Impacts to vegetation across the majority of the pasture would be dispersed and much less concentrated. This alternative would maintain slight to moderate forage utilization of the allotment and would be expected to continue to meet rangeland health standard 1 into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

Effects of Alternative 4: No Grazing

Under this alternative, grazing would be limited to wildlife species and would not likely utilize all available forage on the pasture. With limited plant defoliation, regrowth could be restricted by previous year's growth causing decreased evapotranspiration rates (Manske 2001, McNaughton 1979). Older vegetation and higher shrub populations would favor an increase in above ground biomass. However, with a lack of livestock on the pasture there would be a decreased need for forage production for animals and communities would change accordingly. Due to the cover of shrub species will likely increase and the stand could become even more susceptible to wildfire and increased juniper encroachment. The vegetative community in the FRF Flynn Allotment would continue to meet rangeland health standards into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

Lynch Allotment

Effects Common to Alternative 1-3:

All grazing alternatives propose to continue to graze the Lynch Allotment at the permittee's discretion in conjunctions with private lands. No changes to grazing are proposed in these alternatives and rangeland health standards are currently being met, and would continue to be met. Livestock grazing is not having a negative impact to the current condition of the upland vegetation including old growth western juniper in the east pasture. With a lack of vegetation treatments including cheatgrass control, juniper expansion treatments, and subsequent seeding, this site will continue to be established with undesirable species. Current management is appropriate for this custodial allotment. Utilization would continue at an appropriate level to maintain current vegetative communities and provide for a diversity of residual grass cover heights across the pasture. Less than 1% of the vegetation communities within the pasture would continue to be impacted by concentrated livestock use (near cattle trails along fence lines). No water sources exist on this allotment.

Effects of Alternative 4: No Grazing

Under this alternative, grazing would be limited to wildlife species. Older vegetation and higher shrub populations would favor an increase in above ground biomass. However, with a lack of livestock on the pasture there would be a decreased need for forage production for animals and communities would change accordingly. Increased shrub cover is likely. The vegetative community is likely to become less resilient to wildfire as previous years ungrazed material accumulates. The vegetative community in the Lynch Allotment would continue to meet rangeland health standards into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

Northeast Warner Allotment

In addition, a spring/summer grazing system grazed with an adaptive management strategy would allow for slight to moderate utilization during the grazing season promoting a healthy vegetative community. Absent a wildfire, juniper expansion is expected to continue regardless of grazing strategies, as it out-competes understory grasses and shrubs for available moisture and soil nutrients.

Effects of Alternative 1: No Action

Under this alternative no changes would be implemented. Best management practices of moving livestock to water available early in the year and then moving livestock to areas with reliable water later in the year will continue to provide plants with rest during the growing season. No changes to grazing are proposed in this alternative and rangeland health standards are currently being met and would continue to be met under this alternative. Trend is upward and

would continue this way in the foreseeable future. Livestock grazing is not having a negative impact to the current condition of the vegetation. Approximately 9% of the vegetation communities within the pasture would continue to be impacted by concentrated livestock use (near cattle trails and water sources). Impacts to vegetation across the majority of the pasture would be dispersed and much less concentrated. The vegetative community in the Northeast Warner Allotment would continue to meet rangeland health standards into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

Effects of Alternative 2: Range Improvements

Under this alternative the additional range improvements would increase distribution of livestock on the allotment with the development of four new water sources. Greater distribution of livestock would allow for improved plant community composition, and overall production across the allotment stimulating younger plant growth and promoting defoliation of older vegetation (Manske 2001, McNaughton 1979). Average utilization levels across the allotment as a whole would likely be similar to what is currently measured in the slight to light category (6%-40%). There would be an additional 504 acres of concentrated livestock use associated with the additional water sources increasing the total percent of concentrated livestock use from 9% to 10%. The allotment would continue to meet rangeland health standards into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

Effects of Alternative 3: Range Improvements and Rotation System

Under this alternative all livestock would be placed on the same side of the allotment all at once and then moved to the other pastures over the course of the season. Although additional watering areas would provide some improved reliable water on the allotment. This alternative would create areas of heavy use on vegetation within a quarter mile of available water. This alternative would concentrate livestock into areas and may cause increased intensity of grazing on plants near available water that may possibly have limited regrowth potential. This is a large allotment and water availability in the spring directs how and when livestock are placed on the allotment. If livestock are grazed in a rotation system, some pastures with more available water in the spring would be grazed later and use would tend to be concentrated around a few watering areas causing heavy utilization of vegetation within a quarter mile of those water sources, leaving many acres of the allotment under-utilized. It is plausible that the overall health of vegetation and trend near water would be compromised by the heavy use of livestock, while other areas of the allotment are under-utilized and improve with the additional rest received. However, the majority of the allotment as a whole would continue to provide healthy and diverse plant communities.

Effects of Alternative 4: No Grazing

Under this alternative, grazing would be limited to wildlife species. Older vegetation and higher shrub populations would favor an increase in above ground biomass. However, with a lack of livestock on the pasture there would be a decreased need for forage production for animals and communities would change accordingly. Increased shrub cover is likely. The vegetative community is likely to become less resilient to wildfire as previous years ungrazed material accumulates. The vegetative community in the North East Warner Allotment would continue to meet rangeland health standards into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

Lynch Flynn Allotment

In addition, a spring/summer grazing system grazed under an adaptive management strategy would allow for slight to moderate utilization during the grazing season promoting a healthy vegetative community. Absent a wildfire, juniper expansion is expected to continue regardless of grazing strategies, as it out-competes understory grasses and shrubs for available moisture and soil nutrients.

Effects Common to Alternative 1-3:

All grazing alternatives propose to continue to graze the Lynch Flynn Allotment with a spring summer rotational use of pastures. No changes to grazing are proposed in these alternatives and rangeland health standards are currently being met. Current management is appropriate for this allotment. Utilization would continue at an appropriate level to maintain current vegetative communities and provide for a diversity of residual grass cover heights across the pasture. Less than 1% of the vegetation communities within the pasture would continue to be impacted by concentrated livestock use (near cattle trails and water sources).

Effects of Alternative 4: No Grazing

Under this alternative, grazing would be limited to wildlife species. Older vegetation and higher shrub populations would favor an increase in above ground biomass. However, with a lack of livestock on the pasture there would be a decreased need for forage production for animals and communities would change accordingly. Increased shrub cover is likely. The vegetative community is likely to become less resilient to wildfire as previous years ungrazed material accumulates. The vegetative community in the Lynch Flynn Allotment would continue to meet rangeland health standards into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

East Rabbit Hills Allotment

Effects Common to Alternatives 1-4

Absent a wildfire, juniper expansion is expected to continue throughout the allotment regardless of grazing strategies, as this species out-competes understory grasses and shrubs for available moisture and soil nutrients.

Effects of Alternative 1: No Action

Under this alternative no changes would be implemented. No changes to grazing are proposed in this alternative and rangeland health standards are currently being met and will likely continue to be met under this alternative. With continued yearly spring use in the steer field grazing could reduce herbaceous plant vigor, density, and cover. Over time this could lead to a downward trend in range condition in the steer field. Trend is currently stable would continue this way in the main pasture in the foreseeable future. Approximately 7% of the vegetation communities within the pasture would continue to be impacted by concentrated livestock use (near cattle trails and water sources). Impacts to vegetation across the majority of the pasture would be dispersed and much less concentrated.

Effects of Alternatives 2 and 3:

Under these alternatives the East Rabbit Hills range improvement project would be implemented. The East Rabbit Hills division fence would allow a grazing rotation and increased winter use to the steer field for the next three years providing needed rest. This pasture has received heavy spring use the last several growing seasons followed by summer drought conditions preventing adequate regrowth of plants. This improvement project would facilitate improved rotational use of pastures and use in the winter allowing plants adequate growth in the spring even during drought conditions. Each pasture would be rested every third year as they rotate between spring and winter use. Increased winter use will allow plants maximum growth during the spring and summer months and benefit overall range condition. Early spring use will allow plants to vegetatively reproduce in the summer when moisture is available.

Effects of Alternative 4: No Grazing

Under this alternative, grazing would be limited to wildlife species. Older vegetation and higher shrub populations would favor an increase in above ground biomass. However, with a lack of livestock on the pasture there would be a

decreased need for forage production for animals and communities would change accordingly. Increased shrub cover is likely. The vegetative community is likely to become less resilient to wildfire as previous years ungrazed material accumulates. The vegetative community in the North Rabbit Hills Allotment would continue to meet rangeland health standards into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

North Rabbit Hills Allotment

Effects Common to Alternatives 1-4

Absent a wildfire, juniper expansion is expected to continue throughout the allotment regardless of grazing strategies, as this species out-competes understory grasses and shrubs for available moisture and soil nutrients.

Effects Common to Alternatives 1-3:

Under these alternatives no improvements or management changes are proposed. Rangeland health standards are currently being met and will likely continue to be met under these alternatives. Approximately 7% of the vegetation communities within the pasture would continue to be impacted by concentrated livestock use (near cattle trails and water sources). Impacts to vegetation across the majority of the pasture would be dispersed and much less concentrated.

Effects of Alternative 4: No Grazing

Under this alternative, grazing would be limited to wildlife species. Older vegetation and higher shrub populations would favor an increase in above ground biomass. However, with a lack of livestock on the pasture there would be a decreased need for forage production for animals and communities would change accordingly. Succession would likely favor shrub species over the long-term greater than 10 years. With limited plant defoliation, regrowth could be restricted by previous year's growth causing decreased evapotranspiration rates (Manske2001, McNaughton 1979). The vegetative community is likely to become less resilient to wildfire as previous years ungrazed material accumulates. The vegetative community in the North Rabbit Hills Allotment would continue to meet rangeland health standards into the foreseeable future and would, therefore, continue to provide healthy, productive, and diverse plant populations and communities.

Noxious Weeds and Invasive Nonnative Plant Species

Affected Environment:

There are currently 34 known noxious weed sites totaling about 9.5 acres distributed across the 7 allotments. There have been 8 different noxious weed species documented. The number and acreages associated with each are displayed in Table 28. A systematic noxious weed inventory for these allotments has not been completed and weed presence shown in Table 29 represents what has been documented from field inventories to date. Botanical surveys have been conducted at the new range improvement project locations. No noxious weeds were found. The majority of the known noxious weed infestations are found along roads and high water marks of the lakes, demonstrating that vehicle and water transport are currently more significant methods of weed spread than are livestock grazing management practices. One documented medusahead site is located directly west of the Lynch-Flynn Allotment along the County Road 3-13 and has a high potential to spread into that allotment due to close proximity.

The allotments all occur within the area covered by the Lakeview Resource Area's *Integrated Noxious Weed Management Program* (BLM 2004). Through this weed management program, BLM has been implementing cultural,

Table 28. Current Noxious Weed Distribution by Allotment

Allotment	Noxious Weed	Number of Sites	Acres
Northeast Warner #00511	Canada thistle	1	3
Lynch Flynn #00520	Medusahead (CR 3-13)	2	2.6
	Hoary Cress	5	2.0
	Mediterranean sage	1	.1
	Bull Thistle	1	.2
North Rabbit Hills #00531	Russian Knapweed	3	.3
	Spiny Cocklebur	1	.1
East Rabbit Hills #00530	No Noxious Weeds	0	0
FRF Flynn #00501	Hoary Cress	2	.1
	Russian Knapweed	1	.1
	Perennial Pepperweed	16	.16
Lynch #00505	None	0	0
Blue Creek Seeding #00200	Mediterranean Sage	1	.88
	Total	34	9.54

physical, biological, and chemical methods to control existing known noxious weed sites, monitoring infestations annually to determine treatment success, and conducting additional surveys to locate new sites. The BLM also follows a Weed Prevention Schedule to minimize the risk of introducing new noxious weeds into the allotments when conducting various management activities in the area. Implementation of BLM’s *Integrated Noxious Weed Management Program* (such as BLM 2004) is on-going and would continue into the future, regardless of which alternative is selected as the final decision. The impacts of this program have been evaluated previously and will not be addressed here. However, these impacts are addressed in the cumulative effects section. The following section focuses on describing the relative risk of weed spread or invasion from each alternative.

Environmental Consequences:

Effects Common to All Alternatives

Generally, management actions that encourage mid to late seral vegetation and good to excellent rangeland conditions, also encourage native plant species vigor and productivity, which is helpful in native species being able to out-compete non-native species and continue to occupy existing ecological niches and slow down potential movement of noxious weeds into native plant communities.

Effects of Alternative 1: No Action

Continuing the current grazing management would likely maintain the status quo for most plant communities in the allotments. There would be no additional short-term disturbances to increase the opportunity or risk of new noxious weed invasion. The on-going need to monitor and treat weed sites, would remain relatively constant over the 10-year life of the permit.

Effects of Alternative 2: Range Improvements

This alternative would involve increased short-term ground disturbances in localized areas during well, pipeline, trough and fence installation activities, as well as increased livestock concentration disturbance around the new water sources. These new disturbances would increase the potential risk of weed invasion into these areas. However, the weed monitoring/treatment BMP listed in Chapter 2 and BLM’s standard weed prevention measures would limit or minimize this potential risk to the extent possible over the long-term.

The better distribution of livestock would promote more even utilization of vegetation across several pastures in the Northeast Warner and East Rabbit Hills Allotments. This in turn would promote more vigorous, productive plant communities, which would decrease opportunities for noxious weed introduction and spread. This alternative would decrease the potential for development of persistent weed issues across the two allotments compared to the No Action Alternative.

There would be an increased need to monitor the new areas of ground disturbance and potentially treat new weed sites, if new weed sites are found in either the Northeast Warner or East Rabbit Hills Allotments. However, there would generally be less need to monitor and treat sites across the majority of these allotments over the 10-year life of the permit.

Effects of Alternative 3: Range Improvements and Rotation System

Impacts from this alternative would be substantially the same as Alternative 2. The proposed grazing rotation system in the Northeast Warner Allotment would promote more even utilization of vegetation across the allotment as a whole. This in turn would promote more vigorous, productive plant communities, which would decrease opportunities for noxious weed introduction and spread across the majority of the Northeast Warner Allotment compared to the No Action Alternative.

Effects of Alternative 4 - No Grazing:

Under this alternative, the risk of new weed invasions would be similar to Alternative 1 in the short-term. Over the long-term, some existing infestations may slightly decrease due to the removal of livestock related disturbance and gradual natural recovery of native plant communities in former concentrated use areas, if native plants are able to out-compete weed species on these sites. However, it is also possible that more noxious weed plants would be able to mature and produce seed in the absence of livestock grazing use. Many of the allotments are currently grazed in the spring and cattle may be grazing some of these noxious weed plants before they have the ability to flower or produce seed. The loss of grazing pressure on these plants could allow development of more dense noxious weed infestations in some locations over the long-term. There would be an on-going need to monitor and treat known weed sites over the 10-year life of the permit similar to Alternative 1.

Lotic Riparian Habitat, Water Quality, and Fisheries Habitat

Affected Environment:

Intermittent streams are located within several of the allotments. However, with the exception of the FRF Flynn Allotment (#00501), no perennial streams, lotic riparian habitat, or fish habitat exists within any of the allotments analyzed in this EA. Therefore, the remainder of this discussion will focus on that allotment.

The FRF Flynn Allotment contains approximately 0.75 miles of interrupted perennial stream (only isolated pools persist during the low flow season) in Drake Creek, at the downstream end of the allotment. Riparian conditions have been assessed several times in recent years (Table 32). Based on a PFC survey completed in 2013, riparian habitat is currently in good condition, with appropriate native vegetation dominating the riparian zone, including native grasses, rushes, sedges, and willows. Drake Creek was found to be Functioning at Risk with an upward trend. Recent photos showed increases in riparian vegetation from past years and stream channel characteristics appropriate for the landscape.

Water quality and fish habitat is thought to be limited by the lack of water in Drake Creek, as only isolated pools exist during the summer months. No water quality data exists for this reach of Drake Creek, although all of Drake Creek is on the State of Oregon 303 (d) list of water quality limited streams for temperature.

Speckled dace are the only fish species known to exist in the allotment, as they occupy habitat throughout most of the BLM-administered portion of Drake Creek in the allotment, based on 2012 survey data (unpublished data on file at Lakeview BLM). Redband trout occupy habitat near the downstream end of the allotment in Drake Creek. A 2012 ocular survey found redband trout within about 1/8 mile of the allotment; the estimated upper distribution limit was the fence line at the downstream end of the allotment (unpublished data on file at Lakeview BLM). Warner sucker exist in Deep Creek, over 12 miles downstream of the allotment, near the town of Adel.

Environmental Consequences:

FRF Flynn Allotment

Effects Common to Alternatives 1-3:

Under these alternatives no new improvements or management changes are being proposed. Utilization would continue to be maintained at a slight to moderate level under these alternatives. Actual use, utilization, and local climate data have been summarized in the allotment monitoring file and indicate that livestock grazing levels are sustainable at the current forage allocation for the allotment.

Use of this allotment has been variable. While the permittees apply and pay for a total of 122 AUMs annually, the actual use varies year to year. Since most grazing occurs on private land, utilization has not been monitored regularly on this allotment. However, in 2012 utilization was 22%. BLM assumes that past utilization is similar to what was observed in 2012.

Trend photos indicate an upward trend in the key area of the allotment, and the current grazing system is meeting all rangeland health standards. Livestock grazing management is maintaining a vegetative community that supports other resource objectives, including those for lotic riparian, water quality, and fish habitat. The current grazing strategy is leading to improving riparian habitat, water quality, and fish habitat, and will likely result in meeting applicable Rangeland Health Standards over the 10-year life of the permit.

Effects of Alternative 4: No Grazing

Under Alternative 4, no grazing would occur on BLM-administered lands in the allotment. This would result in the greatest potential benefit and improvement to lotic riparian vegetation, water quality, and fish habitat. Riparian vegetation, water quality, and fish habitat would trend upward in condition at the fastest rate possible (without active restoration). This alternative would improve riparian habitat, water quality, and fish habitat more rapidly than Alternatives 1-3, and would result in meeting applicable Rangeland Health Standards.

Wildlife and Wildlife Habitat

Affected Environment:

The Rangeland Health Assessment for the allotments found that current management was meeting Rangeland Health Standards 3 and 5 related to ecological conditions and wildlife habitat (BLM 2003d, 2003e, 2003f, 2003g, 2003h).

Water available to wildlife within the allotments is limited to a few natural sources, livestock water developments (waterholes, reservoirs, and springs), and guzzlers constructed specifically for wildlife. Wildlife guzzlers (water catchments) have generally been constructed for wildlife use in areas where natural water is limited. Competition for water can occur between wildlife and cattle in areas where water is scarce.

Big Game Species

The allotments fall within the larger Oregon Department of Fish and Wildlife (ODFW) Warner (960 square mile) and Juniper (2,955 square mile) big game habitat management units. The mule deer and pronghorn antelope populations are relatively stable within these units. Habitat quantity and quality do not appear to be limiting big game population size or health within these units. Deer and pronghorn populations continue to fluctuate at or slightly above ODFW's population management objectives for the units (ODFW 2003). The allotments comprise a small percentage of the units and provides habitat capable of supporting mule deer and pronghorn antelope. Of these Herd Units, the area within the allotments provide spring-fall habitat for mule deer, including fawning habitat. There are currently adequate AUMs allocated for mule deer, pronghorn, and other wildlife species within the allotments (BLM 2003b, Table 5, pages 46-49 and Appendix E, pages A-15, A-74, A-77, A- 82, A-91, A-97, and A-98, as maintained). Based on previous consultation with ODFW biologists, this forage allocation is adequate to support big game populations within these allotments.

California bighorn sheep habitat occurs within the Northeast Warner and Lynch-Flynn Allotments. The ODFW describes the existing bighorn habitat as adequate for future population expansion goals. The only limitations in bighorn sheep habitat within the allotments are the lack of perennial water sources.

Other Mammals

Other mammals observed in the allotments are jackrabbits, cottontails, coyotes, ground squirrels, chipmunks, marmots, bobcats, mountain lions, badgers, bats, and other common shrub-steppe mammal species. In some areas, porcupines and black bears have been seen.

Birds

Some migratory birds (birds identified under the Migratory Bird Treaty Act of 1918, as amended) use a variety of habitat types in the allotments for nesting, foraging, and/or resting as they pass through on their yearly migrations. There has been no formal monitoring of migratory birds on these allotments. Common species observed or expected to occur based on species range and vegetation in the allotments are included in Table 29.

Birds of Conservation Concern in the Great Basin Region may inhabit a mix of big and low sagebrush vegetation communities inter-mingled with invasive juniper. Waterfowl may frequent the allotments during migration and a few pairs may breed on the reservoirs in the area. The 1988 amendment to the Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service (USFWS) to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973. *Birds of Conservation Concern 2008* (USFWS 2008) is the most recent effort to carry out this mandate. These species are also listed in Table 29.

Partners in Flight use the focal species approach to set biological objectives and link priority species with specific conservation recommendations. It is a multi-species approach in which the ecological requirements of a suite of focal species are used to define an 'ideal landscape' to maintain the range of habitat conditions and ecological processes required by land birds and many other species. Focal species are considered most sensitive to or limited by certain ecological processes (*e.g.* fire or nest predation) or habitat attributes (*e.g.* patch size or snags). The requirements of a *suite* of focal species are then used to help guide management activities. These species are also listed in Table 29.

Golden and bald eagles are two species given special protection specifically under the Bald Eagle Protection Act of 1940 (as amended).

Table 29. Wildlife Species with Special Management Considerations

Species and Designation	General Habitat	Species Status	Birds of Conservation Concern	Migratory Birds	Focal Species	Game Birds Below Desired Condition	Eagle Act	Allotments with Known or Potential Habitat
Prairie Falcon	Cliff-open habitat				x			All
Ferruginous Hawk	Sagebrush-shrub steppe		x	x	x			All
Golden Eagle	Elevated nest sites in open country		x	x			x	All
Sage Sparrow	Sagebrush		x	x	x			All
Greater Sage Grouse	Sagebrush dominated rangelands	*FC	x		x			00200, 00501, 00511, 00520
Peregrine Falcon	Cliff-open habitat	**SSS	x	x				00530, 00531
Loggerhead Shrike	Open country/scattered trees/shrubs		x	x	x			All
Swainson's Hawk	Open Habitat			x				All
Sage Thrasher	Sagebrush-shrub steppe		x		x			00511
Bald Eagle	Wetlands/River Systems/Lakes	**SSS	x				x	All
Burrowing Owl	Grasslands-shrub steppe			x	x			00511, 00530
Brewer's Sparrow	Sagebrush clearings in bitterbrush		x	x	x			00511
Pygmy Rabbit	Sagebrush with deep soils	**SSS						00511
Kit Fox	Arid shrub-steppe	**SSS						
Pallid Bat	Arid regions/rocky outcroppings	**SSS						
Townsend's Big-eared Bat	Lava fields /Rocky Cliffs /Abandoned Structures	**SSS						
Northern Harrier	Wetlands/Ponds /Riparian Areas			x				00531

*FC – Federal Candidate Species

**SSS – Special Status Species

Amphibians and Reptiles

There are also numerous amphibian and reptile species that occur within the allotments including fence lizards, sagebrush lizards, gopher snakes, rattlesnakes, horned-lizards, and many other common shrub-steppe species.

Special Status Wildlife Species

The Bureau policy and guidance on special status species is to conserve those species and the ecosystems upon which they depend (BLM 2001c). Other than the Greater Sage-grouse (Federal Candidate Species), and the Warner Sucker

(discussed in the Lotic Riparian Habitat, Water Quality, and Fisheries Habitat section above), there are no known terrestrial wildlife species classified as Federally-listed Threatened or Endangered, proposed or candidate species, or proposed or designated critical habitat within the allotments.

Greater Sage-Grouse

The *Lakeview Proposed RMP/Final EIS* (BLM 2003a) Map W-1 shows areas defined as sage-grouse habitat as of spring 2002. The data displayed in the map is considered to be a “broad-brush” habitat map subject to refinement/update with new information over time. As noted in the footnotes of Map W-1, the habitat data represented “*the best data currently available*” and this data was expected to be refined or updated over time. Since the map was published, a cooperative habitat mapping effort with ODFW has occurred throughout eastern Oregon resulting in updated sage-grouse habitat and lek location data.

Based on Oregon Department of Fish and Wildlife’s (ODFW) most recent sage-grouse lek data, there are no known active sage grouse leks found within the Blue Creek Seeding, FRF Flynn, Lynch, East Rabbit Hills, and North Rabbit Hills Allotments. The nearest active leks are located approximately 2 to 5 miles from the allotment boundaries. There are 3 active leks found within the Northeast Warner Allotment and 1 active lek within the Lynch-Flynn Allotment (Map 6).

Knick and Connelly (2011) represents a compilation of recent sage-grouse research which addresses a variety of issues related to management of the species at the range-wide scale (often referred to as the “Monograph”). Information from the Monograph was synthesized for application at the regional scale (Oregon) within the *Greater Sage-Grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitats* (ODFW 2011).

ODFW (2011) developed a habitat dataset that identifies the most productive landscapes for sage-grouse as either “core habitat” or “low density habitat”. Since that time, the BLM, in coordination with ODFW, have refined this dataset. At this point in time, core habitat has become synonymous with what BLM is currently calling “preliminary priority habitat” (PPH). This habitat is defined as areas that have the highest conservation value for maintaining sustainable Greater Sage-Grouse populations. These areas include breeding, late brood-rearing, and winter concentration areas. BLM is currently calling low density habitat as “preliminary general habitat” (PGH). This is defined as areas of occupied seasonal or year-round habitat outside of priority habitat. This mapping exercise considered a landscape approach to wildlife conservation prioritizing sage-grouse habitats and was based upon sage-grouse distribution and abundance in association to nearest lek and not on actual vegetation. The main objective of the exercise was to protect the most important breeding or nesting areas.

The Blue Creek Seeding, FRF Flynn, Northeast Warner, and the Lynch–Flynn allotments provide habitat for the Greater sage-grouse. When analyzing BLM and ODFW’s refined PPH and PGH layers for those allotments containing sage-grouse habitat, the following results are revealed. The Blue Creek Seeding Allotment contains approximately 414 acres (69% of the allotment) rated as PPH and 0 acres rated as PGH. The FRF Flynn Allotment contains approximately 1,863 acres (67% of the allotment) rated as PPH and 0 acres rated as PGH. The Northeast Warner Allotment contains approximately 70,900 acres (51% of the allotment) rated as PPH and 59,778 acres (43%) rated as PGH. The Lynch - Flynn Allotment contains approximately 21,524 acres (98% of the allotment) rated as PPH and 0 acres rated as PGH. None of the FRF Flynn, East Rabbit Hills, and the North Rabbit Hills Allotments contain sage-grouse habitat (Map 6).

Sage-grouse habitat quality was reassessed for the allotments addressed in this EA using the *Sage-grouse Habitat Assessment Framework* (Stiver *et. al.* 2010). At the Third Order scale (sage-grouse home range scale) habitats are limited. Connelly *et al.* (2004) found most sage-grouse nest within 4 miles of a lek. Based on the distance from the nearest active lek and the sagebrush cover heights associated with the dominant vegetation types:

Approximately 504 acres (84%) of the Blue Creek Seeding Allotment is marginal yearlong habitat, 42 acres (7%) is suitable breeding habitat, and 54 acres (9%) is unsuitable habitat.

Approximately 1,779 acres (64%) of the FRF Flynn Allotment is marginal breeding and yearlong habitat, 464 acres (16.7%) is suitable yearlong habitat, and 537 acres (19.3%) is unsuitable habitat.

Approximately 65,159 acres (47%) of the Northeast Warner Allotment is marginal winter, marginal summer, and marginal yearlong habitat, 37,062 acres (27%) is suitable yearlong habitat, and 36,798 acres (26%) is unsuitable habitat.

Approximately 14,476 acres (77%) of the Lynch–Flynn Allotment is marginal breeding and yearlong habitat, 4,305 acres (22.9%) is suitable breeding, summer, and yearlong habitat, and 19 acres (0.1%) is unsuitable sage-grouse habitat (Map 6).

Raptors

Peregrine falcons (BLM sensitive Species) have been observed in the general area of the East Rabbit Hills and North Rabbit Hills Allotments due to releases from the Crump Lake hack site; however, no nesting has been documented within either the allotments.

Currently, there are no known nests or nesting habitat for bald eagles within either allotment. They are suspected to be occasional visitors to the area. There are confirmed golden eagle nests within the Northeast Warner and North Rabbit Hills Allotments (Map 6).

Pygmy Rabbits

Potential habitat for pygmy rabbits (BLM sensitive species) was only identified in the Northeast Warner Allotment Rangeland Health Assessments (BLM 2003f). Habitat surveys for pygmy rabbits conducted since the assessments have located pygmy rabbit burrows and potential habitat within the northeast corner of the Northeast Warner Allotment (Map 6). No live-trapping has been conducted to confirm the presence of pygmy rabbits.

Bats

Special status bats may occur within the allotments, but likely only involve occasional migrating individuals or animals foraging or passing through from adjacent habitat. There are no known caves, adits, shafts, or outbuildings capable of providing hibernacula for bats. Habitat is unknown on adjacent private lands. Due to the low potential for occurrence and lack of roosting/resting habitat, none of the alternatives would likely have any measurable impacts to bats. Therefore, they are not carried forward for further analysis.

Kit Fox

The allotments lie within the northern range of the kit fox, a bureau sensitive species, in Oregon. Though potential habitat does exist within the Lakeview Resource Area, no kit fox have ever been documented. Therefore, this species is not carried forward for further analysis.

Environmental Consequences: Wildlife and Special Status Species

Effects Common to All Alternatives:

ODFW (2011; page 13) cites two unpublished studies that documented sage-grouse mortality associated with fencing as a risk factor in winter habitat in Wyoming and near lek sites in Idaho. IM No. 2012-043 recommends marking fences within 1.25 mile of leks with anti-strike markers (reflectors). Based on the closest active leks being over 1.25 mile away from existing fences associated with the Blue Creek Seeding , FRF Flynn, Lynch, East Rabbit Hills, and North Rabbit Hills

Allotments, the risk of fence collision mortality would be low and anti-strike markers would not be required to comply with ODFW's latest management guidelines. Within the Northeast Warner, and Lynch–Flynn Allotments, there are two sections of existing fence that are located within 1.25 miles of existing leks. These sections of fence will be inspected by BLM biologists and anti-strike markers installed in accordance with criteria outlined in IM No. 2012-043. There are no new fences proposed in any of the alternatives which would require use of diverters.

Effects Common to Alternatives 1-3:

Another risk factor identified in the Monograph, the Oregon Strategy, and the 12-Month Finding is West Nile virus spread by mosquitoes around standing water (Knick and Connelly 2011, ODFW 2011, USFWS 2010). Sage-grouse are susceptible to West Nile Virus (Clark *et al.* 2006) and mortality may be as high as 100 percent (Naugle *et al.* 2004) in certain areas. The virus is primarily transmitted by infected mosquitoes, and was first detected in southeastern Oregon near Burns Junction in 2006, and then later near Crane and Jordan Valley that same year. Across the species range, total mortalities attributable to West Nile Virus have markedly declined since 2003. The virus has not been detected near any of the allotments or in southeast Oregon since the first observations in 2006 (DeBess 2009). Existing water troughs are generally designed to minimize overflow and potential for the production of mosquitoes. Alternatives 2 and 3 would not have any substantially different effects on suitable mosquito larval habitat at water troughs compared to Alternative 1. The new water development projects proposed in the Northeast Warner Allotment would be designed to minimize overflow and potential for the production of mosquitoes. Therefore, the risk of virus spread or associated mortality would be low and virtually identical under Alternatives 1-3.

Effects of Alternative 1: No Action

A relatively small percentage of the wildlife habitat immediately surrounding water sources and along fence lines within the allotments would continue to be negatively impacted by concentrated livestock use (as described in the Soils/Biological Crusts and Vegetation sections; see Table 40). The majority of the vegetation and associated wildlife habitats within the allotments would continue to be impacted to a very minor degree by dispersed grazing use.

With respect to sage-grouse, most of the concentrated livestock use occurs within marginal or unsuitable sage-grouse habitat and, therefore, would have little impact on sage-grouse populations. Most suitable sage-grouse habitat (where present) would continue to see little to no impacts under the current grazing management. It is expected that vegetation trends would remain static or improve slightly (see Vegetation Section) and continue to provide adequate habitat for sage-grouse into the foreseeable future. In the long-term, western juniper expansion within the Lynch–Flynn Allotment could negatively impact suitable habitat, but juniper treatment is outside the scope of this analysis.

All of the allotments are currently achieving Rangeland Health Standards 3 and 5 related to ecological conditions and wildlife habitat (BLM 2003d, 2003e, 2003f, 2003g, 2003h). These assessments found current livestock grazing does not appear to be substantially affecting wildlife habitat, including big game, nongame bird and mammals, raptors, migratory birds, or special status species habitat. Under this alternative, the allotments would continue the existing trend of having adequate habitat capable of supporting an appropriate assemblage of sagebrush-dependent wildlife species, as described in the affected environment section above. For this reason, Rangeland Health Standards 3 and 5 would continue to be met over the 10-year life of the permit.

Effects of Alternative 2: Range Improvements

The impacts of this alternative on wildlife habitat within 5 of the 7 alternatives would be similar to Alternative 1. There would be about 428 acres of additional, ground disturbance associated with new range improvement construction and concentrated livestock use in the Northeast Warner and East Rabbit Hills Allotments (Table 40). The impacts of these additional disturbances would be offset by improved livestock distribution across the 149,103 acres encompassing these 2 allotments. The vegetation communities in these 2 allotments contain a diversity of native grasses, forbs, and shrubs that would be maintained or improved by more dispersed grazing and the rest provided under this alternative. In turn,

wildlife habitats would be maintained or improved across these 2 allotments. In particular, the rotational grazing system would provide increased forage availability for wildlife, as well as increased residual nesting habitat for ground-nesting birds across the majority of the East Rabbit Hills Allotment.

The northern third of the East Rabbit Hills Allotment (in the proximity of where the new fence is proposed) contains pronghorn antelope winter habitat. The new fence would be constructed to BLM pronghorn antelope fencing standards (BLM and Forest Service 1988, page 147), which would adequately mitigate potential effects to antelope movement. The impacts of this alternative on wildlife habitat, including big game, nongame bird and mammals, raptor, migratory bird, and most special status species habitat, within the allotments would not be substantially different from Alternative 1.

The allotments containing sage-grouse habitat (Blue Creek Seeding, FRF Flynn, Northeast Warner, and the Lynch–Flynn) would continue to provide adequate habitat in both the short and long-term. Impacts of livestock grazing within 3 of the allotments would be similar to Alternative 1. The proposed new range improvements within the Northeast Warner Allotment have been designed and will be implemented consistent with the applicable sage-grouse management guidance contained in ODFW (2005) and BLM (2011a) to minimize potential impacts to sage-grouse populations and habitat.

All of the allotments would continue to provide adequate quality wildlife habitat that is capable of supporting an appropriate assemblage of sagebrush-dependent wildlife species and Rangeland Health Standards 3 and 5 would continue to be met over the 10-year life of the permit.

Effects of Alternative 3: Range Improvements and Rotation System

Under this alternative, impacts to wildlife habitat, including big game, nongame bird and mammals, raptor, migratory bird, and special status species habitat, would be similar to Alternative 2. The installation of rotational grazing systems would provide increased forage availability for wildlife, as well as increased residual nesting habitat for ground-nesting birds across the majority of the Northeast Warner and East Rabbit Hills Allotments.

The effects of this alternative on sage-grouse habitat would be similar to Alternative 2. The allotments containing sage-grouse habitat would continue to provide adequate habitat in both the short and long-term.

All of the allotments would continue to provide adequate quality wildlife habitat that is capable of supporting an appropriate assemblage of sagebrush-dependent wildlife species and Rangeland Health Standards 3 and 5 would continue to be met over the 10-year life of the permit.

Effects of Alternative 4:

Under the no grazing alternative there would be very little change in the existing quality of wildlife habitat, including big game, nongame bird and mammals, raptor, and migratory bird habitat, in the short-term compared to the no action alternative. The existing sagebrush habitat formerly impacted by livestock trailing and concentration near existing water sources would improve over the long-term. Generally, this would provide some increased forage availability for many wildlife species, as well as increased nesting habitat for ground nesting birds.

There would be no substantial change in special status species habitat quantity or quality in the short-term compared to Alternatives 1-3. The effects of this alternative on sage-grouse habitat would be similar to Alternatives 2 and 3 and would continue to provide adequate habitat for sage-grouse in the short and long-term.

All of the allotments would continue to provide adequate quality wildlife habitat that is capable of supporting an appropriate assemblage of sagebrush-dependent wildlife species and Rangeland Health Standards 3 and 5 would continue to be met over the 10-year analysis timeframe.

Livestock Grazing Management

Affected Environment:

Blue Creek Seeding

The Blue Creek Seeding Allotment is categorized as a “C” or “custodial” category allotment. This category is determined by the following set of criteria in 1982:

- Present range condition is not a factor
- Allotment has low potential and present production is near potential
- Limited conflicts or controversy may exist
- No opportunity for positive economic returns or no developments proposed
- Present management appears satisfactory or is logical practice
- Other criteria appropriate to area

The allotment is currently grazed in conjunction with private lands in the fall with a total of 130 AUMs authorized on BLM-administered lands. This is a ten-year permit authorized to one livestock operator.

A rangeland health assessment was performed (BLM 2003d) to determine if current management met the *Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington* (BLM 1997a). The RHA was reviewed again as part of this environmental analysis. The assessment found that existing grazing management practices and levels of grazing use in the Blue Creek Seeding Allotment (#00200) met all five standards. The findings of the RHA for this allotment are summarized in Table 30 and are incorporated in their entirety herein by reference (BLM 2003d, 2013c).

FRF Flynn

The FRF Flynn Allotment is categorized as a “C” or “custodial” category allotment and this category is determined by the following set of criteria in 1982:

- Present range condition is not a factor
- Allotment has low potential and present production is near potential
- Limited conflicts or controversy may exist
- No opportunity for positive economic returns or no developments proposed
- Present management appears satisfactory or is logical practice
- Other criteria appropriate to area

The FRF Flynn Allotment is currently grazed in conjunction with private lands at the permittees discretion with a total of 122 AUMs authorized on BLM administered lands. This is three ten year permits authorized to three livestock operators. These operators work in conjunction with one another on the use of this allotment and generally run in common.

A rangeland health assessment was performed in 2003 (BLM 2003e) to determine if current management met the *Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington* (BLM 1997a). The RHA was reviewed again as part of this environmental analysis. The assessment found that existing grazing management practices and levels of grazing use in the FRF Flynn Allotment #00501 met four out of five standards in 2003 and all five standards in 2012 (Table 31). The findings of the RHAs for this allotment are incorporated in their entirety herein by reference (BLM 2003e, 2013d).

Table 30. Summary of Rangeland Health Assessment for Blue Creek Seeding Allotment (00200)

Standard	Assessment Finding 2003	Current Assessment 2012	Comments
1. Watershed Function – Uplands	Met	Met	Upland soils in the Blue Creek Seeding Allotment exhibit infiltration and permeability rates, moisture storage, and stability appropriate for soil, climate, and land form. Root occupancy for the soil is appropriate. The plant composition and community structure is defined by the soil type and precipitation zone. In the allotment, 40% (240 acres) of vegetation is in the mid seral stage and 13% (77 acres) is in the late seral stage.
2. Watershed Function Riparian/ Wetland Areas	Met	Met	Peddler Creek, an intermittent stream flows in the pasture for half a mile. A note in the 2003 RHA states that the condition of the stream has stabilized and has been improving since its condition in 1995. Nine acres of lentic palustrine riparian resources are in proper functioning condition according to the 2003 RHA.
3. Ecological Processes	Met	Met	There is a diverse and vigorous plant composition and community structure of forbs, grasses and shrubs. The allotment provides habitat for populations of mule deer, pronghorn antelope, and sage grouse. The 50 AUMs allocated to wildlife seem adequate to support the current wildlife populations and was adjusted from 45 to 50 to address the expansion of elk and potential competition with livestock for forage. The allotment lies within ODFW’s Warner Big Game Management Unit for deer, pronghorn antelope, and elk. Current populations are slightly below management objectives for mule deer and substantially below that proposed for elk. The allotment contains crucial winter range habitat for mule deer. The allotment also contains year-round habitat for sage grouse and pronghorn antelope, however no crucial habitat has been identified.
4. Water Quality	—	—	This standard is not applicable to the assessment area. There are no perennial streams in this allotment.
5. Native, T/E, and Locally Important Species	Met	Met	The allotment provides habitat for numerous small game and nongame birds and mammals common to the Great Basin, as well as, sage grouse, and marginal California bighorn sheep habitat. Wildlife populations are healthy and increasing in number within the allotment. Habitat quantity and quality do not appear to be limiting population size or health. The habitat provided within the allotment is crucial to wintering deer in that it adjoins with winter range on the forest to the west and to the BLM-administered winter range to the north and south. It provides habitat connectivity, as well as a spatial distribution of the lower elevation range critical during high snowfall years. There was one sage grouse lek noted within the allotment at the time of the 2003 assessment, however, at present there are no active Sage-Grouse leks in the allotment, based on ongoing BLM and ODFW surveys. Sage-grouse populations in the area are stable. The allotment also provides habitat for raptors and some BLM and state sensitive wildlife species and federally listed species. No critical habitat or limitation have been identified for any of these species and federally listed species. No critical habitat or limitations have been identified for any of these species which include wintering bald eagles, and possibly pygmy rabbits and various sensitive bat species.

Lynch

The Lynch Allotment is categorized as a “C” or “custodial” category allotment and this category is determined by the following set of criteria in 1982:

- Present range condition is not a factor
- Allotment has have low potential and present production is near potential
- Limited conflicts or controversy may exist
- No opportunity for positive economic returns or no developments proposed
- Present management appears satisfactory or is logical practice
- Other criteria appropriate to area

The Lynch Allotment is currently grazed in conjunction with private lands in the fall with a total of 130 AUMs authorized on BLM-administered lands. This represents three ten-year permits authorized to three separate livestock operators.

Table 31. Summary of Rangeland Health Assessment for FRF Flynn Allotment (00501)

Standard	Assessment Finding 2003	Current Assessment 2013	Comments
1. Watershed Function – Uplands	Met	Met	In the 1988 Ecological Site Inventory (ESI) rated 17% of the allotment to be in stable condition, 29 % in the slight condition class, and 53% unknown. The 1988 ESI classified 3% (36 acres) in the early seral stage, 88% (1,142 acres) in the mid seral stage, and 9% (120 acres) in the late seral stage.
2. Watershed Function Riparian/ Wetland Areas	Not Met	Met	In 1996, the portion of Drake Creek in this allotment on public land was rated as Proper Functioning Condition on the lower reach for ¼ mile and Functional at Risk with an upward trend on the upper ½ mile. In 2003, an ID team determined that Drake Creek was rated as Functional at Risk with No Apparent Trend, because there was no apparent improvement in stream condition since 1996, and grazing was a contributing factor to the trend rating and the failure to meet Standard 2. A change in grazing occurred in 2004 from mostly spring grazing to almost complete winter grazing. In 2013, conditions on Drake Creek were reassessed and another PFC survey was completed. Drake Creek was found to be Functioning At Risk with an upward trend. Photos showed increases in riparian vegetation from past years and stream channel characteristics appropriate for the landscape.
3. Ecological Processes	Met	Met	There are healthy, productive, and diverse plant populations and communities within the allotment. Plant reproduction is high and copious plant litter is present. <i>Juniperus occidentalis</i> is present, but few and scattered. Three noxious weeds currently occur within the allotment <i>Lepidium latifolium</i> , <i>cardaria draba</i> , and <i>Cirsium arvense</i> .
4. Water Quality	—	—	Drake Creek from the mouth to the headwaters does not meet state standards for temperature. The portion of Drake Creek in the allotment is a minor part of the watershed and stream channel. Current livestock grazing management is not contributing to stream temperature status.
5. Native, T/E, and Locally Important Species	Met	Met	Habitats support healthy, productive, and diverse native plant populations. No known sensitive plants are present. <u>Wildlife:</u> the allotment provides habitat for numerous small and nongame birds and mammals common to the Great Basin. There are no known active sage grouse leks in the allotment, however, PPH habitat is found within the allotment. Sage-grouse populations are stable. <u>Fisheries:</u> a 2012 ocular survey found redband trout within about 1/8 mile of the allotment; the estimated upper distribution limit was the fence line at the downstream end of the allotment (unpublished data on file at Lakeview BLM). Warner suckers occur in Deep Creek, over 12 miles downstream, near the town of Adel.

A rangeland health assessment was performed in 2003 (BLM 2003e) to determine if current management was in conformance with *Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington* (BLM 1997a). The RHA was reviewed again as part of this environmental analysis. The assessment found that existing grazing management practices and levels of grazing use in the Lynch Allotment (00505) met all five standards. The findings of the RHAs for this allotment are summarized in Table 32 and are incorporated in their entirety herein by reference (BLM 2003e, 2013e).

Northeast Warner

The Northeast Warner Allotment is categorized as a “I” or “improve” category allotment and this category is determined by the following set of criteria in 1982:

- Present range condition is unsatisfactory
- Allotment has a moderate to high production potential and present production is low to moderate
- Conflicts or controversy exist
- Opportunities exist for positive economic returns

- Present management is unsatisfactory

Table 32. Summary of Rangeland Health Assessment for Lynch Allotment (00505)

Standard	Assessment Findings 2003	Current Assessment 2012	Comments
1. Watershed Function – Uplands	Met	Met	Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform. In the 1988 Ecological Site Inventory (ESI) 55 % in the slight condition class and 45% unknown. The 1988 ESI classified 100% in the early seral stage. Current grazing practices are not having a negative effect on the ability of the upland watershed to function.
2. Watershed Function Riparian/ Wetland Areas	NA	NA	There are no riparian areas or wetlands found in this allotment.
3. Ecological Processes	Met	Met	Healthy, productive, and diverse plant and animal population and communities are appropriate to soil, climate, and landform.
4. Water Quality	NA	NA	This standard is not applicable to the assessment area. There are no perennial streams in this allotment.
5. Native, T/E, and Locally Important Species	Met	Met	There are healthy, productive, and diverse plant populations and communities within the allotment. This allotment provides habitat for numerous small and nongame birds and mammals common to the Great Basin. There are no known sage-grouse leks or identified sage-grouse habitat found within this allotment.

This rating was evaluated in 1982 and some conditions have changed since then to improve the allotment including improved range condition and improved present vegetation cover of native grasses with the large fire. Present management has improved with increased best management practices on the allotment. These improvements are documented in the affected environment portions of this document. Utilization has been maintained and the allotment is continuing to improve under current management.

The Northeast Warner Allotment is currently grazed with a total of 6155 AUMs authorized on BLM-administered lands. This allotment is grazed by four permittees and four grazing permits for a ten year period. The west side of the allotment is grazed primarily by one permittee and the East side is grazed in common by three permit holders (Appendix B). The grazing season is spring summer and fall. Livestock are moved throughout the allotment based on water availability and moved off the allotment based on limiting water resources. Actual use is typically April through August.

A rangeland health assessment was performed in 2003 (BLM 2003f) to determine if current management was in conformance with *Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington* (BLM 1997). The RHA was reviewed again as part of this environmental analysis. The findings of the RHAs for this allotment are summarized in Table 33 and are incorporated in their entirety herein by reference. The assessments found that existing grazing management practices and levels of grazing use in the Northeast Warner Allotment #00511 met all five standards (Table 33; BLM 2003f, 2013f).

Lynch-Flynn

The Lynch-Flynn Allotment is categorized as a “I” or “improve” category allotment and this category is determined by the following set of criteria in 1982:

- Present range condition is unsatisfactory
- Allotment has a moderate to high production potential and present production is low to moderate
- Conflicts or controversy exist

Table 33. Summary of Rangeland Health Assessment for Northeast Warner Allotment (00511)

Standard	Assessment Findings 2003	Current Assessment 2012	Comments
1. Watershed Function – Uplands	Met	Met	The ESI data collected in 1992 and documented on average approximately 60% of the allotment was in the moderate category for SSF. In 2012, a look at two ESI sites previously rated in the moderate category showed a SSF rating in a slight category. This change shows improved soil and vegetation conditions in the uplands. With this information it is likely the 60% of the allotment categorized in moderate category is no longer valid. All 10 long term trend site show upward trend. The average utilization on the native grasses since 1990 has been 30%. With this information it is plausible to conclude the majority of the allotment has a SSF rating of slight. Plant composition and community structure of grasses, forbs, and shrubs are what is expected for the site. There is good plant vigor and plants are able to complete their reproductive cycle following grazing use each fall and winter. Organic matter in the form of plant litter is accumulating and being incorporated into the soil. Available trend data show that plant cover and the amount and distribution of bare ground is within the range of variability expected for the ecological sites found in the allotment.
2. Watershed Function Riparian/ Wetland Areas	Met	Met	The 1,687 acres of palustrine wetlands found in the Northeast Warner #00511 Allotment are all in Functioning properly. Livestock grazing is not a factor limiting Riparian/Wetland function.
3. Ecological Processes	Met	Met	Plant composition and community structure are appropriate for this allotment. Available trend data show that organic matter is accumulating in the form of litter and is being incorporated into the soil. Plant roots appear to be occupying the soil profile, stabilizing the soil. Standard 3 is being met for plant populations. There are no obvious signs of livestock overuse or damage in areas surveyed. Portions of the Allotment were burned by the Juniper Fire in Aug. 2001. Some of the burned areas have been allowed to recover naturally and the grasses have rebounded tremendously. Standard 3 is being met for wildlife populations. This allotment is supporting the current and proposed number of mule deer and pronghorn antelope identified by Oregon Department of Fish and Wildlife (ODFW) management plans.
4. Water Quality	NA	NA	This standard is not applicable to the assessment area. There are no perennial streams in this allotment.
5. Native, T/E, and Locally Important Species	Met	Met	Standard 5 is being met for native, T&E and locally important plant species. The deer and pronghorn populations are healthy and increasing in numbers within the allotment. The allotment provides habitat for numerous small and nongame birds and mammals common to the Great Basin, as well as, sage-grouse and California bighorn sheep habitat. There are 3 known active sage-grouse leks found within the allotment as verified from ongoing BLM and ODFW surveys. The allotment provides habitat for raptors and some BLM and state sensitive wildlife species and federally listed species. No critical habitat or limitations have been identified for any of these species which include wintering bald eagles, and possibly pygmy rabbits, various sensitive bat species or Peregrine falcons. Livestock grazing is not limiting wildlife habitat within the allotment.

- Opportunities exist for positive economic returns
- Present management is unsatisfactory

This allotment was evaluated and rated in 1982 and although the allotment continues to be in an improve category. Some conditions have changed and the allotment is continuing to improve under current management.

The Lynch-Flynn Allotment is currently grazed with a total of 881 AUMs authorized on BLM-administered lands. This allotment is grazed by three permittees and three grazing permits for a ten year period. One permit holds the majority (91%) of the AUM’s authorized in the allotment. This allotment is broken into two pastures the west pasture and the east pasture. The dingo fire burned 300 acres of the east pasture in 1996. Approximately, 100 acres of the burned area

were reseeded to a native seed mix. The remaining acres were allowed to recover naturally with two growing season of rest from livestock grazing.

The west pasture is used from 4/1-7/15 with the east pasture providing some relief when water is available. The east pasture is higher in elevation and more sensitive to livestock trampling effects in the spring so livestock are moved onto the pasture after soils have firmed up. The east pasture is also lacking water sources that consistently hold water for the duration of the season. Although several springs exist when soils firm up water holes also dry out quickly with during the dry summer months. Livestock are grazed in the east pasture using the best practices to maintain the health and ecological functioning of riparian and uplands vegetation and soils. The east pasture is used to provide some respite to the west pasture during the grazing season and this is supported by average utilization levels of slight (6-20%) and light (21-40%).

A rangeland health assessment was performed (BLM 2003e) to determine if current management met the *Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington* (BLM 1997). The RHA was reviewed again as part of this environmental analysis. The findings of the RHAs for this allotment are summarized in Table 35 and are incorporated in their entirety herein by reference. The assessments found that existing grazing management practices and levels of grazing use in the Lynch-Flynn #00520 met all five standards (Table 34; BLM 2003e, 2013g).

Table 34. Summary of Rangeland Health Assessment for Lynch-Flynn Allotment (00520)

Standard	Assessment Findings 2003	Current Assessment 2012	Comments
1. Watershed Function – Uplands	Met	Met	Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform. Plant composition and community structure of grasses, forbs, and shrubs are what is expected for the site. There is good plant vigor and plants are able to complete their reproductive cycle following grazing use each summer and fall. Organic matter in the form of plant litter is accumulating and being incorporated into the soil. Available trend data show that plant cover and the amount and distribution of bare ground is within the range of variability expected for the ecological sites found in the allotment. Noxious weeds known to occur in both the East and West pastures are hoary cress, Mediterranean sage, bull thistle, and medusa head. All noxious weeds mentioned are under an annual weed treatment program.
2. Watershed Function Riparian/ Wetland Areas	Met	Met	There are about 128 acres of palustrine wetlands within the allotment. All wetland are in PFC. Livestock grazing does not appear to be a factor limiting wetland function. There are no riparian areas associated with lotic habitats within the allotment.
3. Ecological Processes	Met	Met	Plant composition and community structure are appropriate for this allotment. Available trend data show that organic matter is accumulating in the form of litter and is being incorporated into the soil. Plant roots appear to be occupying the soil profile, stabilizing the soil. Standard 3 is being met for wildlife populations. There are healthy, productive, and diverse plant populations and communities within the allotment. Trend is upward.
4. Water Quality	NA	NA	This standard is not applicable to the assessment area. There are no perennial streams in this allotment.
5. Native, T/E, and Locally Important Species	Met	Met	This allotment supports the current and proposed number of mule deer and pronghorn antelope identified by Oregon Department of Fish and Wildlife (ODFW) management plans. This allotment contains 98% PPH sage-grouse habitat and 1 active sage-grouse lek, as verified by ongoing BLM and ODFW surveys. This allotment also supports numerous small and nongame birds and mammals common to the Great Basin. Locally important cultural plant species in the allotment are calochortus, lomatium, gooseberry chokecherry, bitterroot, and wild onion.

East Rabbit Hills

The East Rabbit Hills Allotment is categorized as a “M” or “maintain” category allotment and this category is determined by the following set of criteria in 1982:

- Present range condition is satisfactory
- Allotment has moderate to high production potential and is currently producing near potential
- No serious conflicts or controversy exists
- Opportunity may exist for positive economic returns
- Present management is satisfactory
- Other criteria appropriate to area- development of portions of this allotment into spring and a winter use area is recommended.

The East Rabbit Hills Allotment is currently grazed in the spring and irregularly in the winter with a total of 1198 AUMs. This allotment is grazed under two, 10-year permits by two livestock operators. One permittee prefers to utilize the allotment primarily in the spring and the other operator would like to utilize portions of the allotment more in the winter.

A rangeland health assessment was performed in 2003 (BLM 2003g) to determine if current management was meeting Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington (BLM 1997). The RHA was reviewed again as part of this environmental analysis. The assessment found that existing grazing management practices and levels of grazing use in the East Rabbit Hills Allotment #00530 met all five standards. The findings of the RHAs for this allotment are summarized in Table 35 and are incorporated in their entirety herein by reference (BLM 2003g, 2013h).

North Rabbit Hills

The North Rabbit Hills Allotment is categorized as a “M” or “maintain” category allotment and this category is determined by the following set of criteria in 1982:

- Present range condition is satisfactory
- Allotment has moderate to high production potential and is currently producing near potential
- No serious conflicts or controversy exists
- Opportunity may exist for positive economic returns
- Present management is satisfactory
- Other criteria appropriate to area

The North Rabbit Hills Allotment is currently grazed in the spring with a total of 1,317 AUMs. This allotment is grazed under three 10 year permits by three livestock operators. All livestock are run in common and move livestock north to the Northeast Warner Allotment for the summer.

A rangeland health assessment was performed in 2003 (BLM 2003h) to determine if current management was meeting *Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington* (BLM 1997). The RHA was reviewed again as part of this environmental analysis. The assessments found that existing grazing management practices and levels of grazing use in the North Rabbit Hills Allotment #00531 met all five standards. The findings of the RHA for this allotment are summarized in Table 36 and are incorporated in their entirety herein by reference (BLM 2003h, 2013i).

Table 35. Summary of Rangeland Health Assessment for East Rabbit Hills Allotment (00530)

Standard	Assessment Findings 2003	Current Assessment 2012	Comments
1. Watershed Function – Uplands	Met	Met	Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform. Available trend data show that plant cover and the amount and distribution of bare ground is within the range of variability expected for the ecological sites found in the allotment. The plant composition is most commonly <i>Agropyron crisitatum</i> . <i>A. crisitatum</i> makes up 31% of the main pasture and 78% of the small pasture. Wyoming big sagebrush makes up 21% of the main pasture and 15% of the main pasture is Wyoming big sagebrush/grass. There are some forbs scattered in the allotment and annual weeds taking up much of the space between bunch grasses and shrubs. Most of the allotment falls into the early stage ecological condition class due to the crested wheatgrass, 17% is in the mid, and 8% in the late seral stage. Livestock grazing does not appear to be negatively impacting the upland watershed function.
2. Watershed Function Riparian/Wetland Areas	Met	Met	Rabbit Creek is an intermittent creek and is often dry during the spring livestock grazing period for the allotment. Livestock grazing does not appear to be a factor limiting riparian/wetland function.
3. Ecological Processes	Met	Met	There are healthy and productive plant populations and communities within the allotment. Plant reproduction is appropriate and organic matter is accumulating in the form of litter and is being incorporated into the soil. Trend photos indicate good vigor of perennial vegetation and trend is stable to upward within the allotment. No noxious weeds are known to occur within the allotment.
4. Water Quality	NA	NA	This standard is not applicable to the assessment area. There are no perennial streams in this allotment.
5. Native, T/E, and Locally Important Species	Met	Met	The allotment is supporting the current and proposed number of mule deer and pronghorn identified by Oregon Department of Fish and Wildlife management plans. Deer and pronghorn populations are healthy. The allotment is home to numerous small and non-game birds and mammals common to the Great Basin. There are no known sage-grouse leks or habitat within the allotment. The allotment also provides habitat for some BLM and state sensitive wildlife species. No critical habitat or limitations have been identified for any of these species which include wintering bald eagles, and possibly pigmy rabbits, California bighorn sheep, various sensitive bat species or Peregrine falcons. Livestock grazing does not appear to be limiting wildlife habitat within the allotment.

Environmental Consequences:

Blue Creek Seeding

Effects Common to Alternatives 1-3:

Under these alternatives no new improvements or changes are being proposed. No changes are being made under these alternatives. Actual use, utilization, and climate data have been summarized in the allotment monitoring file and indicate that livestock grazing levels are sustainable at the current forage allocation for the allotment. Trend photos indicate an upward trend in the key areas of the allotment, and the current fall grazing system is meeting all Standards and Guidelines. Livestock grazing management is maintaining a vegetative community that supports other resources objectives and uses.

The average actual use over the last 10 years is 114 AUMs. Utilization has not been observed on this allotment but as most of the land for grazing is private and no use was observed in 2012 it is a best guess minimal utilization on public land is occurring due to the majority of grazing in on private land and would be maintained under these alternatives.

Table 36. Summary of Rangeland Health Assessment for North Rabbit Hills Allotment (00531)

Standard	Assessment Findings 2003	Current Assessment 2012	Comments
1. Watershed Function – Uplands	Met	Met	Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform. Available trend data show that plant cover and the amount and distribution of bare ground is within the range of variability expected for the ecological sites found in the allotment. Crested wheatgrass is the most common vegetation type within the allotment with some Wyoming sagebrush. The crested wheatgrass seedings do provide a stable perennial plant community and a significant forage resource for the cattle. Livestock grazing does not appear to be negatively impacting the upland watershed function.
2. Watershed Function Riparian/ Wetland Areas	Met	Met	Riparian-wetland areas are in properly functioning physical conditions appropriate to soil, climate, and landform. Livestock grazing does not appear to be a factor limiting Riparian/Wetland function.
3. Ecological Processes	Met	Met	The dominant vegetation is crested wheatgrass seeding with some Wyoming sagebrush communities. Annual cheatgrass is abundant within the allotment also. The current practice of grazing in late winter and early spring should reduce some cheatgrass production. Two noxious weed species occur on the allotment Russian knapweed (<i>salsola kali</i>) and spiny cocklebur (<i>xanthium spinosum</i>).
4. Water Quality	NA	NA	This standard is not applicable to the assessment area. There are no perennial streams in this allotment.
5. Native, T/E, and Locally Important Species	Met	Met	This standard is being met for native, T&E and locally important wildlife species. The deer and pronghorn populations are healthy and increasing in number within the allotment. Habitat quantity and quality do not appear to be limiting population size or health. The allotment is supporting the current and proposed number of mule deer and pronghorn identified by Oregon Department of Fish and Wildlife management plans. The allotment also provides habitat for numerous small and nongame birds and mammals common to the Great Basin. There are no known sage-grouse leks or identified habitat found within the allotment. The allotment also provides habitat for raptors and some BLM and state sensitive wildlife species and federally listed species. No critical habitat or limitations have been identified for any of these species which include wintering bald eagles, and possibly pygmy rabbits, California bighorn sheep, various sensitive bat species or Peregrine falcons. Livestock grazing does not appear to be limiting wildlife habitat within the allotment. No special status plants or locally important plant species found. Existing grazing management practices or levels of grazing use promote achievement of the standards. This allotment has been and continues to be grazed during the fall and winter. This grazing season enables the grass species to complete their reproductive life cycle each year.

Effects of Alternative 4: No Grazing

Under this alternative, livestock grazing within the allotment would not be authorized. The permittee would need to replace 130 AUMs of lost forage with private land forage or hay in the general vicinity. The additional cost to replace this forage would be at the permittee’s expense. These costs are discussed further in the social and economic section.

Under this alternative, livestock grazing could continue on the private land within the allotment if the permittee fenced off the BLM land with up to 6-7 miles of new fence. The permittee would need to replace lost forage that occurs on the public land with private land forage or hay in the general vicinity. The additional cost to replace this forage and build the new fences would be at the permittee’s expense. These costs are discussed further in the social and economic section. Existing range improvement projects on public lands within the allotment would not be maintained.

FRF Flynn

Effects Common to Alternatives 1-3:

Under these alternatives no new improvements or changes are being proposed. No changes are being made under these alternatives. Actual use, utilization, and climate data have been summarized in the allotment monitoring file and indicate that livestock grazing levels are sustainable at the current forage allocation for the allotment. Trend photos indicate an upward trend in the key area of the allotment, and the current grazing system is meeting all Standards and Guidelines. Livestock grazing management is maintaining a vegetative community that supports other resources objectives and uses.

Use of this allotment has been variable. Permittees apply and pay for a total of 122 AUMs annually; however, actual use varies year to year. Utilization has not been observed on this allotment for all years except 2012 when utilization was 22% as most grazing is on private it is a best guess that past utilization is typically similar to what was observed in 2012. Utilization would continue to be maintained at a slight to moderate level under these alternatives.

Effects of Alternative 4: No Grazing

Under this alternative, livestock grazing within the allotment would not be authorized. The permittees would need to replace 122 AUMs of lost forage with private land forage or hay in the general vicinity. The additional cost to replace this forage would be at the permittee's expense. These costs are discussed further in the social and economic section.

Under this alternative, livestock grazing could continue on the private land within the allotment if the permittee fenced off the BLM land with up to 6-7 miles of new fence. The permittee would need to replace lost forage that occurs on the public land with private land forage or hay in the general vicinity. The additional cost to replace this forage and build the new fences would be at the permittee's expense. These costs are discussed further in the social and economic section. Existing range improvement projects on public lands within the allotment would not be maintained.

Lynch

Effects Common to Alternatives 1-3:

Under these alternatives no improvements or management changes are proposed. Actual use, utilization, and climate data have been summarized in the allotment monitoring file and indicate that livestock grazing levels are sustainable at the current forage allocation for the allotment. Trend photos indicate an upward trend in the key area of the allotment, and the current grazing system is meeting all Standards and Guidelines. Livestock grazing management is maintaining a vegetative community that supports other resources objectives and uses.

Permittees would continue to apply and pay for a total of 20 AUMs annually. No utilization in the past has been recorded, but due to limited use of public lands it is assumed past utilization has been none to slight due to limited use. This utilization level would likely continue under these alternatives.

Effects of Alternative 4: No Grazing

Under this alternative, livestock grazing within the allotment would not be authorized. The permittee would need to replace 20 AUMs of lost forage with private land forage or hay in the general vicinity. The additional cost to replace this forage would be at the permittee's expense. These costs are discussed further in the social and economic section.

Northeast Warner

Effects of Alternative 1: No Action

Under this alternative no new improvements or changes are being proposed. Actual use, utilization, and climate data have been summarized in the allotment monitoring file and indicate that livestock grazing levels are sustainable at the current forage allocation for the allotment. Trend photos indicate an upward trend in the key areas of the allotment, and the current grazing system is meeting all Standards and Guidelines. Livestock grazing management is maintaining a vegetative community that supports other resources objectives and uses. Water continues to limit livestock movement and obtain optimal distributions. Many areas of the allotment do not receive any grazing due to a lack of nearby water.

Permittees would apply and pay for up to a total of 6,155 AUMs annually. Utilization for pastures for the last 10 years has averaged between 23 to 35%. Utilization would continue to be maintained at a slight to moderate level under this alternative. Continuing current grazing management would continue to meet rangeland health standards into the foreseeable future.

Effects of Alternative 2: Range Improvements

Grazing management under this alternative would be improved as livestock would have 6 additional water sources in the west side of the allotment. Livestock distribution in the west pasture would increase and utilization would be more evenly distributed throughout the pasture. This would give the permittee more reliable water sources, particularly in drought years when the permittee is unable to use parts of the pasture due to a lack of water and often using fewer AUMs.

Effects of Alternative 3: Range Improvements and Rotation System

Livestock grazing under this alternative would combine all livestock into one herd. This alternative would concentrate a larger number of animals into one pasture at a time with limited water sources. This alternative would put additional pressure on reliable existing water holes and subsequent vegetation and soils within a quarter mile radius. Vegetation would be grazed heavily within a quarter mile of waterholes, while areas further from water would likely be under-utilized. This alternative has potential to increase conflicts between permittees due to the increased need for coordination of livestock management activities and cooperation between individuals on the allotment.

Effects of Alternative 4: No Grazing

Under this alternative, livestock grazing within the allotment would not be authorized. The permittee would need to replace 6155 AUMs of lost forage with private land forage or hay in the general vicinity. The additional cost to replace this forage would be at the permittees' expense and are discussed further in the social and economic section.

Lynch-Flynn Allotment

Effects Common to Alternatives 1-3:

Under these alternatives no new improvements or changes are being proposed. No changes are being made under these alternatives. Actual use, utilization, and climate data have been summarized in the allotment monitoring file and indicate that livestock grazing levels are sustainable at the current forage allocation for the allotment. Trend photos indicate an upward trend in the key areas of the allotment, and the current grazing system is meeting all Rangeland Health Standards and Guidelines. Livestock grazing management is maintaining a vegetative community that supports other resources objectives and uses.

Permittees could apply for a total of 881 AUMs annually, although due to fluctuations in livestock use by the permittees the allotment in the past 10 years has not always been fully stocked with livestock. Years with lighter stocking rates show lower utilization levels and years when the allotment is fully stocked show light to moderate utilization levels. These utilization levels would continue under these alternatives. Average utilization levels are always below the 50% that is allowable to sustain root growth and maintain perennial native grass production.

The grazing levels would remain at 881 AUMs under these Alternatives. This level of use, along with managed grazing, would provide a sustainable forage base under these three alternatives. There could potentially be a decline in forage production over the long-term as western juniper continues to expand into the area in the absence of wildfire.

Effects of Alternative 4: No Grazing

Under this alternative, livestock grazing within the allotment would not be authorized. The permittees would need to replace 881 AUMs of lost forage with private land forage or hay in the general vicinity. The additional cost to replace this forage would be at the permittees' expense. These costs are discussed further in the social and economic section.

East Rabbit Hills

Effects of Alternative 1: No Action

Under these alternatives no new improvements or changes are being proposed for the East Rabbit Hills Allotment. No changes are being made under these alternatives. Actual use, utilization, and climate data have been summarized in the allotment monitoring file and indicate that livestock grazing levels are sustainable at the current forage allocation for the allotment. Trend photos indicate an upward trend in the key area of the allotment, and the current grazing system is meeting all Standards and Guidelines. Livestock grazing management is maintaining a vegetative community that supports other resources objectives and uses.

Effects of Alternatives 2 and 3:

Under this alternative the number of pastures in the allotment would increase providing increased flexibility in the timing and duration of grazing on the allotment. Increased winter use during the dormant season would give periodic growing season rest to other pastures on the allotment. These alternatives would decrease current minor conflicts between permittee due to one permittee utilizing the allotment only in the spring and the other preferring to utilize the allotment in the spring and the summer. Increased number of pastures also gives both permittee increased flexibility and provides

Effects of Alternative 4: No Grazing

Under this alternative, livestock grazing within the allotment would not be authorized. The permittee would need to replace 1,198 AUMs of lost forage with private land forage or hay in the general vicinity. The additional cost to replace this forage would be at the permittees' expense. These costs are discussed further in the social and economic section.

North Rabbit Hills

Effects Common to Alternatives 1-3:

Under these alternatives no new improvements or changes are being proposed. No changes are being made under these alternatives. Actual use, utilization, and climate data have been summarized in the allotment monitoring file and indicate that livestock grazing levels are sustainable at the current forage allocation for the allotment. Trend photos indicate an upward trend in the key areas of the allotment, and the current grazing system is meeting all Rangeland

Health Standards and Guidelines. Livestock grazing management is maintaining a vegetative community that supports other resources objectives and uses.

In addition, a deferred grazing system would maintain the composition of the key perennial herbaceous species within crested wheatgrass communities found in this allotment (BLM 2001; page A-167-168). The crested wheatgrass plants are dormant during the winter/early spring grazing season and continue to grow in the late spring and early summer after the cattle have left the allotment. Therefore grass plants are able to maximize leaf growth, seed production, and root growth during the growing season and mitigate the impacts of grazing during the winter and early spring. Permittees could apply for a total of 1,317 AUMs annually. Average utilization is 50% for the last 10 years which is a level that allows sustained root growth and maintains perennial grass production. The grazing levels would remain at 881 AUMs under these alternatives. This level of use, along with managed grazing, would provide a sustainable forage base under these three alternatives.

Effects of Alternative 4: No Grazing

Under this alternative, livestock grazing within the allotment would not be authorized. The permittees would need to replace 881 AUMs of lost forage with private land forage or hay in the general vicinity. The additional cost to replace this forage would be at the permittees' expense. These costs are discussed further in the social and economic section.

Native American Traditional Practices

Affected Environment:

The allotments are located within a pre-contact and modern native American Traditional Use Area. Some members of the Fort Bidwell Indian Community have ancestors that used the larger Warner Valley area during their seasonal economic activities. The area had a variety of plants and animals which were historically used by them. Within the Warner Valley area, some areas were known to be used for religious activities. However, BLM is not aware of any specific locations of traditional cultural activities specifically in the allotments addressed in this EA. Statements from current members of the Fort Bidwell Indian Community indicate that they consider all manifestations of the native American past to be of importance and sacred (personal communications with Tribal members during the Ruby Pipeline Project).

Environmental Consequences:

Effects Common to Alternatives 1-4

There is currently no known use of the area by native Americans for plant collecting or religious uses. The impacts of various levels of grazing or removal of grazing would not change the nature of traditional use sites in the area, if they exist. The impacts of the range developments proposed under Alternatives 2 and 3 would be localized and site-specific. While it is possible these proposals could be located within an area of importance to The Fort Bidwell Indian Community, no such sites/areas have been identified by them at this time. Therefore, the impacts to such sites/areas is unknown.

Cultural Resources

Affected Environment:

The Warner Valley area historically was within the territory of the Fort Bidwell Northern Paiute Tribe. Ethnographic studies of this group indicate that they seasonally moved between the Surprise Valley area in California to the Warner Valley and upland areas around Big Valley to the west of Warner Valley. Activities conducted include the collection of plant resources, fishing and hunting, and procurement of stone tool materials at obsidian sources in the area. Site types

which are present from this time period (700 BP to Historic Contact) include large village locations, small occupation sites, stone house ring sites, rock cairns, burials, lithic quarry sites.

The overall archaeological record for the Warner Valley area goes back at least 10,000 years and may go back as far as 14,000 years in the past. The earliest record for the area is Clovis Period projectile points. This type of projectile point is thought to occur between 12,000 to 10,000 years BP. Also occurring in the area are stemmed projectile points. These maybe coeval with the Clovis points or they maybe even earlier in time as indicated by archaeological research at Paisley Caves located to the west of Warner Valley in the Summer Lake Basin. At Paisley Caves, these types of point are dated to nearly 14,000 years BP.

The period following the Clovis Period is known as the Early Archaic and would date from 10,000 BP to 6500 BP. Site types from this period would include village locations, quarry sites, burial, rock art sites, small occupation sites, upland plant collecting sites. Research conducted in the northern portion of the Warner Valley has produced radio carbon dates of 8,000 years BP on what are known as Cascade or Foliate type projectile points. Following the Early Archaic Period is the Middle Archaic. This time period would date from 6500 BP to 2500 BP. During this period, new projectile point forms occur and it is thought that the reliance on plant gathering and the hunting of many types of game became more important in the subsistence record. Sites occur in all parts of the valley for this time period and include village locations, quarry sites, burials, small occupation sites, upland plant collection sites and rock art sites.

The next time period for the Warner Valley is the Late Archaic which would date from 2500 BP to 700 BP for the Warner Valley Area. During this time period the subsistence pattern which is seen historically is set for the area. Heavy reliance of plant resources is indicated by the very large number of plant processing tools such as manos and metates found in the sites of this period. There are also indications of use of fish resources and freshwater mussels collected from the lakes and streams of the area. Site types for this time period include village locations, small occupation sites, burials, rock art sites, quarry sites, shell middens and upland plant collecting sites.

The last time period is the Proto Historic and Historic period which dates from 700 BP to historic contact with Euro Americans which took place in 1843 when John C. Fremont passed through the region. It is during this time period that a change in populations in the region may have taken place. Archaeological evidence indicates that a former population, possibly with relations to the Klamath Indians, which currently are located to the west, was replaced by Northern Paiute peoples. Both the Northern Paiute and The Klamath have oral traditions which indicate this replacement of populations in the Warner Valley area. Site types from this time period include village locations, small occupation sites, quarry sites, rock art sites, burials, shell midden sites, stone house ring sites, and upland plant collecting sites.

None of the allotments addressed in this EA have had a comprehensive Class III level cultural survey performed on all of the BLM-administered lands. Surveys have been done on portions of the allotments (approximately 13,913 acres) around water developments, power line right-of-ways, fire rehab projects, new roads, and other ground-disturbing projects in the general area. The results of these surveys are described below.

Blue Creek Seeding

This allotment has approximately 600 acres of BLM-administered lands, of which none have been surveyed for cultural resources.

FRF Flynn

This allotment has about 2,780 acres of BLM-administered lands, of which 114 acres (5%) have been surveyed for cultural resources. A total of 3 sites have been identified. Sites consist of a very large, dense village location which may span a time period from 10,000 BP to 200 BP, a small occupation site and a small rock art site.

Lynch

This allotment has about 180 acres of BLM-administered lands, of which none have been surveyed for cultural resources.

Lynch-Flynn

This allotment has about 18,800 acres of BLM-administered lands, of which 333 acres (less than 2%) have been surveyed. Within this 333 acres, a total of 11 sites have been located. Sites consist of 6 large or very large occupation sites two of which contain extensive rock art, and 5 small occupation sites. These sites range in age from Middle Archaic 6500 BP up to Late Archaic 200 BP. Since such a small percentage of the area has been surveyed and due to its rich resources in the form of plant, animals and lithic sources along with many rims upon which rock art could be created, it is expected that hundreds more sites will be located in this allotment.

Northeast Warner

This allotment has about 139,019 acres of BLM-administered lands, of which 5,366 acres (4%) have been surveyed. A total of 109 sites have been identified. Given the environment of the allotment, BLM expects that a large number of sites have yet to be identified within the allotment. Current site types include lithic scatters, rock shelters/caves, upland plant gathering sites, rock art sites and small occupation sites. The time range for these sites based on radio carbon dating and projectile point forms ranges from 12,000 to 200 BP. There are several Clovis Site/Stemmed Point sites within the allotment which are highly significant. Research conducted by the University of Nevada, Reno indicates that the area was used along what at that time period would have been shorelines of the receding Pleistocene lake which once filled Warner Valley. During the Early Archaic Period, the dating of Cascade Points by radiocarbon dating indicates that at around 8,000 BP, people using a Foliate Shaped Point or Cascade Point were located in the northern Warner Valley area. Sites dating from the 8,000 BP up to 200 BP are known from within the allotment. Thus, sites covering the entire time of occupation for the region are present within the allotment. The Clovis Period and Stemmed Point Period sites are of great importance in research on the settlement of North America. They represent some of the rarest sites in North America.

East Rabbit Hills

This allotment has about 8,404 acres of which 3,890 acres (46%) have been surveyed for cultural resources. A total of 9 sites have been identified. These include large occupation sites with dense lithic scatters and hundreds of grinding stones for processing plant food, as well as smaller occupation sites which are not as dense. A small quarry site for basalt is also present. The time range for the located sites is Middle Archaic 6500 BP to Late Archaic 200 BP. Most of these sites are concentrated around sources of water along the drainages of Rabbit Creek, which has somewhat of a dendritic pattern in this area.

North Rabbit Hills

This allotment has about 11,712 acres of which 4,210 acres (35%) have been surveyed for cultural resources. A total of 2 sites have been identified in this allotment. It is not expected that a large number of sites are located within this allotment. This is probably due to the sparse nature of most of it. It is flat with little in the way of resources which would have been attractive to people. Areas just outside of the allotment where water is available in drainages have a much higher incident of sites.

Incomplete and Unavailable Information

The fact that cultural surveys have not been completed on 100% of the area represents a resource for which there is "incomplete or unavailable information". According to the CEQ's NEPA regulations (40 CFR Part 1502.22), when an

agency is evaluating impacts and there is incomplete or unavailable information, the agency must make clear that such information is lacking. Further, if the information “cannot be obtained because the cost of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include.... (1) a statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts...; (3) a summary of the existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant impacts... and (4) the agency’s evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community...”. The DOI NEPA regulations state that these costs are not just monetary, but can also include “social costs, delays, opportunity costs, and non-fulfillment or non-timely fulfillment of statutory mandates” (43 CFR Part 46.125). The costs of obtaining a comprehensive survey of cultural resources across the pasture is estimated at \$800 to \$1080 per acre based upon current costs for contract survey work. Surveying the remaining 167,582 unsurveyed acres within 7 allotments would cost approximately \$134,065,600 to \$180,988,560 and is considered to be exorbitant. The following section summarizes the results of surveys that have been completed by allotment.

Environmental Consequences:

Effects of Alternative 1: No Action

It is unknown to what extent livestock trampling is currently impacting cultural resource sites specifically within these allotments. There have been very few studies of livestock impacts to cultural sites, but based on field observations by BLM cultural resources staff over the last 38 years on known cultural resource sites in the Lakeview Resource Area, concentrated livestock use can impact cultural materials located in the soil profile. These effects include ground cover removal, surface scuffing, and hoof shear. Cultural materials within the top 12 inches of soil are the most susceptible to exposure and trampling damage, resulting in reduced site integrity. The deepest disturbance is typically seen at sites located in congregation areas (near water sources and trailing areas) where concentrated hoof shear is common. In saturated soils adjacent to water sources, deep hoof “punching” can put the cow’s leg up to 24” into the ground. Multiple holes such as this can mix and churn the underlying sediments which may contain site materials. In dry areas along fence lines, concentrations of livestock can trample or remove the vegetation, mix the surface soil layer of the site (often up to 6 inches), loosen the soil and cause erosion by wind and rainwater. Artifacts can be mixed between layers of sediment, moved both vertically and horizontally, or broken and chipped. Dispersed grazing, on dry uplands away from water sources may cause light hoof shear and surface scuffing, and could result in light (2 inches) to moderate (6 inches) depth of impacts to some sites.

Any cultural sites (both documented and undocumented) in the allotments within livestock high-concentration areas (10.5% of the area), such as water sources and trailing areas, would continue to be impacted by heavy hoof shear and trampling from both livestock and big game, along with erosion from wind and water. Sites (both documented and undocumented) located across the majority of the allotment (89.5% of the area) would continue to be impacted by light hoof shear and surface scuffing from dispersed livestock and big game use.

Effects of Alternative 2

Increasing livestock distribution throughout the allotments under Alternative 2 would not likely increase the effects on cultural resources substantially across the majority of the allotments. Under Alternative 2, additional range Improvements would be constructed in Northeast Warner and East Rabbit Hills Allotments that could impact cultural resources. Surveys for cultural sites have been completed for the proposed range improvement locations associated with this alternative. No cultural resources were found in these areas and, therefore, would be no detrimental effects to cultural resources associated with these improvement projects. Impacts associated with grazing would generally be similar to Alternative 1. However, up to 428 acres of additional concentrated livestock use would be expected around the new range improvements.

Effects of Alternative 3

Under Alternative 3, most of the potential impacts to cultural resources would be similar to Alternative 2. The implementation of a rotational grazing system in the Northeast Warner Allotment may result in a little less concentrated livestock use around some existing water developments, and more dispersed use across the allotment as a whole, but would not result in substantially different impacts to cultural resources than those associated with Alternative 2.

Alternative 4: No Grazing

Under Alternative 4, livestock impacts to cultural resources (documented and undocumented) would no longer occur. However, impacts related to big game use and erosion from wind and water would continue over the 10-year analysis timeframe.

Recreation

Affected Environment:

Recreation within the allotments is managed for multiple activities, opportunities, and experiences (see Map R-3, BLM 2003b). Recreation within the majority of the allotments is managed for Semi-Primitive Motorized experiences (98%). The areas possess a moderate probability of experiencing isolation, closeness to nature, and self-reliance in outdoor skills. User interaction is low, but there is evidence of other users and few isolated structures.

Recreation near main improved gravel roads, such as the Warner Valley (6155-00) and Sherlock Gulch Roads (6115-00), within a small portion of the allotments, is managed for a Roaded Natural experience (approximately 1%). These areas possess an equal probability of experiencing other user groups, as well as isolation from the sights and sounds of others. Opportunity to have a high degree of interaction with the natural environment, but primitive types of recreation is not as important. User interaction is low to moderate. Resource modifications and utilizations are moderately evident, but harmonize with nature.

Recreation along County Roads 3-13 (Plush Cut – Off/ Lakeview to the Steens Backcountry Byway), 3-10 (Plush – Adel Road), and Highway 140 is managed for Rural recreational activities, opportunities, and experiences (less than 1%). The probability of experiencing other users is prevalent. Moderate to high user interaction is acceptable. Activity factors are generally more important than the setting of the physical environment. The natural setting is culturally modified to the point that it is dominated by agricultural landscapes, utility corridors, and scattered structures.

Opportunities for solitude, where a visitor could avoid the presence of others, can be found in several of the allotments including the eastern portion Fish Creek Rim WSA (Lynch-Flynn #00520), the northern third of Orejana Canyon WSA, and several deep canyons including Kit Canyon/ Hole in the Ground, Rawhide Canyon, Loggerhead Canyon, and Juniper Ridge (Northeast Warner #00511).

The majority of the allotments are also open to motorized Off-Highway Vehicle (OHV) use on roads, trails, and cross-country travel (92%). Motorized travel in a small portion of the allotments is limited to existing or designated roads and trails; in these areas cross-country travel is prohibited (8%). Motorized travel within Orejana Canyon WSA is limited to existing roads and trails, while use in Fish Creek Rim WSA/ACEC/RNA is limited to designated roads and trails (see map R-7, BLM 2003b).

There are no developed recreation sites within these allotments. The primary recreation activities in these allotments are upland game bird (e.g., chukar and quail) and big game (e.g., mule deer and pronghorn antelope) hunting. Other recreation activities that may occur in these allotments include: OHV riding, wildlife viewing, photography, camping, hiking, mountain biking, backpacking, horseback riding, rock hounding, and target shooting.

Environmental Consequences:

Effects of Alternative 1: No Action

The No-Action Alternative would continue to have both positive and negative impacts to recreation opportunities, activities, and experiences across the allotments. Current recreation activities and opportunities, including hunting for upland game bird and big game, rock hounding, OHV, wildlife viewing, photography, camping, hiking, backpacking, horseback riding and target shooting would remain relatively constant over the permit lifetime. The existing pockets of primitive recreation opportunities providing for solitude would remain. Generally, the individual recreation experience varies from one user group or individual to another. Water developments, such as waterholes, reservoirs, and guzzlers would continue to provide benefits to users viewing or hunting wildlife. Conversely, areas within close proximity to existing water tanks and troughs, wells, pipelines, and guzzlers, mines and mineral pits would continue to negatively impact or limit recreation experiences for those seeking a primitive and unconstrained recreation experience, or a high degree of solitude and naturalness.

Effects of Alternative 2: Range Improvements

Season of use adjustments proposed within Alternative 2 would have low impacts to recreational experiences and opportunities across the allotments.

The proposed developments under Alternative 2 would have moderately beneficial or moderately detrimental impacts to recreational experiences depending on the user group. Increased access to water would benefit users pursuing wildlife viewing and hunting opportunities. Conversely, areas within close proximity to the new developments would be undesirable for those seeking isolation, or closeness to nature due to the negative physical and visual impacts of the facilities themselves and the increased use by permittees and livestock. These developments would also negatively impact the natural character of the surrounding area's recreational setting by shifting from a pastoral to more agricultural setting. This would also shift recreational use in the surrounding area more towards wildlife dependent activities and away from experiences reliant on a natural appearing landscape.

However, the impacts to natural character and solitude could be reduced to a relatively low level of impact by burying the pipelines, utilizing a low profile water tank, and painting water tanks and troughs with a color that blends in with the surrounding area. Refer also to the visual resource impacts discussion below.

Effects of Alternative 3: Range Improvements and Rotation System

The effects of this alternative to recreation would be similar to Alternative 2. In addition, rotation adjustments within the Northeast Warner Allotment (#00511) would have positive impacts to recreation. Under this alternative, livestock would be bunched into one large herd, decreasing the recreational experience for some user groups due to the increased sights and sounds of cattle and associated permittee activity in the immediate area. Conversely, this system would also allow other pastures to be completely free of these impacts. Furthermore, the alternating directional progression of grazing across the pastures would allow users seasonal variation to avoid these impacts, thus benefiting the recreational experiences for some users groups.

Effects of Alternative 4: No Grazing

The No-Grazing Alternative would enhance some recreation activities, opportunities, and experiences in these allotments, while possibly diminishing others. Naturalists' and primitive recreationists' experiences in these areas would be moderately enhanced by the removal of livestock grazing due to the permanent absence of the sights and sounds of cattle, the eventual improved ecological condition of the allotments (particularly associated with cattle trails and impacts around watering/gathering areas), and the potential for facilities to be deemphasized and begin to blend into

the landscape due to lack of use. Conversely, this alternative may reduce opportunities and experiences for wildlife viewers and hunters if waterholes and reservoirs become less effective at providing water for wildlife due to lack of maintenance.

Visual Resources

Affected Environment:

FRF Flynn (#00501), Lynch (#00505), and Blue Creek Seeding (#00200)

These allotments are heavily checker-boarded, contain a low percentage of BLM Lands, and have relatively few observable developments. Allotments #00501(east parcel) and #00505 are managed according to Visual Resource Management class VRM III, while allotment #00200 and #00501 (west parcels) are managed for VRM II. Refer to Table 37 for acreages and definitions.

Northeast Warner (#00511)

Topographically, the Northeast Warner Allotment is dominated by Mule Springs Valley, running through the middle of the allotment in a north-south orientation. The west and east areas of the allotment are characterized by several deep, multi-forked, twisting, canyons cut in into flat, table-top, high country. Views looking out from the allotment include: Juniper Mountain to the west, Little Juniper Mountain and Horsehead Mountain to the northwest, Iron Mountain to the north, the Steens Mountains to the east, and Poker Jim Ridge/Hart Mountain and the Warner Valley Wetlands to the south. While a few groups of juniper trees can be found in pockets in the western half of the allotment, vegetation in the area is widely represented by rabbitbrush, along with various species of grasses and sagebrush (refer to Table 25).

Observable developments/disturbances in the area include: approximately 282 miles of open motorized routes, 20 miles of reclaiming routes, 6 miles of closed routes, 2 miles of cat line, 0.25 miles of pipeline, 69 miles of fence, 60 waterholes, 47 reservoirs, 3 water troughs, 2 wells, 1 developed spring, 8 wildlife guzzlers, 1 mineral pit, 6 cattle guards, and 20 wilderness therapy group campsites. The Northeast Warner Allotment is managed according to Visual Resource Management classes VRM I (7%), within Orejana Canyon WSA, and VRM IV (92%) (refer to Table 37).

Lynch-Flynn (#00520)

Topographically, the allotment is characterized by rolling hills with a half dozen shallow draws running down slope from the southeast to the northwest. Views looking out from the allotment include the Warner Mountains to the west and the Warner Valley to the east as seen from Lynch's Rim and Fish Creek Rim. The southern and eastern third of allotment has a moderate to dense juniper component, while the western half is dominated by grasses, bottlebrush, and sagebrush. Major observable developments in the allotment include, Observable developments/disturbances in the area include: 39 miles of motorized roads/routes/trails, 4.5 miles of BPA power lines, 0.75 miles of reclaiming routes, 1 mile of closed routes, 300 feet of pipeline, 26 miles of fence, 13 waterholes, 1 water trough, 11 developed springs, 6 reservoirs, and 2 cattle guards. Allotment #00520 is managed according to Visual Resource Management classes VRM I (17%), within in Fish Creek Rim WSA, and VRM II (77%) (refer to Table 37).

North Rabbit Hills (#00531) and East Rabbit Hills (#00530)

Topographically, these allotments are dominated by Rabbit Hills to the southwest. The vast majority of the area is a flat open expanse between Rabbit Basin and Warner Valley. Views looking out from the allotments include: Warner Valley, Poker Jim Ridge, and Hart Mountain to the east, while the main formation of the Rabbit Hills are situated outside the area to the southwest. Vegetation consists mainly of grasses, rabbitbrush, and sagebrush.

Observable developments/disturbances in the area include: approximately 62 miles of open motorized routes, 1.75

miles of reclaiming routes, 7.75 miles of cat line, 4.5 miles of pipeline, 32.5 miles of fence, 3 waterholes, 3 water troughs, 2 wells, 1 dam, 1 mineral pit, and 3 cattle guards. Allotments #00531 and #00530 are managed according to Visual Resource Management class VRM IV (refer to Table 37).

Table 37. Existing VRM Classes on BLM-Administered Lands in the Seven Allotments

Allotments	VRM I* ±	VRMII**	VRM III***	VRM IV****	Unknown ±±
Blue Creek Seeding		630 (11%)			5,302 (89%)
FRF Flynn		1,561 (18%)	1,427 (16%)		5,690 (66%)
Lynch			151 (100%)		
Northeast Warner	10,069 (7%)			132,220 (92%)	1,673 (1%)
Lynch-Flynn	3,665 (17%)	16,863 (77%)			1,458 (6%)
East Rabbit Hills				8,607 (100%)	
North Rabbit Hills				12,038 (95%)	674 (5%)
Total	13,734 (7%)	19,053 (9%)	1,577 (1%)	152,864 (76%)	14,796 (7%)

± Fish Creek Rim and Orejana Canyon WSAs.

±± Private or other ownerships.

*VRM I management objectives are to “preserve the existing character of the landscape ... level of change should be very low and must not attract attention.”

**VRM II is managed to “retain the existing character of the landscape. The level of change to landscape characteristics should be low. Management activities can be seen, but should not attract the attention of the casual observer.”

***VRM III is to “partially retain the existing character of the landscape, moderate levels of change are acceptable.”

****VRM IV is managed to allow for “major modifications to the landscape,” though “every effort should be made to ... minimize disturbances and design projects to conform to the characteristic landscape” (BLM 2001, page 290).

Scenic Corridor

Additionally, portions of the southern allotments are within the 3 mile scenic corridor along State Highway 140 and County 3-13. Management direction requires “all developments, land alterations, and vegetation manipulations within a 3 mile buffer... of all major routes and recreation use areas to be designed to minimize visual impacts (unseen areas within these zones will not be held to this standard)... All projects will be designed to maximize scenic quality and minimize scenic intrusions” (BLM 2003, page 88). (Note: only portions of these allotments can be seen while traveling along the corridors) (Table 38).

Table 38. Scenic Corridor: Total Area vs. Areas Actually Visible

Allotment	Total Area within Scenic Corridor (acres, %)	Scenic Corridor Actually Visible (acres, %)
#00501	4,984 , 57%	3,630, 73%
#00505	151, 100%	136 , 90%
#00520	6,330, 29%	4,366, 69%
#00200	1,438, 100%	1,438, 24%

Environmental Consequences:

Effects Common to All Alternatives

Since Alternatives 1- 4, do not propose any developments located within the Scenic Corridor, none of the alternative actions involving the allotments would have any effects on Scenic Corridor values.

Effects of Alternative 1: No Action

The No-Action Alternative would continue to have low impacts to the existing visual quality of the allotments due to the low density and magnitude of observable developments (listed above) and various disturbances from livestock use scattered across the project area. Current visual objectives for VRM classes I, II, III, and IV would continue to be achieved.

Effects of Alternative 2: Range Improvements

All developments proposed under Alternative 2 are located within VRM class IV areas (#00511, 00530). The proposed pipelines, water tanks, water troughs, and the cattle-trampled areas around them would be visible to the average user. The visual setting near these developments would shift toward a more agricultural setting, away from the current predominantly pastoral appearance. However, this alternative would have low to moderate negative impacts to visual resources.

While VRM class IV management objectives allow for major modifications of the landscape, VRM IV also mandates that “every effort should be made to ... minimize disturbances and design projects to conform to the characteristic landscape” (BLM 2001, page 290). These visual impacts associated with the proposed developments could be greatly mitigated by adopting Visual Resource BMPs such as: burying the pipeline, utilizing a low profile water tank, and painting the water tanks and troughs. These measures would reduce visual contrast by blending in developments with surrounding colors and forms of the landscape to prevent structures from being visible from a distance. If the decision-maker chooses to adopt such measures as part of the final decision, the visual impacts and viewing distance of these facilities would be substantially reduced. Regardless of which BMPs are adopted, Alternative 2 would meet the visual resource objectives for VRM class I, II, III, and IV.

Effects of Alternative 3: Range Improvements and Rotation System

The effects of proposed developments within this alternative on visual resources would be similar to Alternative 2. Additionally, common herd rotation adjustments within the Northeast Warner Allotment (#00511) would have moderate negative impacts to visual quality due to the increased trampling of vegetation from cattle around water developments (refer to vegetation section). However, these impacts would likely continue to meet visual resource objectives for VRM classes I, II, III, and IV.

Effects of Alternative 4: No Grazing

The No-Grazing Alternative would moderately enhance visual resources within the allotments. During the life of the permit, visual quality would improve as ecological conditions slowly restore formerly impacted areas around waterholes, reservoirs, cattle trails, pipelines, and troughs. Visual objectives for VRM classes I, II, III, and IV would continue to be achieved.

Areas of Critical Environmental Concern/Research Natural Areas

Affected Environment:

Areas of Critical Environmental Concern (ACECs) are defined as areas where special management attention is required to protect, and prevent irreparable damage to: important historic, cultural, and scenic values, fish, or wildlife resources or other natural systems or processes; or to protect human life and safety from natural hazards.

Research Natural Areas (RNAs) are a part of BLM’s ACEC program and are established for the primary purpose of research and education where the land has one or more of the following characteristics:

- A typical representation of a common plant or animal association;
- An unusual plant or animal association;
- A threatened or endangered plant or animal species;
- A typical representation of common geologic, soil, or water features;
- Outstanding or unusual geologic, soil, or water features.

The Fish Creek Rim ACEC/RNA consists of 8,238 acres (Map 7) and contains several relevant and important resource values (cultural resources, wildlife, and botany) including special status species, relatively high plant species diversity, and the following plant community “cell” needs identified by the Oregon Natural Heritage Program:

1. Big sagebrush-bitterbrush/Idaho fescue
2. Low sagebrush/Idaho fescue scabland
3. Mountain mahogany/mountain big sagebrush/bitterbrush
4. Snowberry/bitter cherry shrub complex

Approximately 4,100 acres of the 8,238-acre ACEC/RNA lie within the 00520 allotment. Only the low sagebrush/Idaho fescue scabland community is found in this area. It contains some invasive western juniper, but is otherwise in good condition. The soil surface tends to be extremely rocky with shallow soil and forb species relatively few and low in cover. Slopes are gentle (mean 5 percent) and located primarily on flat surfaces of the summit and back slopes. Exclusion of periodic fire has allowed juniper invasion, but the presence of fire in this association creates conditions that are favorable to annual grass invasion such as cheatgrass and Japanese brome. Cheatgrass is present along some roadways. This plant community supplies year-round forage for mule deer, pronghorn antelope, and bighorn sheep (BLM 2003a).

Environmental Consequences:

Effects Common to Alternatives 1-3

The RHA found that Allotment 00520, which contains a portion of the Fish Creek Rim ACEC/RNA, is currently meeting all five health standards (Table 35; BLM 2003e, 2013g) and is expected to continue to do so into the foreseeable future. Therefore, continuing grazing within the allotment under Alternative 1 would have no additional effects on the relevant and important resource values beyond those that may have occurred in the past. Impacts to vegetation, wildlife, and cultural resource values associated with this alternative are also described further in those sections of this chapter and will not be repeated here.

Alternatives 2 and 3 do not propose any management changes specifically within Allotment 00520. Therefore, the impacts of continued grazing to the ACEC/RNA under these two alternatives would be similar to Alternative 1.

Alternative 4: No Grazing

Removal of livestock grazing would have minor beneficial impacts on the relevant and important resource values within the Fish Creek Rim ACEC/RNA portion of Allotment 00520. The allotment would be expected to continue meeting all 5 rangeland health standards into the foreseeable future. Impacts to vegetation, wildlife, and cultural resource values associated with this alternative are described further in those sections of this chapter and will not be repeated here.

Wilderness Study Areas

Affected Environment:

There are no designated wilderness areas within any of the allotments. However, the northwestern quarter of the Lynch-Flynn (00520) Allotment overlaps with the Fish Creek Rim Wilderness Study Area (WSA). The Northeast Warner Allotment (00511) also overlaps the northern third of the Orejana Canyon WSA (Map 7).

Interim Management

Existing WSAs must be managed in accordance with the *Management of Wilderness Study Areas* manual so as not to impair suitability for preservation as wilderness (BLM 2012b). Generally, wilderness values must be protected or enhanced in WSAs. Preservation of wilderness values is the primary consideration when evaluating a proposed action or use that may affect those values. To this end, all proposals for uses and/or facilities within WSAs must be reviewed to determine whether the proposal meets the non-impairment criteria. The non-impairment criteria requires that the proposed use/facility be temporary and not degrade wilderness values so far as to significantly constrain the area's wilderness suitability for preservation as wilderness.

The only permitted exception to the non-impairment criteria are: (1) emergency (wildfire/search and rescue), (2) reclamation activities to minimize impacts created by violations and emergencies, (3) uses and facilities which are considered grandfathered or valid existing rights under the IMP, (4) uses or facilities that clearly protect and enhance the area's wilderness values, and (5) reclamation of pre-FLPMA impacts. The manual specifically identifies grazing as a "grandfathered use" and permits this use to "continue in the same manner and degree as on that date (October 21, 1976), even if this impairs wilderness suitability". The "manner and degree" of grazing use is further defined as "the physical and visual impacts that use was having on the area on October 21, 1976" (BLM 2012b, Page 1-12). Grandfathered grazing use is further defined as the grazing management practices (e.g. level of use, season of use, etc.) authorized during the 1976 grazing fee year (BLM 2012b, Page 1-18).

Fish Creek Rim WSA

The 16,070-acre Fish Creek Rim WSA (OR-1-117) was studied under section 603 of the FLPMA and was included in the *Final Oregon Wilderness Environmental Impact Statement* (BLM 1990). Fish Creek Rim WSA is essentially in a natural condition and possesses outstanding opportunities for solitude and primitive and unconfined recreation. Additionally, the Fish Creek Rim WSA has several supplemental values including some of the largest and best quality mountain mahogany stands in the Basin and Range Province in Oregon, strict onion grass (nodding melic), habitat for Peregrine falcon and other raptors, California bighorn sheep, and sage-grouse, and numerous archaeological sites (BLM 1989, 1991).

Approximately 3,636 acres or 16.5% of the Lynch-Flynn Allotment falls within the Fish Creek Rim WSA. A total of 1,076 AUMs of forage was allocated to cattle in this allotment in 1976. Therefore, the grandfathered grazing use that occurred in this portion of the WSA at the time FLPMA was signed in 1976 is estimated at 16.5% of the total for the allotment or 178 AUMs of forage from 4/16/1976 – 7/19/1976 (spring and summer grazing seasons). This portion of the WSA also has several grandfathered range improvements including fencing, 2 waterholes, 1 reservoir, and 1 developed spring (Table 39).

Orejana Canyon WSA

The 24,600-acre Orejana Canyon WSA (OR-1-78) was studied under section 603 of the FLPMA and was included in the *Final Oregon Wilderness Environmental Impact Statement* (BLM 1990). The majority of Orejana Canyon WSA is in a predominantly natural condition and possesses outstanding opportunities for solitude and primitive and unconfined recreation. Moreover, the Orejana Canyon WSA has several supplemental values including exceptional obsidian flows,

Table 39. Grandfathered Range Improvements

Name	RIPS #	Year Constructed	WSA
Sheep Bell Waterhole	700975	1947	Fish Creek Rim
Lassie Waterhole	700984	1949	Fish Creek Rim
Good Sheep Reservoir	700311	1961	Fish Creek Rim
Cleland Spring	704282	1966	Fish Creek Rim
Duane Spring	700875	1948	Orejana Canyon
Open-Draw Reservoir	701466	1947	Orejana Canyon
Search Reservoir	701477	1947	Orejana Canyon
Cabin Reservoir	704281	1943	Orejana Canyon
Orijana Waterhole	700156	1944	Orejana Canyon
Orijana Basin Waterhole	700177	1944	Orejana Canyon
Hartman Waterhole	701344	1968	Orejana Canyon
Zulu Waterhole	700955	1940	Orejana Canyon

fossil remains, habitat for California Bighorn Sheep and sage grouse, and has high potential for supporting nesting raptors.

Approximately 10,013 acres or 7.1% of the Northeast Warner Allotment falls within the Orejana Canyon WSA. A total of 5,956 AUMs of forage was allocated to cattle in this allotment in 1979 (BLM 1981; page B-2; the closest date BLM can find to use to estimate grazing use occurring in 1976). Therefore, the “grandfathered” or existing grazing use that occurred in this portion of the WSA is estimated at 7.1% of the total for the allotment or 423 AUMs of forage from 3/1/1979 - 8/15/1979 (spring and summer grazing seasons). A season of use change occurred by a grazing decision issued in 1983 that changed the season of use to 2/1 – 9/30. This extension of use into the fall and winter seasons does not qualify as a grandfathered use, but was based on the analysis contained in *the Lakeview Grazing FEIS* (BLM 1982).

This portion of the WSA also has several grandfathered range improvements including fencing, 4 waterholes, 3 reservoirs, and 1 developed spring (Table 39). One additional reservoir (Foot-of-Trail Reservoir) was built in 1983 and does not represent a grandfathered use. However, the impacts to wilderness values from constructing and maintaining this reservoir have been addressed previously (BLM 1981b, 2002).

Environmental Consequences:

Effects of Alternative 1: No Action

Under Alternative 1, the season of use for the Lynch-Flynn Allotment would continue from 4/1 – 9/15 (spring, summer, and fall grazing seasons), with 145 AUMs for this portion of the Fish Creek Rim WSA. The current forage allocation for the WSA portion of the allotment is 33 AUMs less than grandfathered use, but includes an extension of use into the fall season of 30 additional days. The change in season of use is offset by a reduction in total AUMs. Less grazing use would occur during the growing season and more use would occur in the fall after plants have set seed and completed their annual growth cycle. Grazing in the fall has less impact to vegetative communities than growing season use. Therefore, continuing this season of use would improve the vigor of existing plant communities, likely enhance the overall natural character of this portion of the WSA, and would meet the non-impairment criteria. Continuing to maintain the existing range improvements within the WSA constitutes a grandfathered use that is allowable under current WSA management policy (BLM 2012b).

Under this alternative, the season of use for the Northeast Warner Allotment would continue between 2/1 - 9/30 (winter, spring, summer fall seasons), with an estimated 437 AUMs associated with the Orejana Canyon WSA portion of the allotment. This forage allocation is slightly more than grandfathered or historical use numbers show by 14 AUMs. Less grazing use would occur during the growing season and more use would occur in the fall and winter, after

plants have completed their annual growth cycle. Grazing in the fall and winter has less impact to vegetative communities than growing season use. Therefore, continuing this season of use would improve the vigor of existing plant communities, likely enhance the overall natural character in this portion of the WSA, and would meet the non-impairment criteria. Continuing to maintain most of the existing range improvements within the WSA constitutes a grandfathered use that is allowable under current WSA management policy (BLM 2012b). The impacts of continuing to maintain the Foot-of-Trail Reservoir would not cause any additional impacts to wilderness values beyond those that have already occurred on the ground and have been analyzed in the past (BLM 1981b, 2002).

Effects of Alternative 2: Range Improvements

The range improvements proposed under this alternative are not located in any WSAs. Therefore, the impacts of these additional disturbances, coupled with continued grazing, on WSA values would be similar to Alternative 1 and would meet the non-impairment criteria.

Effects of Alternative 3: Range Improvements and Rotation System

Since this alternative only proposes changes to the Northeast Warner Allotment, the impacts to the Fish Creek Rim WSA would be similar to Alternatives 1 and 2.

Since the proposed developments are located outside the Orejana Canyon WSA, there would be no effects to the WSA, similar to Alternative 2. The total AUMs associated with the Northeast Warner Allotment would be slightly lower than Alternative 1 by 13 AUMs. This alternative would have the same season of use (winter, spring, summer, fall) as Alternative 1. However, the common herd rotation adjustments within the allotment would likely cause moderate negative impacts to naturalness values associated with northwestern portion of the Orejana Canyon WSA, due the predicted shift from low/moderate disturbance from cattle trampling vegetation around waterholes, to a high degree of visual impacts in these areas. Therefore, this alternative would fail to qualify as grandfathered use (with the same physical and visual impacts) and would likely fail to meet non-impairment criteria as the proposed changes in use would not protect or enhance wilderness values.

Effects of Alternative 4: No Grazing

The removal of grazing would moderately enhance naturalness and outstanding opportunities for solitude and primitive and unconfined recreation in portions of the Fish Creek Rim and Orejana Canyon WSAs by eliminating a combined 582 AUMs of livestock use in these two areas for a ten-year period. While the sights and sounds of cattle would be eliminated and cattle trails and trampled areas around high concentration use areas would recover over time, the adverse visual impacts of observable human range developments would likely remain until such time as they deteriorate or resources are made available to facilitate their removal. (Note: the absence of cattle in the allotments would only benefit a portion of these WSAs. Cattle would continue to be grazed on surrounding allotments overlapping the remaining 14,587 acres (59%) of Orejana Canyon WSA and 12,434 acres (77%) of Fish Creek Rim WSA). Overall, Alternative 4 would result in the greatest degree of wilderness value enhancement of all the proposed alternatives and would meet the non-impairment criteria.

Lands with Wilderness Characteristics

Affected Environment:

With the exception of Fish Creek Rim and Orejana Canyon WSAs (discussed above), BLM's original wilderness inventory did not find wilderness characteristics to be present within most of these allotments (USDI-BLM 1979f, 1979g, 1979h, 1980a, and 1980b). Since 2007, the BLM has been conducting wilderness inventory updates following available inventory guidance (BLM 2007c, 2008c, 2012a). In this process, an inter-disciplinary team reviewed the existing wilderness inventory information contained in the BLM's wilderness inventory files, previously published inventory

findings (USDI-BLM 1979a, 1979b, 1979c, 1980a, and 1980b), and citizen-provided wilderness information (ONDA 2005, 2007). BLM conducted field inventory, completed route analysis forms, made inventory unit boundary determinations, and subsequently evaluated wilderness characteristics within each inventory unit within the Fish Creek Rim Addition, West Warm Springs, Cox Canyon, West Orejana, East Rabbit Hills, Drake Creek, and Checkerboard areas, which collectively cover allotments 00200, 00501, 00505, 00511, 00520, 00530, and 00531. While ONDA reported wilderness characteristics to be present within portions of allotments 00520 and 00511 as part of their Buzzard Creek, Fish Creek Rim Addition, and Poker Jim Addition WSA proposals (ONDA 2005, p. 79-86 and 162-181; ONDA 2007, p. 2-35), BLM has only found wilderness characteristics to be present in small portions of the 00511 (Egan Cabin unit OR-015-075) and 00520 (Lynchs Rim parcels B and C; units OR-015-117B and OR-015-117F) allotments to date (BLM 2001, 2003a, and 2003b 2008c, 2009, 2010a, 2010b, 2011b, 2013a, and 2013b) (see Map 7). These inventory findings are available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php> and are hereby incorporated by reference in their entirety.

Environmental Consequences:

Effects Common to All Alternatives

Since lands with wilderness characteristics are not currently found within allotments 00200, 00501, 00505, 00530, and 00531, none of the alternative actions involving those allotments would have any effects on these values.

Effects of Alternative 1: No Action

Since wilderness characteristics were found to be present in small portions of allotments 00511 and 00520 (6,114 and 405 acres respectively) under current levels of livestock grazing and with current levels of range improvements on the landscape, continued grazing at current levels and maintenance of the existing improvements would have no additional effects on wilderness characteristics over the 10-year life of the permits beyond those that have already occurred in the past.

Effects of Alternative 2: Range Improvements

The range improvements proposed under this alternative are not located in any areas where BLM found wilderness characteristics to be present. Therefore, these additional disturbances, coupled with continued grazing, would not have any additional impact on areas with wilderness characteristics.

Effects of Alternative 3: Range Improvements and Rotation System

The impacts of this alternative would be similar to Alternative 2.

Effects of Alternative 4: No Grazing

The removal of grazing within allotments 00511 and 00520 under this alternative would reduce the need for maintenance of existing range improvements and could slightly improve wilderness characteristics in small portions of the two allotments.

Social and Economic Values

Affected Environment:

The economy of Lake County is based primarily on agriculture, timber, livestock, and government sectors. Livestock grazing and associated feed production industries are major contributors to the economy of Lake County. The most common is the raising of cattle and calves for beef. In 2010, an estimated 52,500 cow/calves were in Lake County

Oregon (Pete Schreder, Personal Communication, Lake County Agricultural Extension Agent). In 2010, Lake County ranchers sold an estimated \$35,000,000 worth of cattle and calves or related beef products from public lands. The seven allotments combined provide a total of 9,823 AUMs. This calculates to provide forage for approximately 818 animals per year. Assuming 40 animals are bulls and an 85% calf crop this number of AUMs could produce 661 calves for market each year.

Environmental Consequences:

Effects Common to Alternatives 1-3

Three permittees utilize the seven allotments and a fourth permittee grazes one of the allotments under a separate permit. This EA analyzes all the associated impacts of grazing by the four permits associated with the allotments and the economic benefits; however, the initial decision will only address three of those permits. The fourth permit is not currently up for renewal and a decision regarding the fourth permit will likely occur at a later date.

Public lands in and around the allotment would continue to contribute social amenities such as open space and recreational opportunities. These amenities encourage tourism in the surrounding region and provide economic benefits to nearby communities such as Lakeview and Plush, though the specific contribution of the allotment cannot be accurately estimated.

Under these alternatives, the Federal Government would continue to collect grazing fees (9,823 AUMs @ \$1.35/AUM = \$13,261. This commodity use of public lands would continue to generate revenues for the Federal Government on an annual basis.

The permittees would continue to produce approximately 661 calves each year associated with the 7 allotments providing continued economic stability for the livestock operators and contributing less than 1% to the total county-wide cattle production.

The well drilling with associated pipeline and water developments in the Northeast Warner allotment along with the fence construction and water trough installation on the East Rabbit Hills Allotment in Alternatives 2 and 3 could potentially provide a one-time influx of approximately \$256,000 in income to surrounding businesses and communities from project construction activities.

Effects of Alternative 4: No Grazing

A minimum loss of (9,823 AUMs @ \$1.35/AUM) \$13,261 would occur to the Federal Government due to the loss of grazing fees collected from these permittees. This would also result in the loss of suitable grazing land for the local rancher/permittee. The rancher would then have to find suitable pasture to graze his livestock elsewhere in the surrounding region or feed additional hay, resulting in additional production costs. The current cost of hay is approximately \$245/ton (Oregon-Washington weekly hay report, 2012) and assuming feeding 30lb/day/cow. This would result in approximately \$1,097,245 in additional costs to feed the permittees' 818 animals for 365 days, not including transportation costs of moving the hay to the ranch. The average pasture rate for private land forage in Oregon is \$14.80 Per AUM. The additional annual cost to the rancher for renting private pasture land would be approximately 132,119 (9,823 AUMs * \$14.80) - \$13,261).

The permittees could potentially do a combination of private land leasing and feeding hay to make up for the lost forage on public lands, so the additional cost would be between \$132,119 and \$1,097,245. If the permittees could not secure other suitable pasture land or could not afford these increased costs, then approximately 661 calves would no longer be produced in Lake County, resulting in a less than 1% annual reduction in county-wide cattle production. Based on the current price of a 600-pound stocker calf at \$163/cwt (100 lbs. of live weight) (Stockmans Journal, 2012), this could result in an economic gross loss to the permittees' and county's economy of about \$646,458 per year.

Cumulative Effects

Analysis Scale and Timeframe:

For the purposes of this analysis, cumulative impacts are generally addressed at the allotment scale. The reason for choosing this analysis scale is issuing a permit affects the entire allotment and BLM has perspective on other potential reasonably foreseeable actions that may occur within the allotment due to management direction identified in the *Lakeview RMP/ROD* (see Appendix E, BLM 2003b). However, the analysis spatial scales could vary somewhat depending upon the resource value/use being addressed. The timeframe of analysis is defined as the same 15-20 year expected life of the *Lakeview RMP/ROD*. The reason for choosing this timeframe is it represents the same analysis timeframe considered in the *Lakeview Proposed RMP/Final EIS* (BLM 2003a) and portions of that analysis may be appropriate for tiering purposes. However, it is important to realize that the RMP/ROD has already been in effect for 10 years of its planned 15-20 year plan life-expectancy. The grazing permit renewal period covers a 10-year period, making the end of the permit period correspond closely with the end of the analysis period addressed in the *Lakeview Proposed RMP/Final EIS* (BLM 2003a).

Known Past Activities:

The Council on Environmental Quality (CEQ) issued cumulative impact guidance on June 24, 2005, that states the “environmental analysis required under NEPA is forward-looking,” and review of past actions is required only “to the extent that this review informs agency decision-making regarding the proposed action.” Use of information on the effects of past action may be useful in two ways: one is for consideration of the proposed action’s cumulative effects, and secondly as a basis for identifying the proposed action’s direct and indirect effects.

The CEQ stated that “[g]enerally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.” This is because a description of the current state of the environment (ie. affected environment section) inherently includes the effects of past actions. Further, the “CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions.” Information on the current environmental condition is more comprehensive and more accurate for establishing a useful starting point for a cumulative effects analysis than attempting to establish such a starting point by adding up the described effects of individual past actions to some environmental baseline condition in the past that, unlike current conditions, can no longer be verified by direct examination.

The second area in which the CEQ guidance states that information on past actions may be useful is in “illuminating or predicting the direct and indirect effects of a proposed action. The usefulness of such information is limited by the fact that it is anecdotal only, and extrapolation of data from such singular experiences is not generally accepted as a reliable predictor of effects”.

The Department of Interior issued some additional guidance related to past actions which state, “when considering the effects of past actions as part of a cumulative effects analysis, the Responsible Official must analyze the effects in accordance with 40 CFR 1508.7 and in accordance with relevant guidance issued by the Council on Environmental Quality, such as “The Council on Environmental Quality Guidance Memorandum on Consideration of Past Actions in Cumulative Effects Analysis” dated June 24, 2005, or any superseding Council on Environmental Quality guidance (see 43 CFR 46.115)”.

Based on this guidance, BLM has summarized known disturbances that have occurred within the allotments as part of past or on-going management activities. These include: livestock grazing and management, road construction and maintenance, range improvement project construction and maintenance, and sage-grouse habitat improvement (juniper removal) projects.

The allotments have historically been grazed by cattle. Prior to the Taylor Grazing Act of 1935, grazing on public lands was essentially uncontrolled. After the Taylor Grazing Act, allotments were established and tied to private base property owned by a permittee, and were initially under the management responsibility of the Grazing Service. Under the Grazing Service and then under the new BLM in 1946, the number of grazing livestock was generally higher and the pattern of grazing use was generally more intense, than what occurs today.

Based on a GIS analysis of current data for the allotments, approximately 54.8 miles of open roads and primitive motorized routes (representing an estimated 66.4 acres of total road-related disturbance) have been constructed or created within the allotments. About 205 miles of fence (representing about 124 acres disturbance associated with livestock trailing) currently exist in the seven allotments. Other past and present actions within the allotment have included construction and concentrated use around 164 water developments (see Maps 2a, 2b, and 2c), as well as concentrated use around several natural water sources resulting in approximately 20,906 acres of concentrated livestock use total around water sources. This represents an estimated total of about 20,972 acres (10.5%) of past or on-going ground disturbance out of a total of 199,323 acres of BLM and private lands contained in the 7 allotments.

All of these past activities have affected or shaped the landscape within the allotment into what it is today. Current resource conditions are described further in the “Affected Environment” portions of Chapter 3 earlier in this document, as well as in the Rangeland Health Assessments for the allotments (BLM2003d, BLM2003e, BLM2003f, BLM2003g, BLM2003h).

Reasonably Foreseeable Future Actions:

Foreseeable future actions in these allotments would likely include road and range improvement maintenance on an as-needed basis, weed treatments, and hunting and other dispersed recreation activities.

Environmental Consequences:

Cumulative Effects of Alternatives 1–4

For purposes of this analysis, total acres of concentrated ground surface disturbance or potential ground surface recovery served as the main indicator of cumulative impacts on soils and BSCs, upland vegetation, lentic wetland, perennial streams and lotic riparian areas, cultural resources, and wildlife and special status species habitat.

Road and range improvement maintenance activities would occur as needed and would not generally cause additional surface disturbance beyond what currently exists on the ground. Further, such activities are considered to be so minor as to be categorically excluded from NEPA analysis (BLM 2008b). Road-related ground disturbances under all alternatives would be similar and is estimated to remain at about 66.4 acres.

The amount and location of future dispersed recreational activities are difficult to estimate, but are not expected to result in any additional, measurable long-term surface disturbance in the allotments. While there is a risk of a future wildfire within the allotment, it is impossible to predict how much area would likely burn, how intensely the area would burn, how much fire suppression would be employed, and how much area may need to be actively rehabilitated after the fire. For this reason, fire disturbances are not considered further in this analysis.

Existing or new infestations of noxious weeds would be treated in accordance with the most current Integrated Weed Treatment Plan(s) and related policies (such as BLM 2004, 2007b, 2007c). It is difficult to predict the aerial extent of these potential future impacts. However, the impacts of these treatments have already been analyzed and these analyses are incorporated by reference in their entirety. Such impacts could include: short-term increases in surface disturbance and soil erosion, coupled with reduction in weed distribution, native vegetation recovery, protection or

restoration of wildlife habitats, maintenance of recreation experiences, maintenance of livestock forage production, maintenance of visual quality, and minimal risk to human health over the long-term (BLM 2004, Pages 10-20).

Table 40 lists the total acres of heavy ground disturbance associated with livestock grazing management and other activities associated with each alternative. Alternative 1 represents the amount of ground disturbance associated with past and present management activities (see also Maps 2a, 2b, and 2c). This includes the impacts anticipated from continued grazing under permit numbers 3601232, 3601213, 3601239, as well as grazing associated with a fourth permit associated with several of these allotments, which is not currently up for renewal. These impacts would continue into the foreseeable future. Under Alternatives 2 and 3, there would be about 428 acres of additional or incremental ground disturbance associated with range improvement construction activities and shifts in livestock distribution (as previously described in this chapter; see Map 2d), compared to Alternative 1.

Table 40. Estimated Acres of Concentrated Ground Disturbance from All Management Activities

Allotment	Alternative 1	Alternative 2 and 3	Alternative 4
Grazing Use: Blue Creek Seeding	11	11	0
Grazing Use: FRF Flynn	900	900	0
Grazing Use: Lynch	1	1	0
Grazing Use: Northeast Warner	13,145	13,571.6	0
Grazing Use: Lynch-Flynn	5,312	5,312	0
Grazing Use: East Rabbit Hills	643	644.5	0
Grazing Use: North Rabbit Hills	893	893	0
Roads: All Allotments	66.4	66.4	66.4
TOTAL	20,972.4	21,400.5	66.4

The incremental cumulative effects of removal of grazing, when added to past, present, and reasonably foreseeable future actions, would result in an incremental decrease in total ground disturbance and potential surface recovery of about 20,906 acres across the 7 allotments compared to Alternative 1.

None of the alternatives would be expected to have any measureable or substantial incremental cumulative effects on native American traditional practices, recreation, or visual quality, as the analysis contained earlier in this chapter revealed that there would be little or no direct or indirect effects on these values/issues.

CHAPTER 4 – CONSULTATION AND COORDINATION

List of Preparers

Range Management Specialist	Lori Crumley
Assistant Field Manager (Range)	Theresa Romasko
Fisheries Biologist	James Leal
Natural Resource Specialist (Weeds)	Grace Haskins
Wildlife Biologist	Vernon Stofleth
Outdoor Recreation Planner	Chris Bishop
Cultural Resource Specialist	Bill Cannon
Planning and Environmental Coordinator	Paul Whitman

Agencies and Individuals Consulted

Joe and Julia Flynn
Jack and Breda Flynn
NJN Flynn Investments, LLC

Review Opportunity

The EA and FONSI were made available for review on BLM’s website. A legal notice was also published in the *Lake County Examiner* announcing the availability of the documents for review and the comment period end date. Agencies, native American Tribes, permittees, and members of the public with a known interest in grazing management activities within the allotments were notified by mail of the availability of the EA for review. This mailing list is contained in the project file.

REFERENCES

- Belnap, J., J. Kaltennecker, R. Rosentreter, J. Williams, S. Leonard, and D. Eldridge. 2001. Biological Soil Crusts: Ecology and Management. USDI, BLM and USGS Technical Reference TR-1730-2.
- BLM. 1979a. Wilderness proposed initial inventory. Roadless areas and islands which clearly do not have wilderness characteristics, Oregon and Washington. April 1979. USDI, BLM, Oregon and Washington State Office. Portland, OR.
- BLM. 1979b. Wilderness review. Initial inventory. Final decision on public lands obviously lacking wilderness characteristics and announcement of public lands to be intensively inventoried for wilderness characteristics. August 1979. USDI, BLM, Oregon and Washington State Office. Portland, OR.
- BLM. 1979c. Wilderness review. Intensive inventory. Proposed decision on the intensive wilderness inventory of selected area, Oregon. October 1979. USDI, BLM, Oregon and Washington State Office. Portland, OR.
- BLM. 1980a. Wilderness Review Intensive Inventory—Final Decision on 30 Selected Units in Southeastern Oregon and Proposed Decisions on Other Intensively Inventoried Units in Oregon and Washington. Oregon/Washington State Office, Portland, OR.
- BLM. 1980b. Wilderness Inventory— Oregon and Washington Final Intensive Inventory Decisions. Oregon/Washington State Office, Portland, OR.
- BLM. 1981. Lakeview Grazing Management Draft Environmental Impact Statement. USDI, BLM, Oregon/Washington State Office, Portland, OR.
- BLM. 1981b. Northeast Warner Waterholes and Reservoirs. EA# OR-010-81-71. USDI, BLM Lakeview Resource Area, Lakeview, OR.
- BLM. 1989. Oregon Wilderness Final Environmental Impact Statement. Oregon/Washington State Office, Portland, OR. Four Volumes.
- BLM. 1991. Wilderness Study Report. OR-EA-91-45-8561.6. Oregon/Washington State Office, Portland, OR. 3 volumes.
- BLM. 1996a. Utilization Studies and Residual Measurements. Technical Reference 1734-3 USDI, BLM, Washington Office, Washington, DC.
- BLM. 1996b. Sampling Vegetation Attributes. Technical References 1734-4. USDO, BLM, Washington Office, Washington, DC.
- BLM. 1997. Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington. Oregon State Office, Portland, OR.
- BLM. 2000. Instruction Memorandum No. 2000-022, Change 1. Compliance with the National Environmental Policy Act (NEPA) – Addressing Alternatives for Livestock Grazing Permit Renewals. USDI, BLM, Washington Office, Washington, DC.
- BLM. 2001. Draft Lakeview Resource Management Plan/Environmental Impact Statement. USDI, BLM, Lakeview Resource Area, Lakeview District, Lakeview, OR. 3 volumes.
- BLM 2002. Waterhole, Reservoir, and Well Cleanouts and Repair (Maintenance) within Wilderness Study Areas (WSAs in the Lakeview Resource Area (LRA). EA# OR-010-2002-02. USDI, BLM Lakeview Resource Area, Lakeview, OR.

BLM. 2003a. Lakeview Proposed Resource Management Plan/Final Environmental Impact Statement. USDI, BLM, Lakeview Resource Area, Lakeview District, Lakeview, OR. 4 volumes.

BLM. 2003b. Lakeview Resource Management Plan/Record of Decision. USDI, BLM, Lakeview Resource Area, Lakeview District, Lakeview, OR. 3 volumes.

BLM. 2003c. Instruction Memorandum No. 2003-275 – Change 1. Consideration of Wilderness Characteristics in Land Use Plans (Excluding Alaska). USDI, BLM, Washington Office, Washington, DC.

BLM. 2003d. Rangeland Health Assessment for the Blue Creek Seeding Allotment (#0200). USDI, BLM, Lakeview District, Lakeview, OR. 5 p.

BLM. 2003e. Rangeland Health Standards Assessment. Flynn FRF Allotment (#501), Taylor FRF Allotment (#503), Lynch Allotment (#505), Clover Creek Allotment (#518), and Lynch-Flynn Allotment (#520). USDI, BLM, Lakeview District, Lakeview, OR. 20 p.

BLM. 2003f. Rangeland Health Assessment for the North East Warner Allotment (#0511). USDI, BLM, Lakeview District, Lakeview, OR. 24 p.

BLM. 2003g. Rangeland Health Assessment for the East Rabbit Hills Allotment (#0530). USDI, BLM, Lakeview District, Lakeview, OR. 7p.

BLM. 2003h. Rangeland Health Assessment for the North Rabbit Hills Allotment (#0531). USDI, BLM, Lakeview District, Lakeview, OR. 7 p.

BLM. 2004. Integrated Noxious Weed Management Program. EA#OR-010-2004-03. USDI, BLM Lakeview Resource Area, Lakeview, OR.

BLM. 2007a. H-6300-1-Wilderness Inventory Maintenance in BLM Oregon/Washington. April 2007. Oregon/Washington State Office, Portland, OR.

BLM. 2007b. Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement. USDI, BLM, Washington Office, Washington, DC.

BLM. 2007c. Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Record of Decision September 2007. USDI, BLM, Washington Office, Washington, DC.

BLM. 2008a. H-6300-1-Wilderness Inventory Maintenance in BLM Oregon/Washington. 4-18-08 Current Edition. Oregon/Washington State Office, Portland, OR.

BLM. 2008b. BLM. H-1790-1 - National Environmental Policy Act Handbook. USDI, BLM, Washington Office, Washington, DC.

BLM. 2008c. Wilderness Characteristics Evaluation. West Warm Springs Area. USDI, BLM, Burns and Lakeview Districts, OR. 71 p. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2009. Wilderness Characteristics Evaluation. Fish Creek Rim Proposed WSA Addition Area. USDI, BLM, Lakeview Resource Area, Lakeview District, Lakeview, OR. 10 p. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2010a. Wilderness Character Inventory. Checkerboard Area. USDI, BLM, Lakeview Resource Area, Lakeview District, Lakeview, OR. 20 p. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2010b. Wilderness Character Inventory. Drake Creek Area. USDI, BLM, Lakeview Resource Area, Lakeview District, Lakeview, OR. 12 p. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2011a. Instruction Memorandum No. 2012-043. Greater Sage-Grouse Interim Management Policies and Procedures. USDI, BLM, Washington Office, Washington, DC.

BLM. 2011b. Wilderness Character Inventory. East Rabbit Hills Area. USDI, BLM, Lakeview Resource Area, Lakeview District, Lakeview, OR. 32 p. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2012a. Manual 6310 – Conducting Wilderness Characteristics Inventory on BLM Lands (Public). USDI, BLM, Washington Office, Washington, DC.

BLM. 2012b. Manual 6320 – Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process (Public). USDI, BLM, Washington Office, Washington, DC.

BLM. 2012c. Manual 6330 – Management of Wilderness Study Areas (Public). USDI, BLM, Washington Office, Washington, DC.

BLM. 2012d. Rosebud Allotment #00421 Livestock Grazing Permit Renewal Environmental Assessment. DOI-BLM-OR-L050-2012-0028-EA. USDI, BLM, Lakeview Resource Area. Lakeview, OR. 52 p.

BLM. 2012e. Peter Creek Allotment #00100 Livestock Grazing Permit Renewal Environmental Assessment. DOI-BLM-OR-L050-2012-0014-EA. USDI, BLM, Lakeview Resource Area. Lakeview, OR. 135 p.

BLM. 2013a. Wilderness Characteristics Evaluation. Cox Canyon Area. USDI, BLM, Lakeview Resource Area, Lakeview District, Lakeview, OR. 55 p. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2013b. Wilderness Characteristics Evaluation. West Orejana Area. USDI, BLM, Lakeview Resource Area, Lakeview District, Lakeview, OR. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2013c. Rangeland Health Standards Assessment Update, Blue Creek Seeding #200. USDI, BLM, Lakeview Resource Area, Lakeview, OR. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2013d. Rangeland Health Standards Assessment Update, FRF Flynn #501. USDI, BLM, Lakeview Resource Area, Lakeview, OR. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2013e. Rangeland Health Standards Assessment Update, Lynch #505. USDI, BLM, Lakeview Resource Area, Lakeview, OR. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2013f. Rangeland Health Standards Assessment Update, Northeast Warner #511. USDI, BLM, Lakeview Resource Area, Lakeview, OR. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2013g. Rangeland Health Standards Assessment Update, Lynch-Flynn Allotment #520. USDI, BLM, Lakeview Resource Area, Lakeview, OR. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

BLM. 2013h. Rangeland Health Standards Assessment Update, East Rabbit Hills #530. USDI, BLM, Lakeview Resource Area, Lakeview, OR. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.

- BLM. 2013i. Rangeland Health Standards Assessment Update, North Rabbit Hills #531. USDI, BLM, Lakeview Resource Area, Lakeview, OR. Available at <http://www.blm.gov/or/districts/lakeview/plans/inventas.php>.
- BLM and Forest Service. 1988. Fences. Missoula Technology and Development Center. 210 pp.
- Clark, L., J. Hall, R. McLean, M. Dunbar, K. Klenk, R. Bowen, and C.A. Smeraski. 2006. Susceptibility of greater sage-grouse to experimental infection with West Nile virus. *Journal of Wildlife Diseases*. 42(1):14-22.
- Connelly, J.W., S.T. Knick, M.A. Schroeder, and S.J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.
- DeBess, E. 2009. State of Oregon West Nile virus summary report 2008. Oregon Department of Human Services. Portland, OR.
- Drut, M.S. W.H. Pyle, and J.A. Crawford. 1994. Technical note: diets and food selection of sage grouse chicks in Oregon. *Journal of Range Management*. 47:90-93.
- Gregg, M.A. and J.A. Crawford. 2009. Survival of greater sage-grouse chicks and broods in the Northern Great Basin. *Journal of Wildlife Management*. 73(6):904-913.
- Holechek, Baker, Boren, and Dee Galt. 2006. Grazing Impacts on Rangeland Vegetation: What we Learned. Hanley, Thomas A, 1979, Application of an Herbivore-Plant Model to Rest Rotation Grazing Management on Shrub Steppe Rangeland. *Journal of Range Management* 32(2), March 1979.
- Knick and Connelly. 2011. Greater Sage-Grouse: Ecology and Conservation of the Landscape Species and its Habitats. Studies in Avian Biology Series (vol. 38), University of California Press, Berkeley, CA.
- Manske, L. 2001. Manipulating Grass Plant Growth can enhance forage Production. <http://www.ext.nodak.edu/extnews/newsrelease/2001/042601/07manipu.htm>.
- McNaughton, S.J. 1979. Grazing as an optimization process: Grass-Ungulate relationships in the Serengeti. *The American Naturalist* 113:691-703.
- Naugle, D.E., C.L. Aldridge, B.L. Walker, T.E. Cornish, B.J. Moynahan, M.J. Holloran, K. Brown, G.D. Johnson, E.T. Schmidtman, R.T. Mayer, C.Y. Kato, M.R. Matchett, T.J. Christiansen, W.E. Cook, T. Creekmore, R.D. Falise, E.T. Rinkes, and M.S. Boyce. 2004. West Nile virus: pending crisis for greater sage-grouse. *Ecology Letters* 7:704-713.
- NRCS. 2010. Soil Survey of Lake County, Oregon Southern Part. USDA, NRCS.
- ODFW. 2003. Oregon's Mule Deer Management Plan. February 2003. Oregon Department of Fish and Wildlife, Portland, OR.
- ODFW. 2005. Greater sage-grouse conservation strategy assessment and strategy for Oregon: a plan to maintain and enhance populations and habitat. Oregon Department of Fish and Wildlife, Salem, OR.
- ODFW. 2011. Greater sage-grouse conservation strategy assessment and strategy for Oregon: a plan to maintain and enhance populations and habitat. Oregon Department of Fish and Wildlife, Salem, OR.
- ONDA. 2005. Wilderness Inventory Recommendations: Lakeview BLM District. Bend, OR. 214 p.
- ONDA. 2007. Wilderness Inventory Recommendations: Three Rivers BLM Management Area. Bend, OR. 131 p.

Oregon-Washington Weekly Hay Report. 2012. Accessed July, 2012. http://www.ams.usda.gov/mnreports/ml_gr310.txt.

Porath, M.L., T.E. Bedell, Grass Growth and Development Considerations for Grazing Management. Cattle Producers Library. Published by the Western Beef Resource Committee, Moscow, ID. 2003. CL505:1-5.

Root, H.T., Miller J.E.D., McCune B. 2011. Biotic soil crust lichen diversity and conservation in shrub-steppe habitats of Oregon and Washington. *The Bryologist* 114(4): 796-812.

Stiver, S., E. Rinkes, and D. Naugle. 2010. Sage-Grouse habitat assessment framework. Multi-scale habitat assessment tool. Unpublished Report. USDI, BLM, Idaho State Office, Boise, ID. 135 p.

Stockmans Journal. 2012. Central Oregon Livestock Auction, Madras, OR. Vol. 14 Issue 8 June, 8, 2012.

USFWS. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp.

USFWS. 2010. 50 CFR Part 17, Endangered and Threatened Wildlife and Plants; 12-Month Findings for Petitions to List the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered; Proposed Rule. Federal Register 75:13909-14014.

Deschutes County

Lake County

Map 1 - General Location of Allotments

Fort Rock

Christmas Valley

Silver Lake

Summer Lake

Alkali Lake

Paisley

Valley Falls

Plust

Lakeview

Adel

Westside

Klamath County

Lake County

Lake County

Harney County



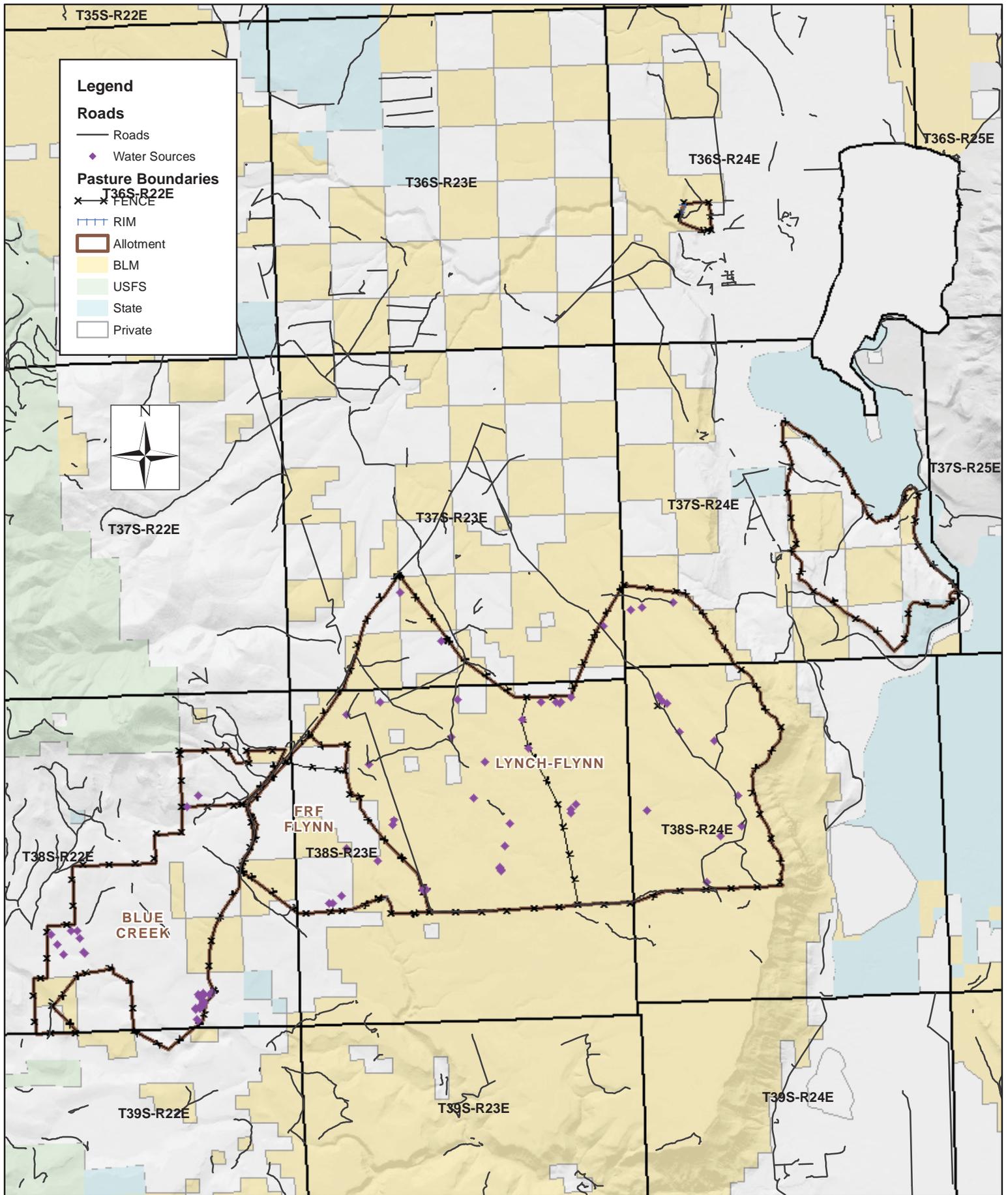
Legend

-  County Boundary
-  Lakeview Resource Area
-  Cities
-  Major Roads
-  Grazing Allotments

0 4.75 9.5 19 Miles



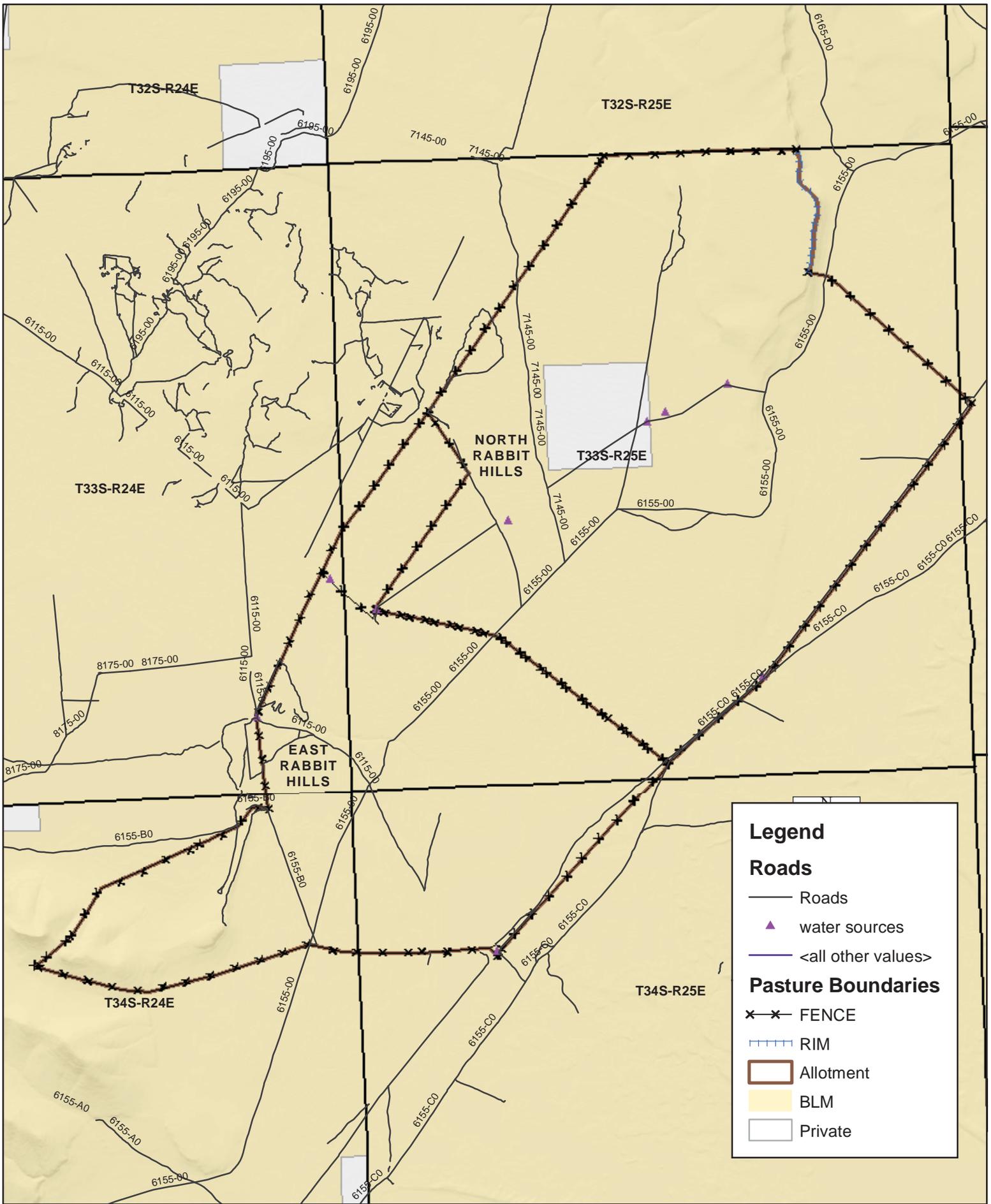
 No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



Map 2a - Existing Range Improvement for Allotments # 00200, 00501, 00505, and 00520

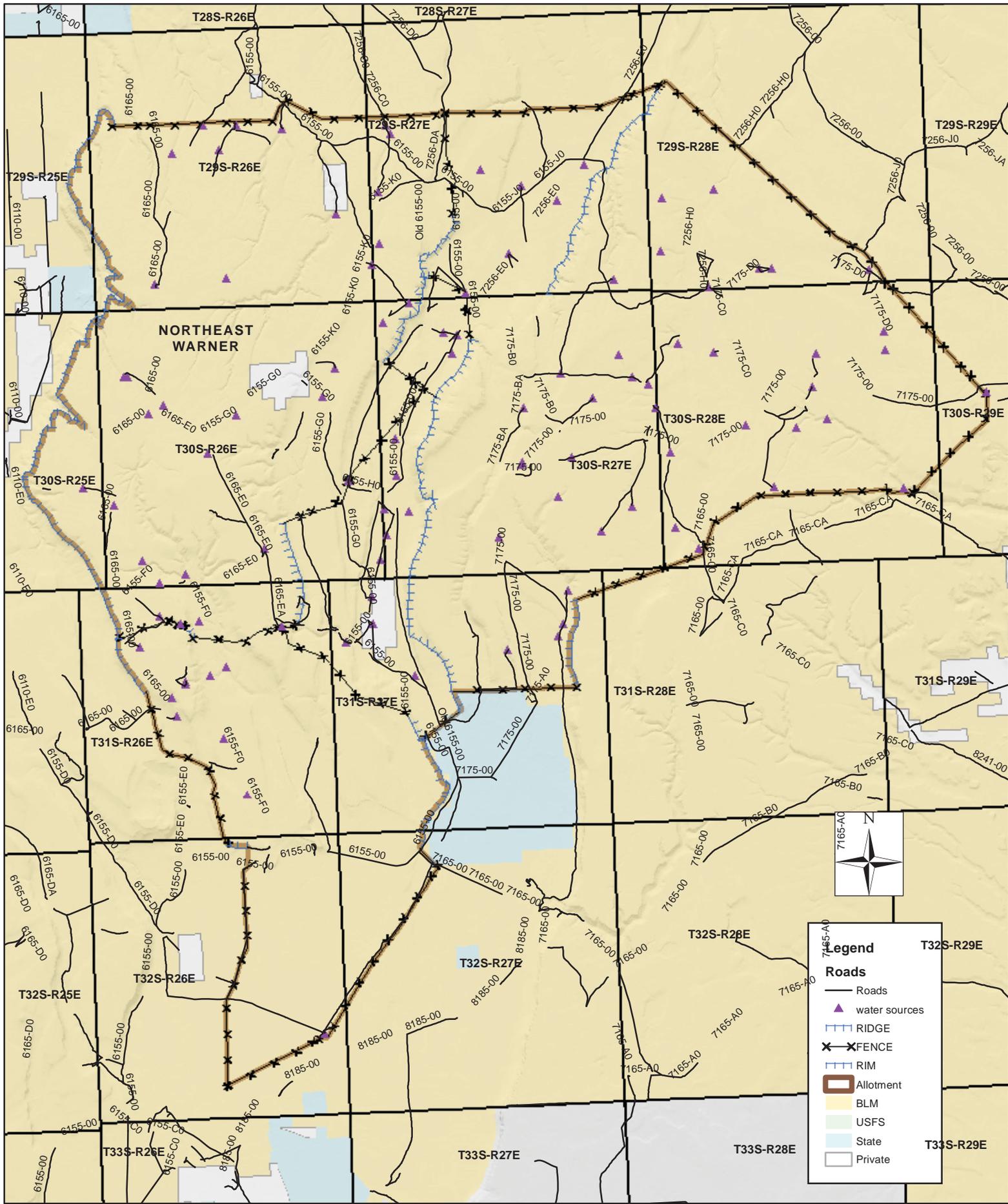
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

0 1.25 2.5 5 Miles



Map 2b - Existing Range Improvement for Allotments # 00530 and 00531

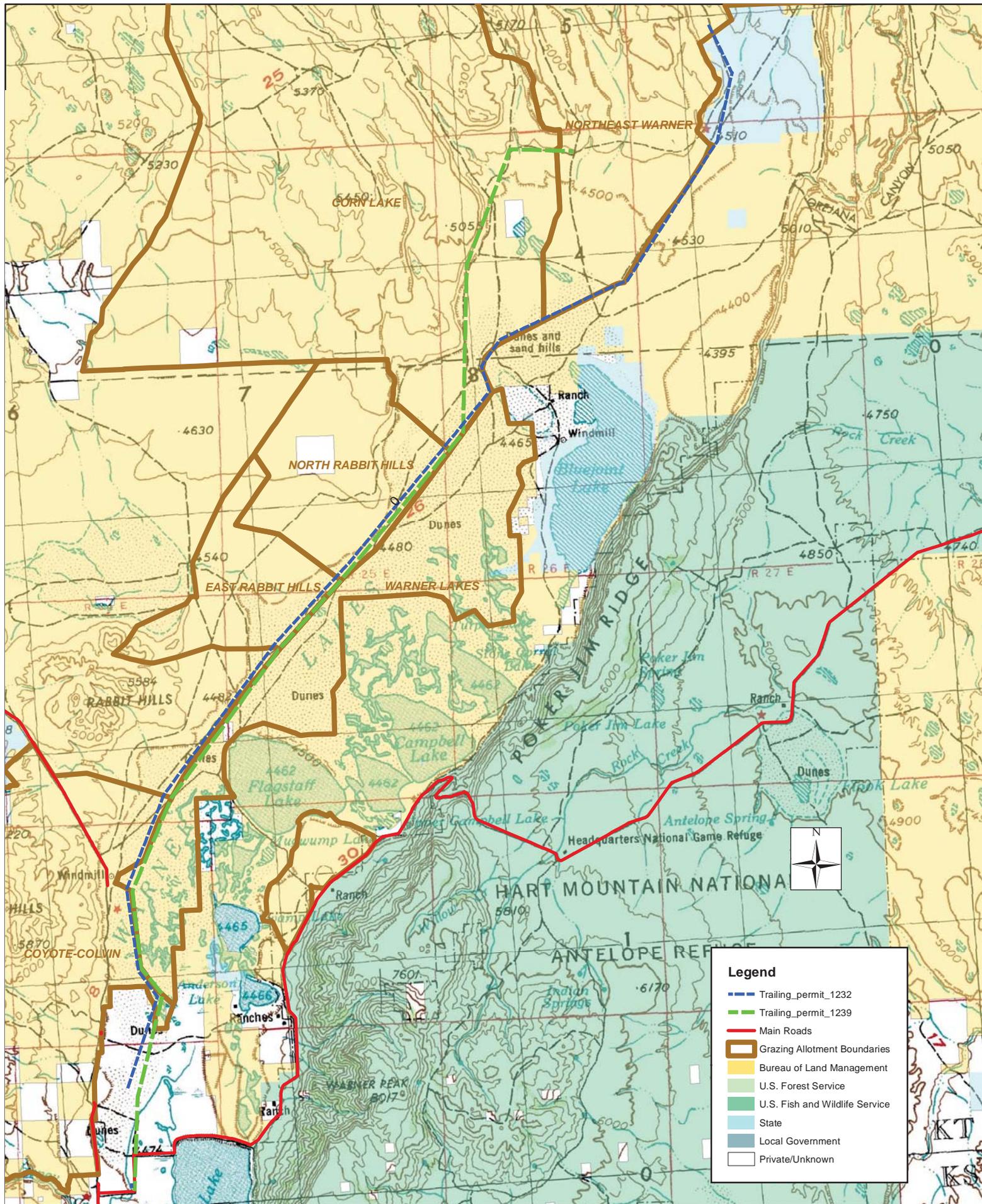
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



Map 2c - Existing Range Improvements in Allotment # 00511

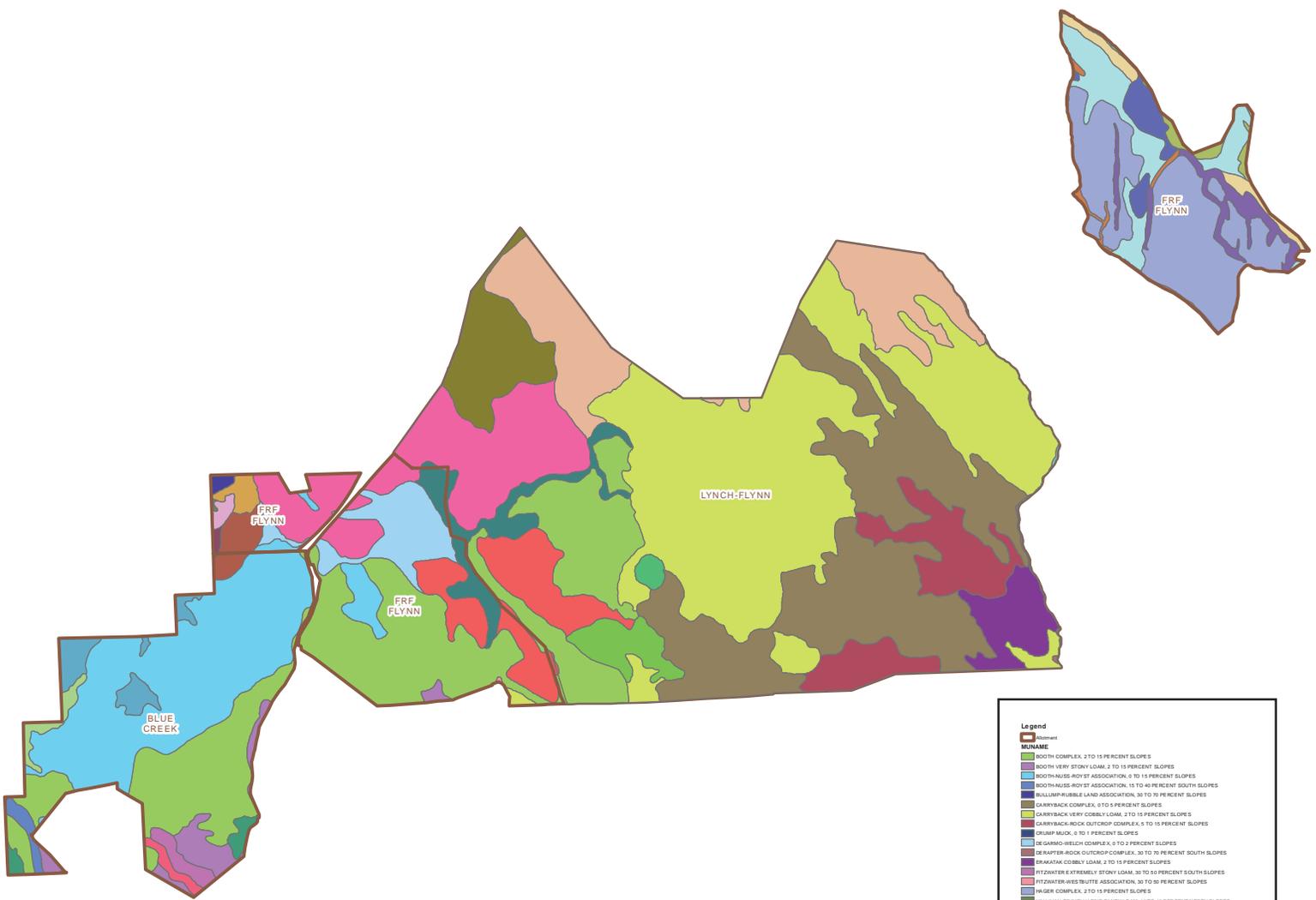
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.





Map 3 -Triling of Livestock

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



Legend

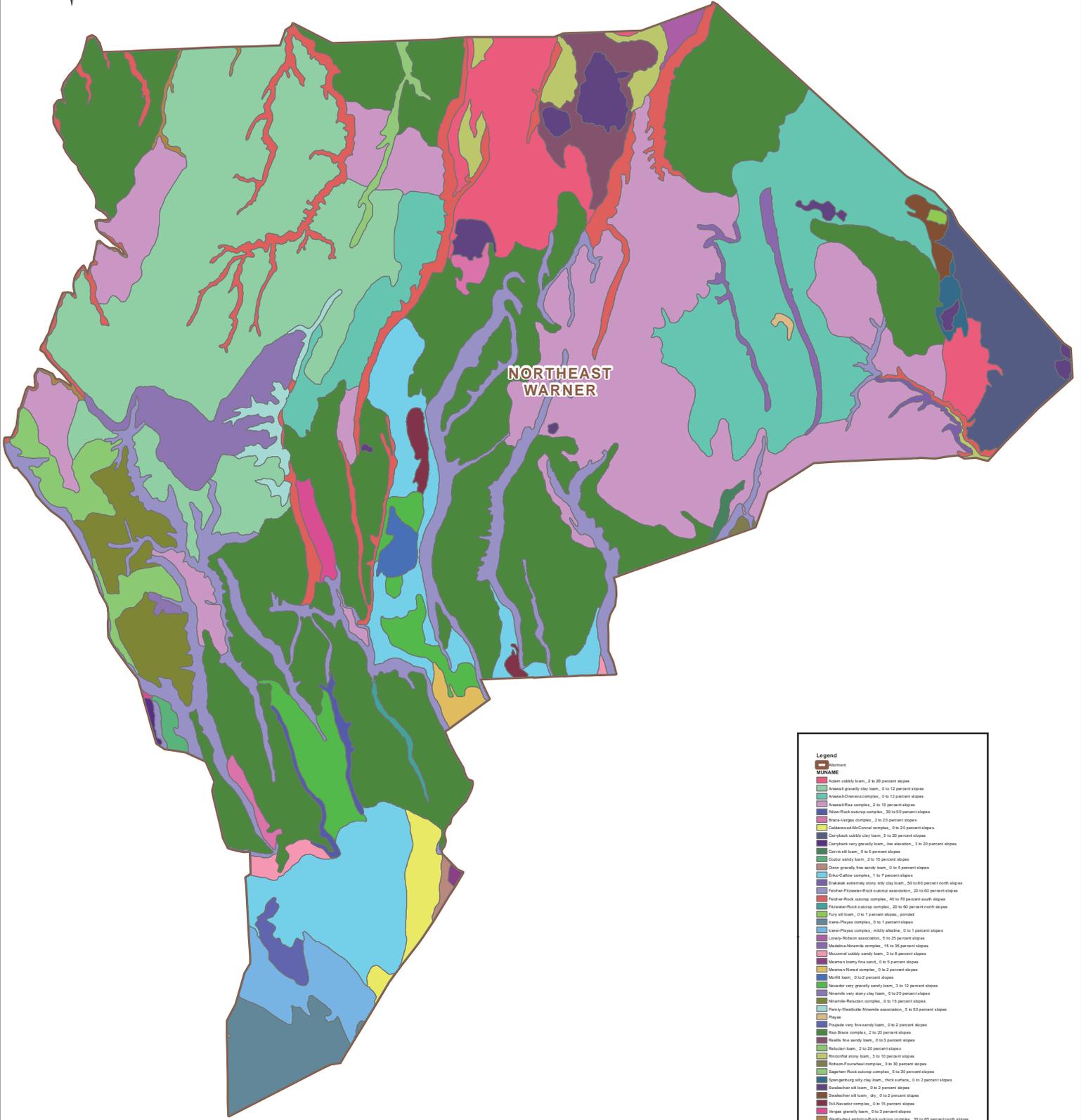
Allotment
 MUNAME

- BOOTH COMPLEX, 2 TO 15 PERCENT SLOPES
- BOOTH VERY STONY LOAM, 2 TO 15 PERCENT SLOPES
- BOOTH-HALES-ROYST ASSOCIATION, 0 TO 15 PERCENT SLOPES
- BOOTH-HALES-ROYST ASSOCIATION, 15 TO 40 PERCENT SOUTH SLOPES
- BULLSHIP-WUBBLE LAND ASSOCIATION, 30 TO 70 PERCENT SLOPES
- CARRYBACK COMPLEX, 0 TO 5 PERCENT SLOPES
- CARRYBACK VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES
- CARRYBACK-ROCK OUTCROP COMPLEX, 15 TO 15 PERCENT SLOPES
- CLUMP MUCK, 0 TO 1 PERCENT SLOPES
- DE GARMO-WELCH COMPLEX, 0 TO 2 PERCENT SLOPES
- DEKARTER-ROCK OUTCROP COMPLEX, 30 TO 70 PERCENT SOUTH SLOPES
- DEKARTER-ROCK OUTCROP COMPLEX, 30 TO 70 PERCENT SOUTH SLOPES
- FITZWATER EXTREMELY STONY LOAM, 30 TO 50 PERCENT SOUTH SLOPES
- FITZWATER-WEIS BUTTE ASSOCIATION, 30 TO 50 PERCENT SLOPES
- HAGER COMPLEX, 2 TO 15 PERCENT SLOPES
- HALLMAN GRAVELLY FINE SANDY LOAM, 15 TO 40 PERCENT NORTH SLOPES
- HART VERY GRAVELLY LOAM, 2 TO 15 PERCENT SLOPES
- KENE PLAYAS COMPLEX, 0 TO 1 PERCENT SLOPES
- MCCONNELL ASSOCIATION, 0 TO 2 PERCENT SLOPES
- MCCONNELL VERY GRAVELLY SANDY LOAM, 2 TO 15 PERCENT SLOPES
- NEILIN EXTREMELY STONY LOAM, 0 TO 15 PERCENT SLOPES
- NEILIN FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
- NEILIN FINE SANDY LOAM, MILDLY ALKALINE, 0 TO 5 PERCENT SLOPES
- ROUND STONY LOAM, 40 TO 60 PERCENT NORTH SLOPES
- ROUND-ROYST ASSOCIATION, 15 TO 40 PERCENT SLOPES
- RADOFF-SHIELDS-VER COMPLEX, 0 TO 2 PERCENT SLOPES
- NEILANDS-HART COMPLEX, 5 TO 15 PERCENT SLOPES
- RAVENHILL EXTREMELY GRAVELLY LOAM, THIN SURFACE, 2 TO 15 PERCENT SLOPES
- RAVENHILL VERY COBBLY LOAM, 0 TO 15 PERCENT SLOPES
- OLD CAMP VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES
- OLAMIS-CRAMP REESE COMPLEX, 0 TO 1 PERCENT SLOPES
- PINT VERY COBBLY LOAM, 0 TO 2 PERCENT SLOPES
- RIDDERANCH-ROCK OUTCROP COMPLEX, 30 TO 70 PERCENT NORTH SLOPES
- ROCK OUTCROP-FELCHER ASSOCIATION, 30 TO 70 PERCENT SOUTH SLOPES
- ROCK OUTCROP-HURBLE LAND COMPLEX, 50 TO 75 PERCENT SLOPES
- SHANLEY LOAM, 0 TO 2 PERCENT SLOPES
- TWELVE MILE VERY GRAVELLY FINE SANDY LOAM, 0 TO 15 PERCENT SLOPES
- TWELVE MILE VERY GRAVELLY FINE SANDY LOAM, 15 TO 40 PERCENT SOUTH SLOPES
- TWELVE MILE VERY GRAVELLY FINE SANDY LOAM, 40 TO 60 PERCENT NORTH SLOPES
- WATER
- WELCH-DEGARMO COMPLEX, 0 TO 2 PERCENT SLOPES
- WHEATFIELD-ROCK OUTCROP COMPLEX, 30 TO 50 PERCENT NORTH SLOPES
- WINTERMERE BY GRAVELLY LOAM, 0 TO 15 PERCENT SLOPES
- WINTERMERE VERY GRAVELLY LOAM, 40 TO 60 PERCENT SOUTH SLOPES
- WOODCHOPPER-RIDGER COMPLEX, 0 TO 15 PERCENT SLOPES

Map 4a - Soil Complexes in the Blue Creek Seeding, FRF Flynn, Lynch, and Lynch-Flynn Allotments

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

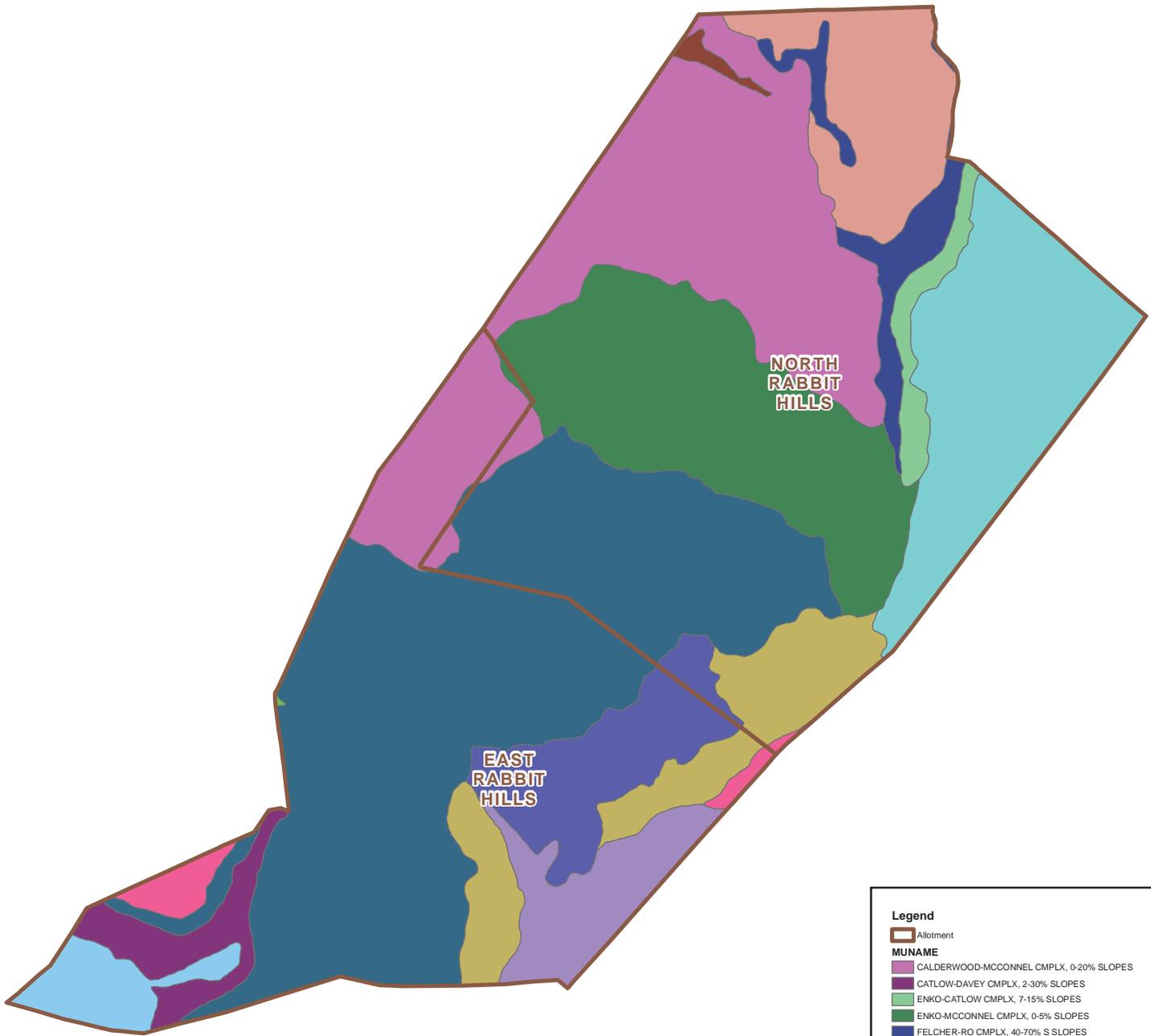




Map 4b - Soil Complexes in the Northeast Warner Allotment

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



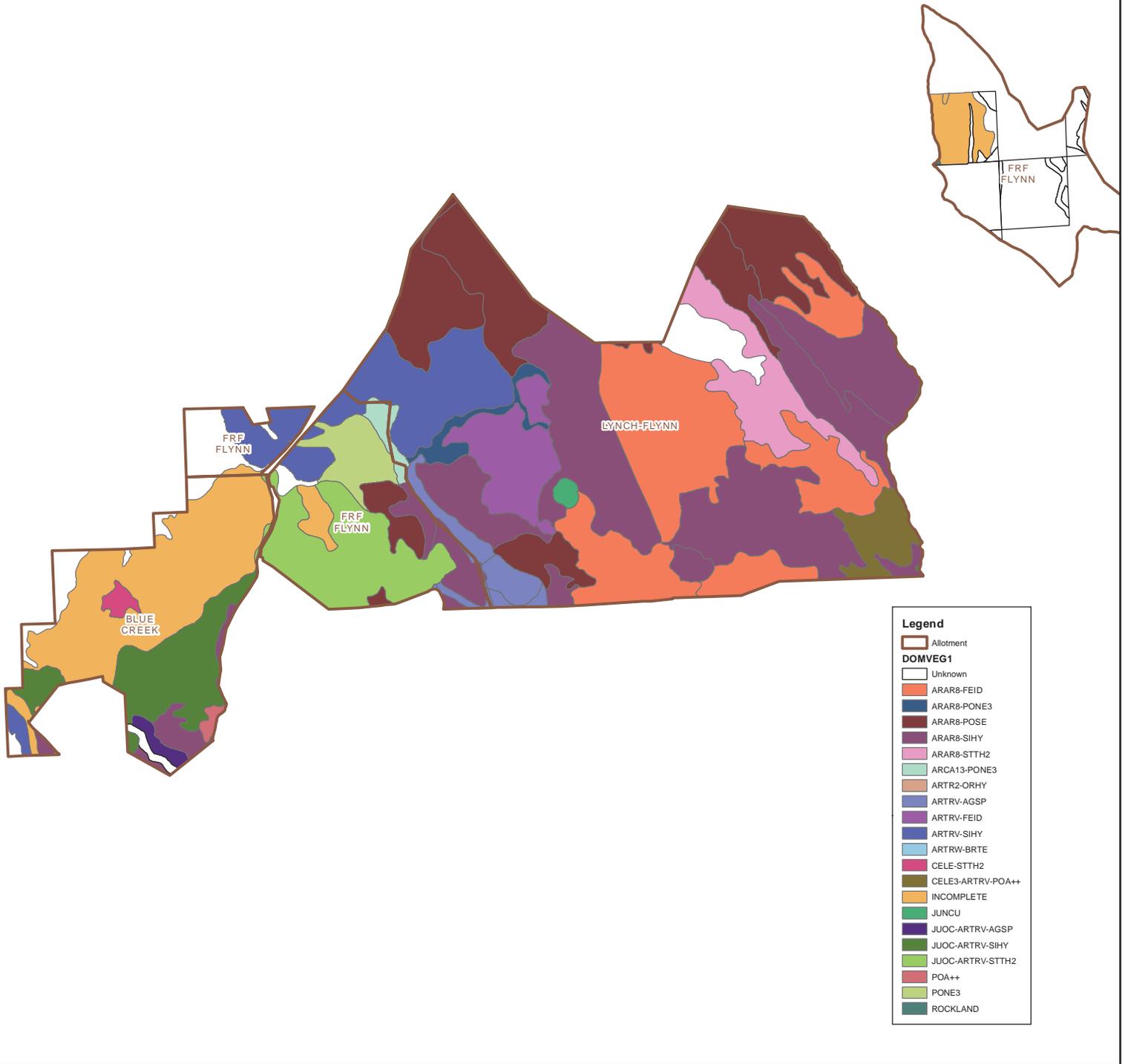


Legend	
	Allotment
MUNAME	
	CALDERWOOD-MCCONNEL CMLPX, 0-20% SLOPES
	CATLOW-DAVEY CMLPX, 2-30% SLOPES
	ENKO-CATLOW CMLPX, 7-15% SLOPES
	ENKO-MCCONNEL CMLPX, 0-5% SLOPES
	FELCHER-RO CMLPX, 40-70% S SLOPES
	ICENE-PLAYAS CMLPX, 0-1% SLOPES
	LEGLER, TAXA- LEGLER CMLPX, 0-3% SLOPES
	MORFITT L, 0-2% SLOPES
	OLDCAMP-FELCHER-RO CMLPX, 15-50% SLOPES
	RABBITHILLS CMLPX, 0-10% SLOPES
	RABBITHILLS GRV-LS, 2-15% SLOPES
	RAZ-BRACE CMLPX, 2-20% SLOPES
	TURPIN-KEWAKE-PLAYAS CMLPX, 0-15% SLOPES
	TURPIN-PLAYAS CMLPX, 0-3% SLOPES
	TURPIN-RABBITCREEK CMLPX, 0-3% SLOPES

Map 4c - Soil Complexes in the East and North Rabbit Hills Allotments

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

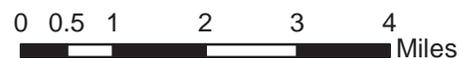


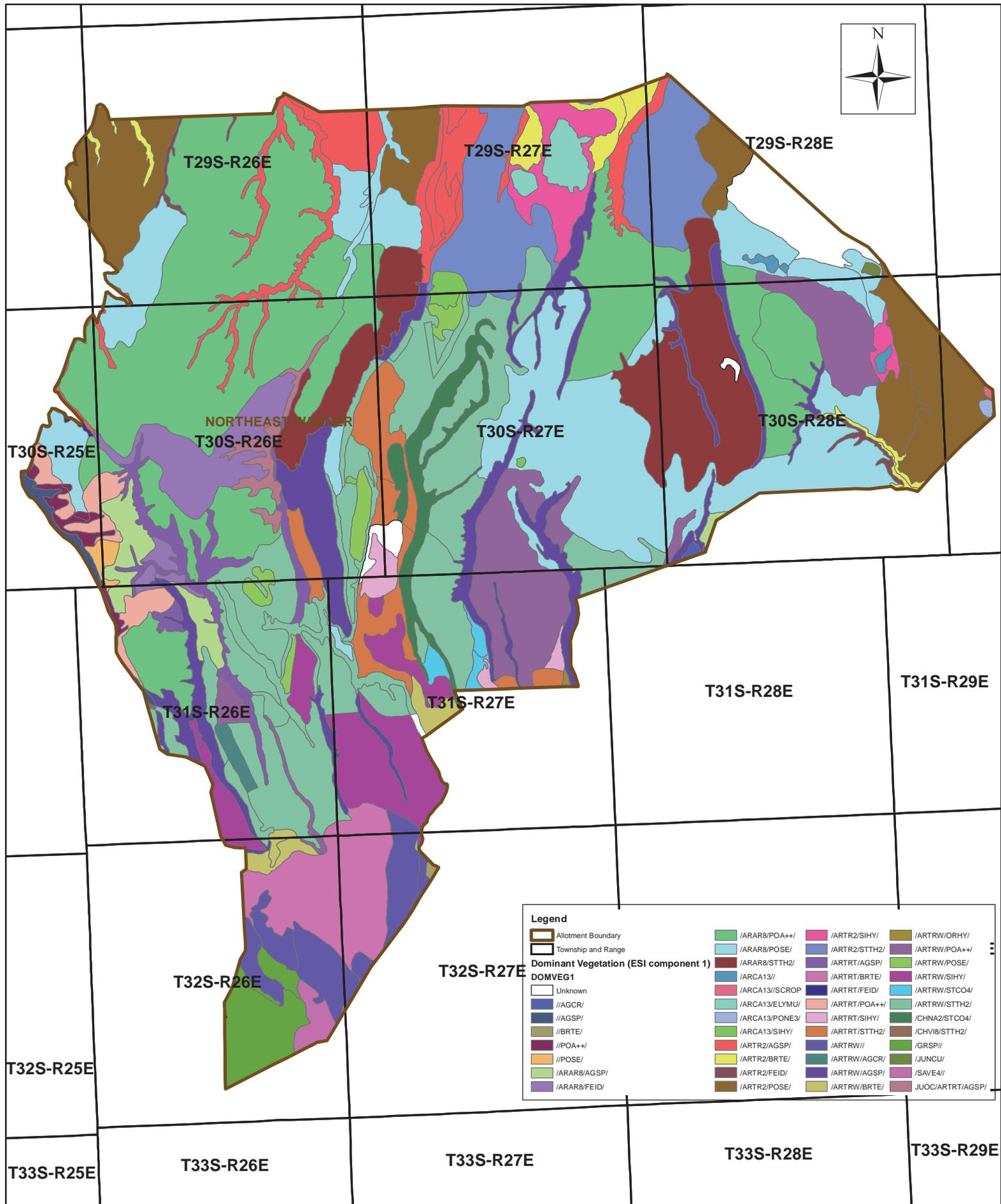


Map 5a - Dominant Vegetation Types for Blue Creek, FRF Flynn, Lynch, and Lynch-Flynn Allotments



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.





Map 5b - Dominant Vegetation Types for Northeast Warner Allotment

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



T32S-R24E

T32S-R25E

T33S-R24E

T33S-R25E
NORTH
RABBIT
HILLS

EAST
RABBIT
HILLS

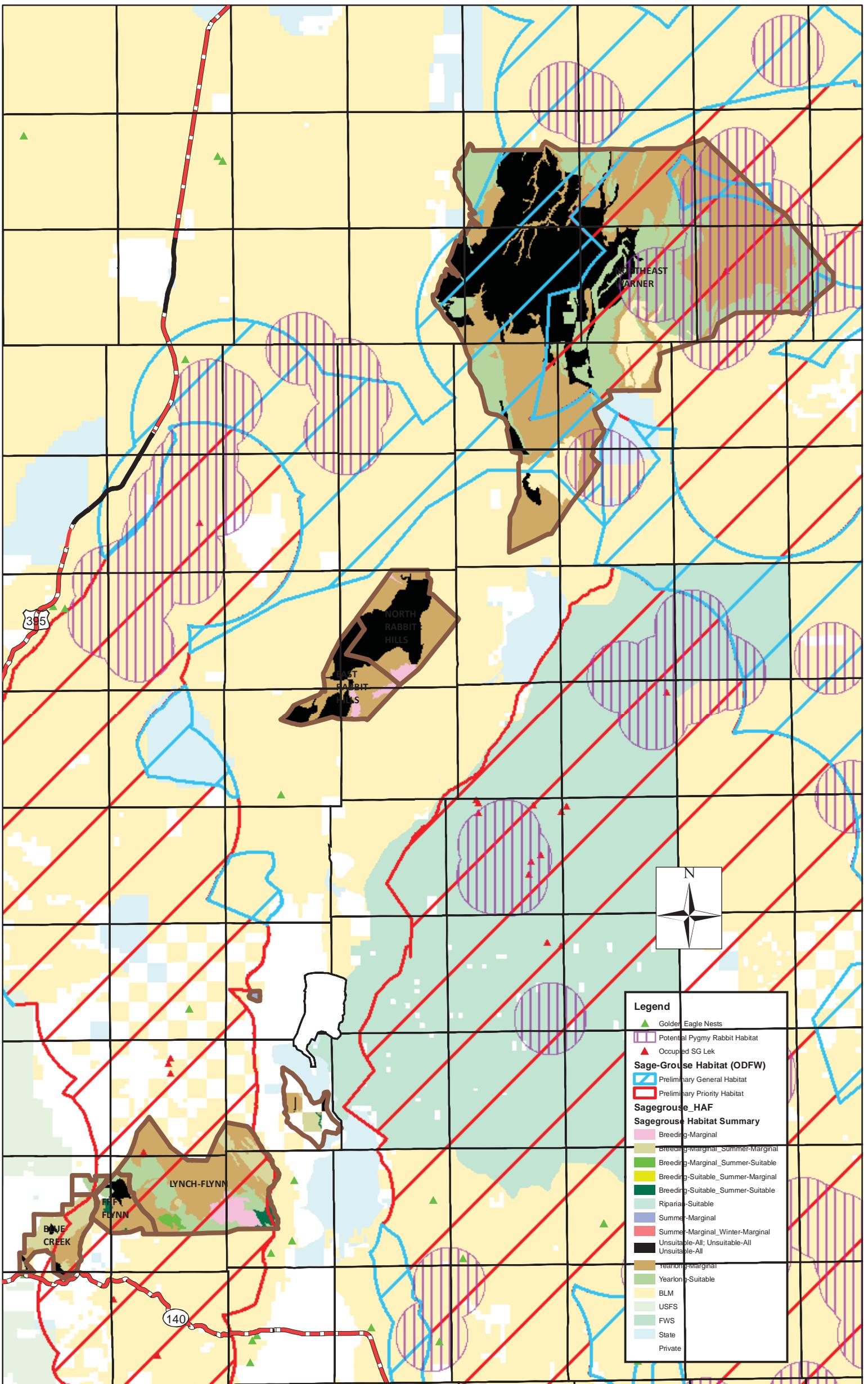
T34S-R24E

T34S-R25E

Legend

- Allotment Boundaries
- Township and Range
- DOMVEG1**
- Unknown
- //AGCR/
- //BRTE/
- //BRTE/DESCU
- /ARTR//
- /ARTR/BRTE/
- /ARTR/ELEL5/
- /ARTRW8/
- /ARTRW8/BRTE/
- /ARTRW8/ELEL5/
- /ARTRW8/LETR5/
- /ARTRW8/ORHY/
- /ARTRW8/STTH2/
- /CHV18/AGCR/
- /CHV18/BRTE/
- /GRSP//
- /GRSP/LETR5/
- /SAVE4/BRTE/
- /SAVE4/LETR5/DESCU

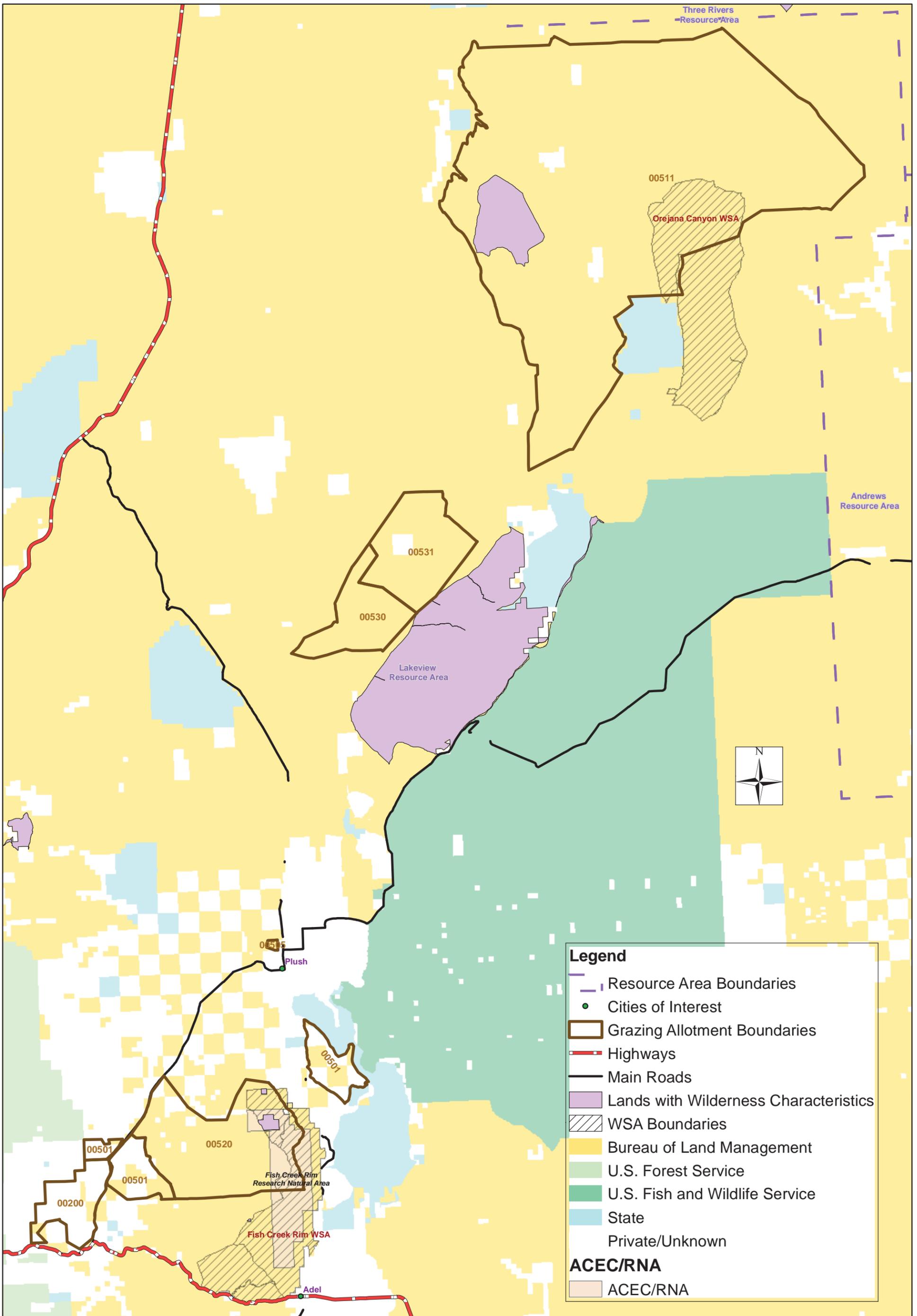
Map 5c - Dominant Vegetation Types for North Rabbit Hills and East Rabbit Hills Allotments



Map 6 - Current Sagegrouse Habitat, Potential Pygmy Rabbit Habitat, and Known Golden Eagle Nests

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.





Map 7 - ACEC/RNAs, WSAs, and Lands with Wilderness Characteristics within Grazing Permit Renewal Area

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

APPENDIX A
Soil and Vegetation Summary Tables from Ecological Site Inventory (ESI) Data

Table A-1. Soils within the Blue Creek Seeding Allotment			
SMU ¹	Soil Series Name	Acres	% of allotment
123C	BOOTH-NUSS-ROYST ASSOCIATION, 0 TO 15 PERCENT SLOPES	3135	53%
24E	BOOTH-NUSS-ROYST ASSOCIATION, 15 TO 40 PERCENT SOUTH SLOPES	88	1%
13C	BOOTH COMPLEX, 2 TO 15 PERCENT SLOPES	1594	27%
12C	BOOTH VERY STONY LOAM, 2 TO 15 PERCENT SLOPES	326	5%
89F	FITZWATER EXTREMELY STONY LOAM, 30 TO 50 PERCENT SOUTH SLOPES	119	2%
171E	MOUND-ROYST-NUSS ASSOCIATION, 15 TO 40 PERCENT SLOPES	71	1%
257E	TWELVEMILE VERY GRAVELLY FINE SANDY LOAM, 15 TO 40 PERCENT SOUTH SLOPES	2	0%
261A	WELCH-DEGARMO COMPLEX, 0 TO 2 PERCENT SLOPES	104	2%
264G	WESTBUTTE-ROCK OUTCROP COMPLEX, 30 TO 70 PERCENT NORTH SLOPES	72	1%
268C	WINTERIM VERY GRAVELLY LOAM, 0 TO 15 PERCENT SLOPES	110	2%
269G	WINTERIM VERY GRAVELLY LOAM, 40 TO 60 PERCENT SOUTH SLOPES	1	0%
276C	WOODCHOPPER-ROGGER COMPLEX, 0 TO 15 PERCENT SLOPES	309	5%

¹SMU - Soil Mapping Unit; refer to Map 4a for locations within the allotment.

Table A-2. Soils within the FRF Flynn Allotment 00501

SMU ¹	Soil Series Name	Acres	% of allotment
13C	BOOTH-NUSS-ROYST ASSOCIATION, 0 TO 15 PERCENT SLOPES	243	2.8%
12C	BOOTH COMPLEX, 2 TO 15 PERCENT SLOPES	1919	22.1%
23C	BOOTH VERY STONY LOAM, 2 TO 15 PERCENT SLOPES	35	0.4%
39G	BULLUMP-RUBBLE LAND ASSOCIATION, 30 TO 70 PERCENT SLOPES	36	0.4%
41C	CARRYBACK VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES	29	0.3%
51C	CRUMP MUCK, 0 TO 1 PERCENT SLOPES	2	0.0%
57A	DEGARMO-WELCH COMPLEX, 0 TO 2 PERCENT SLOPES	732	8.4%
91F	FITZWATER-WESTBUTTE ASSOCIATION, 30 TO 50 PERCENT SLOPES	3	0.0%
100C	HAGER COMPLEX, 2 TO 15 PERCENT SLOPES	2016	23.2%
102E	HALLIHAN GRAVELLY FINE SANDY LOAM, 15 TO 40 PERCENT NORTH SLOPES	5	0.1%
115A	ICENE-PLAYAS COMPLEX, 0 TO 1 PERCENT SLOPES	100	1.1%
153C	MCCONNEL VERY GRAVELLY SANDY LOAM, 2 TO 15 PERCENT SLOPES	246	2.8%
161C	MERLIN EXTREMELY STONY LOAM, 0 TO 15 PERCENT SLOPES	563	6.5%
162B	MESMAN FINE SANDY LOAM, 0 TO 5 PERCENT SLOPES	1	0.0%
166G	MOUND-ROYST-NUSS ASSOCIATION, 15 TO 40 PERCENT SLOPES	161	1.9%
171E	MOUND STONY LOAM, 40 TO 60 PERCENT NORTH SLOPES	110	1.3%
174C	NEWLANDS-HART COMPLEX, 5 TO 15 PERCENT SLOPES	770	8.9%
185C	OLD CAMP VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES	738	8.5%
194A	OZAMIS-CRUMP-REESE COMPLEX, 0 TO 1 PERCENT SLOPES	23	0.3%
197E	PAIT VERY COBBLY LOAM, 5 TO 30 PERCENT SLOPES	176	2.0%
229G	RIDDLERANCH-ROCK OUTCROP COMPLEX, 30 TO 70 PERCENT NORTH SLOPES	346	4.0%
231G	ROCK OUTCROP-FELCHER ASSOCIATION, 30 TO 70 PERCENT SOUTH SLOPES	90	1.0%
250A	SWALESILVER LOAM, 0 TO 2 PERCENT SLOPES	280	3.2%
256C	TWELVEMILE VERY GRAVELLY FINE SANDY LOAM, 0 TO 15 PERCENT SLOPES	0	0.0%
257E	TWELVEMILE VERY GRAVELLY FINE SANDY LOAM, 15 TO 40 PERCENT SOUTH SLOPES	21	0.2%
257G	TWELVEMILE VERY GRAVELLY FINE SANDY LOAM, 40 TO 60 PERCENT NORTH SLOPES	51	0.6%
W	WATER	0	0.0%

¹SMU - Soil Mapping Unit; refer to Map 4a for locations within the allotment.

Table A-3. Soils within the Lynch Allotment

SMU ¹	Soil Series Name	Acres	% of allotment
229G	RIDDLERANCH-ROCK OUTCROP COMPLEX, 30 TO 70 PERCENT NORTH SLOPES	4	2.4%
163B	MESMAN FINE SANDY LOAM, MILDLY ALKALINE, 0 TO 5 PERCENT SLOPES	13	7.2%
153C	MCCONNEL VERY GRAVELLY SANDY LOAM, 2 TO 15 PERCENT SLOPES	76	42.1%
158F	MCCONNEL ASSOCIATION, 30 TO 50 PERCENT SLOPES	38	21.1%
153C	MCCONNEL VERY GRAVELLY SANDY LOAM, 2 TO 15 PERCENT SLOPES	17	9.2%

¹SMU - Soil Mapping Unit; refer to Map 4a for locations within the allotment.

Table A-4. Soils within the Northeast Warner Allotment			
SMU ¹	Soil Series Name	Acres	% of allotment
B590	Actem cobbly loam_ 2 to 20 percent slopes	5183	3.6%
B760	Anawalt-Orenea complex_ 0 to 12 percent slopes	13064	9.1%
B680	Anawalt-Raz complex_ 2 to 10 percent slopes	21125	14.7%
B760	Anawalt gravelly clay loam_ 0 to 12 percent slopes	18997	13.2%
B391	Atlow-Rock outcrop complex_ 30 to 50 percent slopes	412	0.3%
B2840	Brace-Vergas complex_ 2 to 20 percent slopes	466	0.3%
B2950	Calderwood-McConnel complex_ 0 to 20 percent slopes	1041	0.7%
B3150	Carryback cobbly clay loam_ 5 to 20 percent slopes	3048	2.1%
404C	Carryback very gravelly loam_ low elevation_ 3 to 20 percent slopes	54	0.0%
450D	Carvix silt loam_ 0 to 5 percent slopes	144	0.1%
B3230	Coztur sandy loam_ 2 to 15 percent slopes	207	0.1%
B2890	Dixon gravelly fine sandy loam_ 0 to 5 percent slopes	114	0.1%
520B	Enko-Catlow complex_ 1 to 7 percent slopes	7331	5.1%
B1130	Erakatak extremely stony silty clay loam_ 50 to 80 percent north slopes	190	0.1%
B2880	Felcher-Fitzwater-Rock outcrop association_ 20 to 60 percent slopes	8615	6.0%
B1140	Felcher-Rock outcrop complex_ 40 to 70 percent south slopes	5384	3.7%
B2881	Fitzwater-Rock outcrop complex_ 20 to 60 percent north slopes	159	0.1%
B750	Fury silt loam_ 0 to 1 percent slopes_ ponded	53	0.0%
410A	Icene-Playas complex_ 0 to 1 percent slopes	2187	1.5%
B2920	Icene-Playas complex_ mildly alkaline_ 0 to 1 percent slopes	1722	1.2%
B1000	Lonely-Robson association_ 5 to 25 percent slopes	248	0.2%
B2040	Madeline-Ninemile complex_ 15 to 35 percent slopes	742	0.5%
B230	Mcconnel cobbly sandy loam_ 3 to 8 percent slopes	339	0.2%
B2901	Mesman-Norad complex_ 0 to 2 percent slopes	351	0.2%
B2900	Mesman loamy fine sand_ 0 to 5 percent slopes	43	0.0%
B2930	Morfitt loam_ 0 to 2 percent slopes	430	0.3%
B320	Nevador very gravelly sandy loam_ 3 to 12 percent slopes	2461	1.7%
B2260	Ninemile-Reluctan complex_ 0 to 15 percent slopes	2602	1.8%
560E	Ninemile very stony clay loam_ 0 to 20 percent slopes	2726	1.9%
412E	Pernty-Westbutte-Ninemile association_ 5 to 50 percent slopes	743	0.5%
B100	Playas	60	0.0%
63A	Poujade very fine sandy loam_ 0 to 2 percent slopes	443	0.3%
B520	Raz-Brace complex_ 2 to 20 percent slopes	35065	24.4%
B360	Reallis fine sandy loam_ 0 to 3 percent slopes	1610	1.1%
210D	Reluctan loam_ 2 to 20 percent slopes	1799	1.2%
B570	Rinconflat stony loam_ 3 to 10 percent slopes	1206	0.8%
B1010	Robson-Fourwheel complex_ 3 to 30 percent slopes	56	0.0%
B1151	Sagehen-Rock outcrop complex_ 5 to 30 percent slopes	469	0.3%
480A	Spangenburg silty clay loam_ thick surface_ 0 to 2 percent slopes	287	0.2%
B650	Swalesilver silt loam_ 0 to 2 percent slopes	1461	1.0%
B670	Swalesilver silt loam_ dry_ 0 to 2 percent slopes	332	0.2%
B2910	Toll-Nevador complex_ 0 to 15 percent slopes	370	0.3%
B610	Vergas gravelly loam_ 0 to 3 percent slopes	427	0.3%
B2020	Westbutte-Lambring-Rock outcrop complex_ 35 to 65 percent north slopes	196	0.1%

¹SMU - Soil Mapping Unit refer to Map 4b for locations within the allotment.

Table A-5. Soils within the Lynch-Flynn Allotment.

SMU ¹	Soil Series Name	Acres	% of allotment
57A	DEGARMO-WELCH COMPLEX, 0 TO 2 PERCENT SLOPES	1	0%
229G	RIDDLERANCH-ROCK OUTCROP COMPLEX, 30 TO 70 PERCENT NORTH SLOPES	3	0%
232G	ROCK OUTCROP-RUBBLE LAND COMPLEX, 50 TO 75 PERCENT SLOPES	7	0%
60G	DERAPTER-ROCK OUTCROP COMPLEX, 30 TO 70 PERCENT SOUTH SLOPES	14	0%
161C	MERLIN EXTREMELY STONY LOAM, 0 TO 15 PERCENT SLOPES	16	0%
173A	MUDPOT-SWALESILVER COMPLEX, 0 TO 2 PERCENT SLOPES	81	0%
41C	CARRYBACK VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES	88	0%
41C	CARRYBACK VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES	113	1%
13C	BOOTH COMPLEX, 2 TO 15 PERCENT SLOPES	152	1%
41C	CARRYBACK VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES	153	1%
250A	SWALESILVER LOAM, 0 TO 2 PERCENT SLOPES	380	2%
178C	NINEMILE VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES	413	2%
43C	CARRYBACK-ROCK OUTCROP COMPLEX, 5 TO 15 PERCENT SLOPES	430	2%
13C	BOOTH COMPLEX, 2 TO 15 PERCENT SLOPES	542	2%
79C	ERAKATAK COBBLY LOAM, 2 TO 15 PERCENT SLOPES	589	3%
161C	MERLIN EXTREMELY STONY LOAM, 0 TO 15 PERCENT SLOPES	671	3%
43C	CARRYBACK-ROCK OUTCROP COMPLEX, 5 TO 15 PERCENT SLOPES	830	4%
180C	NINEMILE EXTREMELY GRAVELLY LOAM, THIN SURFACE, 2 TO 15 PERCENT SLOPES	961	4%
13C	BOOTH COMPLEX, 2 TO 15 PERCENT SLOPES	1046	5%
174C	NEWLANDS-HART COMPLEX, 5 TO 15 PERCENT SLOPES	1566	7%
42B	CARRYBACK COMPLEX, 0 TO 5 PERCENT SLOPES	2024	9%
41C	CARRYBACK VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES	2059	9%
110C	HART VERY GRAVELLY LOAM, 2 TO 15 PERCENT SLOPES	2083	9%
42B	CARRYBACK COMPLEX, 0 TO 5 PERCENT SLOPES	2879	13%
41C	CARRYBACK VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES	4866	22%

¹SMU - Soil Mapping Unit; refer to Map 4a for locations within the allotment.

Table A-6. Soils within the East Rabbit Hills Allotment.

SMU ¹	Soil Series Name	Acres	% of allotment
B2950	CALDERWOOD-MCCONNELL CMLPX, 0-20% SLOPES	757.59	9%
438B	ENKO-MCCONNELL CMLPX, 0-5% SLOPES	16.42	0%
115A	ICENE-PLAYAS CMLPX, 0-1% SLOPES	53.03	1%
407B	RABBITHILLS GRV-LS, 2-15% SLOPES	4,354.14	51%
419A	LEGLER, TAXA- LEGLER CMLPX, 0-3% SLOPES	2.66	0%
404A	TURPIN-RABBITCREEK CMLPX, 0-3% SLOPES	286.13	3%
408B	RABBITHILLS CMLPX, 0-10% SLOPES	943.53	11%
404A	TURPIN-RABBITCREEK CMLPX, 0-3% SLOPES	376.36	4%
403A	TURPIN-PLAYAS CMLPX, 0-3% SLOPES	746.52	9%
115A	ICENE-PLAYAS CMLPX, 0-1% SLOPES	156.80	2%
423C	CATLOW-DAVEY CMLPX, 2-30% SLOPES	490.70	6%
420D	OLDCAMP-FELCHER-RO CMLPX, 15-50% SLOPES	423.18	5%

¹SMU - Soil Mapping Unit refer to Map 4c for locations within the allotment.

Table A-7. Soils within the North Rabbit Hills Allotment.

SMU ¹	Soil Series Name	Acres	% of allotment
520C	ENKO-CATLOW CMLPX, 7-15% SLOPES	285	2%
B1140	FELCHER-RO CMLPX, 40-70% S SLOPES	365	3%
B520	RAZ-BRACE CMLPX, 2-20% SLOPES	1170	9%
B2950	CALDERWOOD-MCCONNEL CMLPX, 0-20% SLOPES	2999	24%
B2930	MORFITT L, 0-2% SLOPES	57	0%
B1140	FELCHER-RO CMLPX, 40-70% S SLOPES	114	1%
402B	TURPIN-KEWAKE-PLAYAS CMLPX, 0-15% SLOPES	2171	17%
438B	ENKO-MCCONNEL CMLPX, 0-5% SLOPES	2676	21%
115A	ICENE-PLAYAS CMLPX, 0-1% SLOPES	13	0%
407B	RABBITHILLS GRV-LS, 2-15% SLOPES	2172	17%
404A	TURPIN-RABBITCREEK CMLPX, 0-3% SLOPES	572	5%
408B	RABBITHILLS CMLPX, 0-10% SLOPES	115	1%

¹SMU - Soil Mapping Unit refer to Map 4c for locations within the allotment.

Table A-8. Dominant Vegetation in the Blue Creek Seeding Allotment

Range site number	Range Site Name	Dominant Vegetation (Component 1)	dominant veg code ²	OAT ³	Condition Rating	Acres	% of area	Ecological status
021XY216OR	14-18 STONY CLAYPAN		INCOMPLETE	0		3132	57%	Early
021XY212OR	14-18 SHALLOW LOAM	Western Juniper/Mountain Big Sagebrush/Thurber Needlegrass	JUOC-ARTRV-STTH2	29	FAIR	24	0%	Mid
021XY212OR	14-18 SHALLOW LOAM	Western Juniper/Mountain Big Sagebrush/Bottlebrush Squirreltail/Lemmons	JUOC-ARTRV-SIHY	26	FAIR	1452	26%	Mid
CW-S3-13	WHITE FIR PONDEROSA PINE	ceanothus/Thurber Needlegrass	CELE-STTH2	26	FAIR	107	2%	Early
021XY216OR	14-18 STONY CLAYPAN	Low sagebrush/Bottlebrush Squirreltail	ARAR8-SIHY	29	FAIR	52	1%	Mid
CP-F1-11	PONDEROSA PINE WOOLY WYETHIA		INCOMPLETE	0		1	0%	Early
021XY216OR	14-18 STONY CLAYPAN		INCOMPLETE	0		88	2%	Early
021XY216OR	14-18 STONY CLAYPAN		INCOMPLETE	0		3	0%	Early
021XY212OR	14-18 SHALLOW LOAM	Mountain bigsagebrush/Bottlebrush Squirreltail	ARTRV-SIHY	26	FAIR	90	2%	Mid
021XY216OR	14-18 STONY CLAYPAN	Low sagebrush/Bottlebrush Squirreltail	ARAR8-SIHY	24	FAIR	202	4%	Mid
021XY406OR	WET MEADOW	Bluegrass species	POA++	23	FAIR	65	1%	Early
021XY216OR	14-18 STONY CLAYPAN	Low sagebrush/Bottlebrush Squirreltail	ARAR8-SIHY	24	FAIR	2	0%	Mid
023XY302OR	12-16 SOUTH SLOPES	Western Juniper/Mountain Big Sagebrush/Bluebunch Wheatgrass	JUOC-ARTRV-AGSP	26	FAIR	119	2%	Mid
021XY216OR	14-18 STONY CLAYPAN	Low sagebrush/Bottlebrush Squirreltail	ARAR8-SIHY	24	FAIR	69	1%	Mid
	INCOMPLETE					72	1%	
021XY212OR	14-18 SHALLOW LOAM	Wester Juniper/Mountain Big Sagebrush/Bottlebrush Squirreltail.	JUOC-ARTRV-SIHY	26	FAIR	28	1%	Mid

²INCOMPLETE – incomplete data available due to lack of mapping in those areas or possible private land.

³OAT = Observed apparent trend, rating of 26-35 = upward, rating of 17-25 stable, rating of 7-16 = downward.

Table A-9. Dominant Vegetation in the FRF Flynn Allotment

Range site number ²	Range Site Name	Dominant Vegetation (component 1)	Dominant veg code	OAT ³	Condition Rating	Acres	% of area	Ecological status
INCOMPLETE						3	0.1%	
INCOMPLETE						118	1.9%	
INCOMPLETE						29	0.5%	
INCOMPLETE						65	1.0%	
024XY017OR	8-10 SHALLOW LOAM		INCOMPLETE	0		456	7.3%	Early
024XY017OR	8-10 SHALLOW LOAM		INCOMPLETE	0		7	0.1%	Early
INCOMPLETE	MISC		ROCKLAND	0		4	0.1%	Early
INCOMPLETE						4	0.1%	
INCOMPLETE						26	0.4%	
INCOMPLETE						23	0.4%	
INCOMPLETE						18	0.3%	
INCOMPLETE						14	0.2%	
INCOMPLETE						10	0.2%	
INCOMPLETE						55	0.9%	
INCOMPLETE						20	0.3%	
INCOMPLETE						538	8.6%	
INCOMPLETE						13	0.2%	
INCOMPLETE						429	6.8%	
024XY017OR	8-10 SHALLOW LOAM		INCOMPLETE	0		0	0.0%	Early
INCOMPLETE						15	0.2%	
INCOMPLETE						9	0.1%	
INCOMPLETE						2	0.0%	
023XY321OR	12-16 DEEP LOAMY	Mountain Big Sagebrush\Bottlebrush squirrel tail	ARTRV-SIHY	25	FAIR	770	12.3%	Late
023XY200OR	PONDED CLAY	Silver Sagebrush/Sandbergs bluegrass	ARCA13-PONE3	26	GOOD	130	2.1%	Late
023XY414OR	DRY MEADOW	Sandberg bluegrass	PONE3	25	POOR	598	9.5%	Early
021XY212OR	14-18 SHALLOW LOAM	Mountain Big Sagebrush\Bottlebrush squirrel tail	ARTRV-AGSP	29	GOOD	11	0.2%	Late

021XY216OR	14-18 STONY CLAYPAN		INCOMPLETE	0		38	0.6%	Early
021XY212OR	14-18 SHALLOW LOAM	Western Juniper\Mountain Big Sagebrush\Thurber Needlegrass	JUOC-ARTRV-STTH2	29	FAIR	1847	29.4%	Mid
021XY204OR	10+ SHALLOW STONY	Low sagebrush\Sandbergs Bluegrass	ARAR8-POSE	22	FAIR	304	4.8%	Mid
023XY200OR	PONDED CLAY	Low sagebrush\Bottlebrush Squirreltail	ARAR8-SIHY	25	POOR	151	2.4%	Early
021XY216OR	14-18 STONY CLAYPAN		INCOMPLETE	0		189	3.0%	Early
021XY204OR	10+ SHALLOW STONY	Low sagebrush\Bottlebrush Squirreltail	ARAR8-SIHY	29	FAIR	259	4.1%	Mid
021XY213OR	14-18 SHALLOW LOAM	Mountain Big Sagebrush\Bluebunch Wheatgrass	ARTRV-AGSP	29	GOOD	3	0.0%	Late
021XY212OR	14-18 SHALLOW LOAM	Mountain Big Sagebrush\Bluebunch Wheatgrass	ARTRV-AGSP	29	GOOD	58	0.9%	Late
023XY302OR	12-16 SOUTH SLOPES	Mountain Big Sagebrush\Bluebunch Wheatgrass	ARTRV-AGSP	29	FAIR	3	0.0%	Late
021XY216OR	14-18 STONY CLAYPAN	Low sagebrush\Sandbergs Bluegrass	ARAR8-POSE	12	FAIR	35	0.6%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush\Bottlebrush Squirreltail	ARAR8-SIHY	23	FAIR	29	0.5%	Mid

²INCOMPLETE – incomplete data available due to lack of mapping in those areas or possible private land.

³OAT = Observed apparent trend, rating of 26-35 = upward, rating of 17-25 stable, rating of 7-16 = downward.

Table A-10. Dominant Vegetation in the Lynch Allotment

Range site number	Range Site Name	Dominant Vegetation (component 1)	Current dominant veg code	OAT ³	Condition Rating	Acres	% of area	Ecological status
023XY308OR	10-12 N SLOPES	Big Sagebrush/Indian ricegrass	ARTR2-ORHY	24	POOR	4	3%	Early
024XY016OR	8-10 LOAMY	Wyoming Big Sagebrush\Cheatgrass	ARTRW-BRTE	20	FAIR	13	9%	Early
024XY016OR	8-10 LOAMY	Wyoming Big Sagebrush\Cheatgrass	ARTRW-BRTE	20	POOR	76	51%	Early
024XY033OR	6-10 N SLOPES		INCOMPLETE	0		38	26%	Early
024XY016OR	8-10 LOAMY	Wyoming Big Sagebrush\Cheatgrass	ARTRW-BRTE	20	POOR	17	11%	Early

³OAT = Observed apparent trend, rating of 26-35 = upward, rating of 17-25 stable, rating of 7-16 = downward.

Table A-11. Dominant Vegetation in the Northeast Warner Allotment

Range site number	Range Site Name	Dominant Vegetation (component 1)	Dominant vegetation code	OAT ³	Condition Rating	Acres	% of area	Ecological status
023XY310OR	NORTH SLOPES 12-16	Big Sagebrush/ Idaho Fescue	/ARTR2/FEID/	28	GOOD	190	0.1%	Late
023XY300OR	SOUTH SLOPES 8-12	Big Sagebrush/cheatgrass	/ARTR2/BRTE/	22	FAIR	223	0.2%	Mid
						0	0.0%	
023XY212OR	LOAMY 10-12	Big Sagebrush	/ARTR2/POSE/	31	FAIR	846	0.6%	Mid
023XY212OR	LOAMY 10-12	Big Sagebrush	/ARTR2/POSE/	33	GOOD	2914	2.0%	Late
023XY212OR	LOAMY 10-12	Big Sagebrush/Thurber needlegrass	/ARTR2/STTH2/	29	GOOD	3066	2.1%	Mid
023XY300OR	SOUTH SLOPES 8-12	Big Sagebrush/bluebunch wheatgrass	/ARTR2/AGSP/	26	GOOD	643	0.4%	Late
023XY212OR	LOAMY 10-12	Big Sagebrush/cheatgrass	/ARTR2/BRTE/	22	FAIR	248	0.2%	Mid
023XY212OR	LOAMY 10-12	Big Sagebrush/Thurbers needlegrass	/ARTR2/STTH2/	21	FAIR	19	0.0%	Mid
023XY212OR	LOAMY 10-12	Big Sagebrush/Bottlebrush squirreltail	/ARTR2/SIHY/	17	FAIR	1610	1.1%	Mid
023XY212OR	LOAMY 10-12	Big Sagebrush/Sandberg bluegrass	/ARTR2/POSE/	22	GOOD	1138	0.8%	Late
023XY214OR	CLAYPAN 10-12	Low sagebrush/Sangberg bluegrass	/ARAR8/POSE/	30	FAIR	469	0.3%	Mid
023XY212OR	LOAMY 10-12	Big Sagebrush/bluebunch wheatgrass	/ARTR2/AGSP/	34	GOOD	1065	0.7%	Late
023XY300OR	SOUTH SLOPES 8-12	Big Sagebrush/bluebunch wheatgrass	/ARTR2/AGSP/	22	GOOD	1495	1.0%	Late
023XY316OR	DROUGHTY LOAM 11-13	Bluegrass species	//POA++/	16	FAIR	316	0.2%	Mid
023XY310OR	NORTH SLOPES 12-16	Big Sagebrush/Idaho Fescue	/ARTR2/FEID/	30	GOOD	125	0.1%	Late
023XY220OR	CLAYEY 10-12	Big Sagebrush/bluebunch wheatgrass	/ARTR2/AGSP/	26	GOOD	822	0.6%	Late
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Bluegrass species	/ARAR8/POA++/	18	GOOD	15407	10.7%	Late
023XY212OR	LOAMY 10-12	Big Sagebrush/bluebunch wheatgrass	/ARTR2/AGSP/	28	GOOD	97	0.1%	Late
023XY215OR	SHALLOW GR-L 10-12	Low Sagebrush/Thurbers needlegrass	/ARAR8/STTH2/	14	GOOD	5632	3.9%	Late

023XY212OR	LOAMY 10-12	Big Sagebrush/cheatgrass	/ARTR2/BRTE/	22	FAIR	402	0.3%	Mid
023XY300OR	SOUTH SLOPES 8-12	Big Sagebrush/bluebunch wheatgrass	/ARTR2/AGSP/	33	FAIR	539	0.4%	Mid
023XY212OR	LOAMY 10-12	Big Sagebrush/cheatgrass	/ARTR2/BRTE/	27	FAIR	368	0.3%	Mid
023XY300OR	SOUTH SLOPES 8-12	Big Sagebrush/bluebunch wheatgrass	/ARTR2/AGSP/	33	FAIR	132	0.1%	Mid
023XY200OR	PONDED CLAY	Silver sagebrush/Basin Wildrye	/ARCA13/ELYMU/	23	POOR	691 1940	0.5% 1.3%	Early
023XY214OR	CLAYPAN 10-12	Low sagebrush/Bluegrass species	/ARAR8/POA++/	16	FAIR	3499	2.4%	Mid
023XY212OR	LOAMY 10-12	Big Sagebrush/bluebunch wheatgrass	/ARTR2/AGSP/	28	GOOD	275	0.2%	Late
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	19	FAIR	605	0.4%	Mid
023XY200OR	PONDED CLAY	Silver sagebrush/Basin Wildrye Wyoming	/ARCA13/ELYMU/	23	POOR	153	0.1%	Early
023XY300OR	SOUTH SLOPES 8-12	Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	18	GOOD	644	0.4%	Late
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	31	GOOD	764	0.5%	Late
023XY214OR	CLAYPAN 10-12	Bluegrass species	//POA++/	22	POOR	28	0.0%	Early
023XY300OR	SOUTH SLOPES 8-12	Big sagebrush/bluebunch wheatgrass	/ARTR2/AGSP/	22	GOOD	237	0.2%	Late
023XY215OR	SHALLOW GR-L 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	17	GOOD	925	0.6%	Mid
023XY220OR	CLAYEY 10-12	Big Sagebrush/Thurbers needlegrass	/ARTR2/STTH2/	31	FAIR	3516	2.4%	Mid
023XY318OR	LOAMY 12-16	Low Sagebrush/Sanbergs bluegrass	/ARTR2/POSE/	27	FAIR	3048	2.1%	Mid
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	18	GOOD	436	0.3%	Late
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Bluegrass species	/ARAR8/POA++/	16	FAIR	1398	1.0%	Mid
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	8	POOR	7999	5.6%	Early
023XY215OR	SHALLOW GR-L 10-12	Low Sagebrush/Bluegrass species	/ARAR8/POA++/	12	FAIR	1725	1.2%	Mid
023XY324OR	SHALLOW SWALE 10-14	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	23	GOOD	332	0.2%	Late

023XY200OR	PONDED CLAY	Silver sagebrush	/ARCA13//	27	POOR	107	0.1%	Early
023XY215OR	SHALLOW GR-L 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	22	FAIR	524	0.4%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Thurbers Needlegrass	/ARTRW/STTH2/	21	FAIR	485	0.3%	Mid
023XY100OR	LAKEBED	Rush	/JUNCU/	26	POOR	53	0.0%	Early
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	23	GOOD	319	0.2%	Late
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	8	POOR	335	0.2%	Early
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	18	GOOD	306	0.2%	Late
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/bluegrass species	/ARTRW/POA++/	13	FAIR	1870	1.3%	Mid
023XY215OR	SHALLOW GR-L 10-12	Low Sagebrush/Thurbers needlegrass	/ARAR8/STTH2/	18	GOOD	2318	1.6%	Late
023XY310OR	NORTH SLOPES 12-16	Big Sagebrush/bluebunch wheatgrass	/ARTR2/AGSP/	29	GOOD	8	0.0%	Late
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	23	GOOD	260	0.2%	Late
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	21	FAIR	3038	2.1%	Mid
023XY215OR	SHALLOW GR-L 10-12	Low Sagebrush/Bluegrass species	/ARAR8/POA++/	12	FAIR	1279	0.9%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Sandberg bluegrass	/ARTRW/POSE/	12	FAIR	235	0.2%	Mid
024XY114OR	SODIC LAKE TERRACE	Wyoming Sagebrush/cheatgrass	/ARTRW/BRTE/	12	POOR	351	0.2%	Early
023XY200OR	PONDED CLAY	Silver sagebrush/Bottlebrush squirreltail	/ARCA13/SIHY/	15	POOR	310	0.2%	Early
024XY016OR	LOAMY 8-10	Big sagebrush/Bottlebrush squirreltail	/ARTR2/SIHY/	26	FAIR	287	0.2%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Bottlebrush squirreltail	/ARTRW/SIHY/	16	FAIR	649	0.5%	Mid
023XY308OR	NORTH SLOPES 10-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	27	FAIR	159	0.1%	Mid

023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	21	FAIR	84	0.1%	Mid
023XY212OR	LOAMY 10-12	Big Sagebrush/Sandberg bluegrass	/ARTR2/POSE/	29	FAIR	1	0.0%	Mid
023XY200OR	PONDED CLAY	Silver sagebrush	/ARCA13//	21	POOR	74	0.1%	Early
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	16	GOOD	258	0.2%	Late
023XY216OR	CLAYPAN 12-16	Low Sagebrush/Idaho Fescue Wyoming	/ARAR8/FEID/	22	GOOD	2629	1.8%	Late
023XY300OR	SOUTH SLOPES 8-12	Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	18	GOOD	189	0.1%	Late
024XY018OR	SANDY LOAM 8-10	Basin Big Sagebrush/Thurbers Needlegrass	/ARTRT/STTH2/	12	FAIR	1209	0.8%	Mid
023XY220OR	CLAYEY 10-12	Big sagebrush/Sandgergs bluegrass	/ARTR2/POSE/	28	FAIR	827	0.6%	Mid
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Sandbergs bluegrass	/ARAR8/POSE/	8	POOR	603	0.4%	Early
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	26	GOOD	521	0.4%	Late
023XY200OR	PONDED CLAY	Silver sagebrush/ figwort	/ARCA13//SCROP	17	POOR	27	0.0%	Early
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	13	FAIR	761	0.5%	Mid
023XY300OR	SOUTH SLOPES 8-12	Big Sagebrush/cheatgrass	/ARTR2/BRTE/	30	FAIR	12	0.0%	Mid
023XY200OR	PONDED CLAY	Silver sagebrush/Sandbergs bluegrass	/ARCA13/PONE3/	29	FAIR	60	0.0%	Mid
023XY300OR	SOUTH SLOPES 8-12	Big Sagebrush/ cheatgrass	/ARTR2/BRTE/	30	FAIR	175	0.1%	Mid
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	18	GOOD	848	0.6%	Late
024XY030OR	SHALLOW LOAMY SLOPES 6-10	Wyoming Sagebrush/ bluegrass species	/ARTRW/POA++/	21	GOOD	191	0.1%	Late
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	8	POOR	2361	1.6%	Early
023XY300OR	SOUTH SLOPES 8-12	Basin Big Sagebrush/ Bluebunch wheatgrass	/ARTRT/AGSP/	23	FAIR	1570	1.1%	Mid
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Bluebunch Wheatgrass	/ARAR8/AGSP/	27	GOOD	102	0.1%	Late
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/cheatgrass	/ARTRW/BRTE/	16	POOR	131	0.1%	Early
023XY214OR	CLAYPAN 10-12		/ARAR8/POSE/	13	FAIR	266	0.2%	Mid

023XY300OR	SOUTH SLOPES 8-12	Basin Big Sagebrush/ Bluebunch wheatgrass	/ARTRT/AGSP/	22	GOOD	13	0.0%	Late
023XY019OR	SILT LOAM TERRACE 10-12	Crested wheatgrass	//AGCR/	15	GOOD	56	0.0%	Potential
024XY005OR	SODIC DUNES	Cheatgrass	//BRTE/	16	POOR	43	0.0%	Early
023XY212OR	LOAMY 10-12	Big Sagebrush/cheatgrass	/ARTR2/BRTE/	29	GOOD	65	0.0%	Mid
023XY316OR	DROUGHTY LOAM 11-13	Basin Big Sagebrush/Bluegrass species	/ARTRT/POA++/	18	FAIR	190	0.1%	Mid
024XY017OR	SHALLOW LOAM 8- 10	Wyoming Sagebrush	/ARTRW//	12	POOR	1041	0.7%	Early
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Bluegrass species	/ARAR8/POA++/	18	GOOD	772	0.5%	Late
023XY300OR	SOUTH SLOPES 8-12	Blue Blunch Wheatgrass	//AGSP/	26	GOOD	12	0.0%	Late
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	16	GOOD	391	0.3%	Late
023XY300OR	SOUTH SLOPES 8-12	Blue Blunch Wheatgrass	//AGSP/	26	GOOD	383	0.3%	Late
023XY300OR	SOUTH SLOPES 8-12	Basin Big Sagebrush/ Bluebunch wheatgrass	/ARTRT/AGSP/	22	GOOD	26	0.0%	Late
023XY316OR	DROUGHTY LOAM 11-13	Bluegrass species	//POA++/	16	FAIR	36	0.0%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ bluegrass species	/ARTRW/POA++/	14	FAIR	3728	2.6%	Mid
023XY216OR	CLAYPAN 12-16	Low Sagebrush/Bluebunch wheatgrass	/ARAR8/AGSP/	19	GOOD	877	0.6%	Late
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	18	GOOD	193	0.1%	Late
023XY316OR	DROUGHTY LOAM 11-13	Basin Big Sagebrush/ Bluegrass species	/ARTRT/POA++/	18	FAIR	539	0.4%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Thurbers Needlegrass	/ARTRW/STTH2/	21	FAIR	691	0.5%	Mid
023XY200OR	PONDED CLAY	Silver sagebrush/Bottlebrush squirreltail	/ARCA13/SIHY/	15	POOR	20	0.0%	Early
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ bluegrass species	/ARTRW/POA++/	14	FAIR	275	0.2%	Mid
023XY200OR	PONDED CLAY	Silver sagebrush/Bottlebrush squirreltail	/ARCA13/SIHY/	15	POOR	18	0.0%	Early

023XY214OR	CLAYPAN 10-12	Bluegrass species	//POA++/	22	POOR	13	0.0%	Early
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Sandberg bluegrass	/ARTRW/POSE/	15	FAIR	363	0.3%	Mid
024XY018OR	SANDY LOAM 8-10	Basin Big Sagebrush/ cheatgrass	/ARTRT/BRTE/	13	POOR	4143	2.9%	Early
023XY310OR	NORTH SLOPES 12-16	Basin Big Sagebrush/ Idaho Fescue	/ARTRT/FEID/	25	GOOD	44	0.0%	Late
023XY310OR	NORTH SLOPES 12-16	Big Sagebrush/ Idaho Fescue	/ARTR2/FEID/	30	GOOD	20	0.0%	Late
024XY018OR	SANDY LOAM 8-10	Basin Big Sagebrush/Thurbers Needlegrass	/ARTRT/STTH2/	12	FAIR	269	0.2%	Mid
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	8	POOR	217	0.2%	Early
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Bluegrass species	/ARAR8/POA++/	18	GOOD	1102	0.8%	Late
023XY300OR	SOUTH SLOPES 8-12	Basin Big Sagebrush/ Bluebunch wheatgrass	/ARTRT/AGSP/	22	GOOD	322	0.2%	Late
023XY316OR	DROUGHTY LOAM 11-13	Basin Big Sagebrush/ Bluegrass species	/ARTRT/POA++/	18	FAIR	82	0.1%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	18	FAIR	1723	1.2%	Mid
023XY212OR	LOAMY 10-12	Basin Big Sagebrush/Thurbers Needlegrass	/ARTRT/STTH2/	23	GOOD	416	0.3%	Late
023XY302OR	SOUTH SLOPES 12-16	Western Juniper/ Basin Big sagebrush/ Bluebunch wheatgrass	JUOC/ARTRT/AGSP/	20	GOOD	99	0.1%	Late
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Bluegrass species	/ARAR8/POA++/	18	GOOD	318	0.2%	Late
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	19	FAIR	1647	1.1%	Mid
				0		297	0.2%	Early

024XY018OR	SANDY LOAM 8-10	Basin Big Sagebrush/Thurbers Needlegrass	/ARTRT/STTH2/	12	FAIR	941	0.7%	Mid
024XY014OR	SODIC TERRACE 6-10	Wyoming Sagebrush	/ARTRW//	12	POOR	964	0.7%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	14	GOOD	72	0.0%	Late
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	15	FAIR	2066	1.4%	Mid
024XY007OR	DRY PONDED CLAY 6-10	Basin Big Sagebrush/Bottlebrush Squirreltail	/ARTRT/SIHY/	18	FAIR	430	0.3%	Mid
023XY216OR	CLAYPAN 12-16	Low Sagebrush/Idaho Fescue	/ARAR8/FEID/	26	EXCE	183	0.1%	Potential
023XY216OR	CLAYPAN 12-16	Sandbergs bluegrass	//POSE/	15	POOR	238	0.2%	Early
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	15	FAIR	656	0.5%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	16	FAIR	1	0.0%	Mid
023XY216OR	CLAYPAN 12-16	Low Sagebrush/Idaho Fescue	/ARAR8/FEID/	26	EXCE	116	0.1%	Potential
024XY014OR	SODIC TERRACE 6-10	Wyoming Sagebrush	/ARTRW//	12	POOR	443	0.3%	Mid
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Idaho Fescue	/ARAR8/FEID/	22	GOOD	92	0.1%	Late
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	27	GOOD	1203	0.8%	Late
023XY316OR	DROUGHTY LOAM 11-13	Bluegrass species	//POA++/	16	FAIR	93	0.1%	Mid
024XY018OR	SANDY LOAM 8-10	Wyoming Sagebrush/Needle and threadgrass	/ARTRW/STCO4/	14	FAIR	129	0.1%	Mid
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	18	GOOD	117	0.1%	Late
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Bluebunch Wheatgrass	/ARAR8/AGSP/	16	FAIR	462	0.3%	Mid
023XY316OR	DROUGHTY LOAM 11-13	Basin Big Sagebrush/Bluegrass species	/ARTRT/POA++/	18	FAIR	478	0.3%	Mid

024XY016OR	LOAMY 8-10	Wyoming Sagebrush/ Bottlebrush squirreltail	/ARTRW/SIHY/	13	POOR	72	0.0%	Early
023XY316OR	DROUGHTY LOAM 11-13	Basin Big Sagebrush/ Bluebunch wheatgrass	/ARTRT/AGSP/	25	GOOD	64	0.0%	Late
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	15	FAIR	127	0.1%	Mid
024XY018OR	SANDY LOAM 8-10	Wyoming Sagebrush/Needle and threadgrass	/ARTRW/STCO4/	14	FAIR	127	0.1%	Mid
023XY214OR	CLAYPAN 10-12	Low Sagebrush/Sanbergs bluegrass	/ARAR8/POSE/	13	FAIR	94	0.1%	Mid
023XY316OR	DROUGHTY LOAM 11-13	Basin Big Sagebrush/ Bluebunch wheatgrass	/ARTRT/AGSP/	25	GOOD	98	0.1%	Late
023XY216OR	CLAYPAN 12-16	Low Sagebrush/Bluegrass species	/ARAR8/POA++/	13	FAIR	1187	0.8%	Mid
024XY016OR	LOAMY 8-10	Wyoming Sagebrush/ Bottlebrush squirreltail	/ARTRW/SIHY/	13	POOR	659	0.5%	Early
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	15	FAIR	91	0.1%	Mid
024XY018	SANDYLOAM	Basin Big Sagebrush/Bottlebrush Squirreltail	/ARTRT/SIHY/	15	POOR	113	0.1%	Early
024XY014OR	SODIC TERRACE 6- 10	Wyoming Sagebrush	/ARTRW//	12	POOR	407	0.3%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Bottlebrush squirreltail	/ARTRW/SIHY/	13	FAIR	459	0.3%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Sandberg bluegrass	/ARTRW/POSE/	15	FAIR	118	0.1%	Mid
023XY212OR	LOAMY 10-12	Green Rabbitbrush/Thurbers Needlegrass	/CHVI8/STTH2/	23	FAIR	11	0.0%	Mid
024XY018OR	SANDY LOAM 8-10	Wyoming Sagebrush/ Needle and threadgrass	/ARTRW/STCO4/	14	FAIR	169	0.1%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Thurbers Needlegrass	/ARTRW/STTH2/	16	FAIR	297	0.2%	Mid
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/ Thurbers Needlegrass	/ARTRW/STTH2/	16	GOOD	1197	0.8%	Late
024XY110OR	DUNES	Basin Big Sagebrush/Bottlebrush Squirreltail	/ARTRT/SIHY/	14	FAIR	88	0.1%	Mid
024XY016OR	LOAMY 8-10	Wyoming Sagebrush/ Indian ricegrass	/ARTRW/ORHY/	23	GOOD	27	0.0%	Late

024XY018OR	SANDY LOAM 8-10	Basin Big Sagebrush/Thurbers Needlegrass	/ARTRT/STTH2/	13	FAIR	157	0.1%	Mid
024XY018OR	SANDY LOAM 8-10	Basin Big Sagebrush/Thurbers Needlegrass	/ARTRT/STTH2/	13	FAIR	75	0.1%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	14	GOOD	249	0.2%	Late
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/bluegrass species	/ARTRW/POA++/	16	FAIR	316	0.2%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	19	FAIR	326	0.2%	Mid
024XY030OR	SHALLOW LOAMY SLOPES 6-10	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	22	GOOD	221	0.2%	Late
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	19	FAIR	884	0.6%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Bottlebrush squirreltail	/ARTRW/SIHY/	13	FAIR	2654	1.8%	Mid
023XY016OR	LOAMY	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	18	GOOD	169	0.1%	Late
023XY016OR	LOAMY	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	18	GOOD	1407	1.0%	Late
024XY016OR	LOAMY 8-10	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	16	FAIR	1263	0.9%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	26	FAIR	207	0.1%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	21	FAIR	54	0.0%	Mid
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	25	GOOD	67	0.0%	Late
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Thurbers Needlegrass	/ARTRW/STTH2/	22	FAIR	58	0.0%	Mid
023XY302OR	SOUTH SLOPES 12- 16	Western Juniper/Basin Big sagebrush/ Bluebunch wheatgrass	JUOC/ARTRT/AGSP/	20	GOOD	153	0.1%	Late
024XY110OR	DUNES	Gray Rabbitbrush/Needle and threadgrass	/CHNA2/STCO4/	25	GOOD	1742	1.2%	Late
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGCR/	18	GOOD	280	0.2%	Late

023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Thurbers Needlegrass	/ARTRW/STTH2/	21	FAIR	230	0.2%	Mid
023XY202OR	SWALE 10-14	Wyoming Sagebrush/ bluegrass species	/ARTRW/POA++/	30	POOR	144	0.1%	Early
023XY300OR	SOUTH SLOPES 8-12	Wyoming Sagebrush/Bluebunch wheatgrass	/ARTRW/AGSP/	23	GOOD	729	0.5%	Late
024XY110OR	DUNES	Gray Rabbitbrush/Needle and threadgrass	/CHNA2/STCO4/	25	GOOD	283	0.2%	Late
023XY302OR	SOUTH SLOPES 12-16	Western Jumiper/ Basin Big sagebrush/ Bluebunch wheatgrass	JUOC/ARTRT/AGSP/	20	GOOD	491	0.3%	Late
024XY016OR	LOAMY 8-10	Wyoming Sagebrush/cheatgrass	/ARTRW/BRTE/	16	POOR	312	0.2%	Early
024XY016OR	LOAMY 8-10	Wyoming Sagebrush	/ARTRW//	12	POOR	114	0.1%	Early
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Sandberg bluegrass	/ARTRW/POSE/	11	FAIR	220	0.2%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Thurbers Needlegrass	/ARTRW/STTH2/	15	FAIR	666	0.5%	Mid
023XY212OR	LOAMY 10-12	Wyoming Sagebrush/ Thurbers Needlegrass	/ARTRW/STTH2/	15	FAIR	1592	1.1%	Mid
024XY014OR	SODIC TERRACE 6-10	Spiny hopsage	/GRSP//	13	POOR	90	0.1%	Mid
024XY014OR	SODIC TERRACE 6-10	Spiny hopsage	/GRSP//	13	POOR	261	0.2%	Mid
024XY013OR	LOW SODIC TERRACE 6-10	Spiny hopsage	/GRSP//	13	POOR	1708	1.2%	Mid
			INCOMPLETE	0		1	0.0%	Early
024XY013OR	LOW SODIC TERRACE 6-10	Greasewood	/SAVE4//	12	FAIR	479	0.3%	Mid

²INCOMPLETE – incomplete data available due to lack of mapping in those areas or possible private land.

³OAT = Observed apparent trend, rating of 26-35 = upward, rating of 17-25 stable, rating of 7-16 = downward.

Table A-12. Dominant Vegetation in the Flynn-Lynch Allotment

Range site number	Range Site Name	Dominant Vegetation (component 1)	dominant vegetation code ²	OAT ³	Condition Rating	Acres	% of area	Ecological status
023XY216OR	12-16		INCOMPLETE	28	FAIR	511	2%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush/ Idaho fescue	ARAR8-FEID	30	GOOD	454	2%	Late
023XY216OR	12-16 CLAYPAN	Low sagebrush/ Idaho fescue	ARAR8-FEID	25	GOOD	2362	11%	Late
023XY216OR	12-16 CLAYPAN	Low sagebrush/ Idaho fescue	ARAR8-FEID	28	GOOD	830	4%	Late
023XY216OR	12-16 CLAYPAN	Low sagebrush/ Idaho fescue	ARAR8-FEID	27	FAIR	1022	5%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush/ Idaho fescue	ARAR8-FEID	29	GOOD	430	2%	Late
023XY200OR	PONDED CLAY	Low sagebrush/ Sanberg bluegrass	ARAR8-PONE3	21	FAIR	311	1%	Mid
023XY216OR	CLAYPAN 12-16	Low sagebrush/ Sanberg bluegrass	ARAR8-POSE	21	FAIR	2083	9%	Mid
023XY218OR	THIN 10-16 SURFACE CLAYPAN	Low sagebrush/ Sanberg bluegrass	ARAR8-POSE	29	FAIR	961	4%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush/ Sanberg bluegrass	ARAR8-POSE	17	FAIR	474	2%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush/ Sanberg bluegrass	ARAR8-POSE	21	FAIR	2	0%	Mid
023XY216OR	CLAYPAN 12-16	Low sagebrush/ Sanberg bluegrass	ARAR8-POSE	20	FAIR	413	2%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush / Bottlebrush squirreltail	ARAR8-SIHY	24	FAIR	777	4%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush / Bottlebrush squirreltail	ARAR8-SIHY	27	GOOD	1131	5%	Late
023XY216OR	CLAYPAN 12-16	Low sagebrush / Bottlebrush squirreltail	ARAR8-SIHY	23	FAIR	1991	9%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush / Bottlebrush squirreltail	ARAR8-SIHY	27	FAIR	1858	8%	Mid
021XY204OR	10+ SHALLOW STONY	Low sagebrush / Bottlebrush squirreltail	ARAR8-SIHY	21	FAIR	671	3%	Mid
023XY200OR	PONDED CLAY	Low sagebrush / Bottlebrush squirreltail	ARAR8-SIHY	25	POOR	3	0%	Early
021XY204OR	10+ SHALLOW STONY	Low sagebrush / Bottlebrush squirreltail	ARAR8-SIHY	29	FAIR	15	0%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush / Bottlebrush squirreltail	ARAR8-SIHY	25	GOOD	88	0%	Late

023XY216OR	12-16 CLAYPAN	Low sagebrush / Bottlebrush squirreltail	ARAR8-SIHY	25	FAIR	153	1%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush / Bottlebrush squirreltail	ARAR8-SIHY	21	FAIR	113	1%	Mid
023XY216OR	12-16 CLAYPAN	Low sagebrush/ Thurbers needlegrass	ARAR8-STTH2	27	FAIR	1246	6%	Mid
023XY200OR	PONDED CLAY	Silver sagebrush/ Sangberg bluegrass	ARCA13-PONE3	26	GOOD	66	0%	Late
021XY212OR	14-18 SHALLOW LOAM	Mountain Big sagebrush/ Bluebunch wheatgrass	ARTRV-AGSP	29	GOOD	230	1%	Late
021XY213OR	14-18 SHALLOW LOAM	Mountain big sagebrush/ Bluebunch wheatgrass	ARTRV-AGSP	29	GOOD	241	1%	Late
021XY212OR	14-18 SHALLOW LOAM	Mountain big sagebrush/ Bluebunch wheatgrass	ARTRV-AGSP	29	GOOD	72	0%	Late
021XY212OR	14-18 SHALLOW LOAM	Mountain Big Sagebrush/ Idaho fescue	ARTRV-FEID	27	FAIR	152	1%	Mid
021XY212OR	14-18 SHALLOW LOAM	Mountain Big Sagebrush/ Idaho fescue	ARTRV-FEID	27	FAIR	1046	5%	Mid
023XY321OR	12-16 DEEP LOAMY	Mountain Big sagebrush/ Bottlebrush squirreltail	ARTRV-SIHY	25	FAIR	1566	7%	Late
023XY318OR	12-16 LOAMY	Curl-leaf mountain mahogany/ Basin	CELE3-ARTRV-POA++	30	FAIR	589	3%	Mid
023XY308OR	10-12 NORTH SLOPES		INCOMPLETE	0		3	0%	Early
023XY100OR	LAKEBED	Rush	JUNCU	33	GOOD	81	0%	Late
023XY302OR	12-16 SOUTH SLOPES	Western Juniper/ Mountain Big Sagebrush/ Bottlebrush Squirreltail	JUOC-ARTRV-SIHY	27	FAIR	14	0%	Mid
023XY414OR	DRY MEADOW MISC	Sandberg bluegrass	PONE3	25	POOR	1	0%	Early
			ROCKLAND	0		7	0%	Early

¹INCOMPLETE – incomplete data available due to lack of mapping in those areas or possible private land.

³OAT = Observed apparent trend, rating of 26-35 = upward, rating of 17-25 stable, rating of 7-16 = downward.

Table A-13. Dominant Vegetation in the East Rabbit Hills Allotment

Range site number	Range Site Name	Dominant Vegetation (component 1)	dominant vegetation code	OAT ²	Condition Rating	Acres	% of area	Ecological status
023XY636OR	SHALLOW LOAM 8-10	Crested wheatgrass	//AGCR/	14	Fair	758	9%	Early
023XY636OR	SHALLOW LOAM 8-10	Wyoming big sagebrush	/ARTRW8//	14	Poor	232	3%	Early
023XY636OR	SHALLOW LOAM 8-10	cheatgrass	//BRTE/	14	Poor	43	0%	Early
023XY636OR	SHALLOW LOAM 8-10	Wyoming big sagebrush cheatgrass	/ARTRW8/BRTE/	13	Poor	944	11%	Early
023XY636OR	SHALLOW LOAM 8-10	Wyoming big sagebrush	/ARTRW8//	13	Fair	32	0%	Mid
024XY622OR	COOL SODIC TERRACE 8-10	Big Sagebrush	/ARTRT//	16	Fair	348	4%	Mid
024XY121OR	SILTY SODIC TERRACE 6-10	Spiny hopsage/ beardless wildrye	/GRSP/LETR5/	26	Exce	46	1%	Potential
023XY635OR	LOAMY 08-10	Wyoming big sagebrush/thurbers needlegrass	/ARTRW8/STTH2/	18	Fair	154	2%	Mid
024XY628OR	SODIC BASIN 8-10	Greasewood cheatgrass	/SAVE4/BRTE/	13	Fair	156	2%	Mid
024XY622OR	COOL SODIC TERRACE 8-10	Green rabbit brush/ crested wheatgrass	/CHV18/AGCR/	18	Good	18	0%	Early
024XY121OR	SILTY SODIC TERRACE 6-10	Greasewood/ beardless wildrye/	/SAVE4/LETR5/DESCU	20	Good	56	1%	Late
024XY643OR	LOAMY SLOPES 8-10	Wyoming big sagebrush cheatgrass	/ARTRW8/ORHY/	23	Good	42	0%	Late
023XY619OR	DRY SANDY LOAM 8-10	Green rabbit brush/ crested wheatgrass	/CHV18/AGCR/	25	Fair	16	0%	Early
024XY628OR	SODIC BASIN 8-10	Spiny hopsage	/GRSP//	15	Good	53	1%	Late
023XY200OR	PONDED CLAY		INCOMPLETE	25	Fair	3	0%	Early
023XY636OR	SHALLOW LOAM 8-10	Crested wheatgrass	//AGCR/	14	Fair	1159	13%	Early
023XY636OR	SHALLOW LOAM 8-10	Wyoming big sagebrush	/ARTRW8//	11	Poor	753	9%	Early
024XY622OR	COOL SODIC TERRACE 8-10	Big Sagebrush	/ARTRT//	14	Good	286	3%	Late
023XY636OR	SHALLOW LOAM 8-10	Wyoming big sagebrush	/ARTRW8//	14	Poor	843	10%	Early
023XY636OR	SHALLOW LOAM 8-10	Crested wheatgrass	//AGCR/	23	Good	1210	14%	Early
024XY121OR	SILTY SODIC TERRACE 6-10	Wyoming big sagebrush/cheatgrass	/ARTRW8/LETR5/	20	Fair	644	7%	Late
024XY628OR	SODIC BASIN 8-10	Spiny hopsage	/GRSP//	14	Fair	1	0%	Mid
023XY635OR	LOAMY 08-10	Crested wheatgrass	//AGCR/	20	Good	282	3%	Early
023XY636OR	SHALLOW LOAM 8-10	Wyoming big sagebrush	/ARTRW8//	13	Fair	82	1%	Mid
024XY643OR	LOAMY SLOPES 8-10	Cheatgrass/tansy mustard	//BRTE/DESCU	13	Poor	381	4%	Early
024XY622OR	COOL SODIC TERRACE 8-10	Big Sagebrush	/ARTRT//	16	Fair	11	0%	Mid
023XY635OR	LOAMY 08-10	Crested wheatgrass	//AGCR/	15	Fair	55	1%	Early

²INCOMPLETE – incomplete data available due to lack of mapping in those areas or possible private land.

³OAT = Observed Apparent Trend – rating of 26-35 = upward, rating of 17-25 stable, rating of 7-16 = downward.

Table A-14. Dominant Vegetation in the North Rabbit Hills Allotment

Range site number	Range Site Name	Dominant Vegetation (component 1)	dominant veg code ²	OAT ³	Condition Rating	Acres	% of area	Ecological Status
023XY300OR	SOUTH SLOPES 8-12	cheatgrass	/BRTE/		Fair	9	0%	Mid
023XY212OR	LOAMY 10-12	Wyoming big sagebrush/Basin Wildrye	/ARTRW8/ELEL5/	23	Poor	287	2%	Early
023XY212OR	LOAMY 10-12		INCOMPLETE			85	1%	
023XY636OR	SHALLOW LOAM 8-10	Wyoming big sagebrush Basin Big	/ARTRW8/	14	Poor	1409	11%	Early
023XY650OR	DRY PONDED CLAY	Sagebrush/Basin Wildrye	/ARTRT/ELEL5/		Good	57	0%	Late
023XY300OR	SOUTH SLOPES 8-12	Crested wheatgrass	/AGCR/		Fair	114	1%	Early
023XY619OR	DRY SANDY LOAM 8-10	Wyoming big sagebrush/cheatgrass	/ARTRW8/BRTE/		Fair	3	0%	Mid
023XY212OR	LOAMY 10-12	Crested wheatgrass	/AGCR/	26	Good	798	6%	Early
023XY636OR	SHALLOW LOAM 8-10	Crested wheatgrass	/AGCR/		Good	1417	11%	Early
023XY300OR	SOUTH SLOPES 8-12	Cheatgrass	/BRTE/		Poor	356	3%	Early
024XY622OR	COOL SODIC TERRACE 8-10	Wyoming big sagebrush/cheatgrass	/ARTRW8/BRTE/	16	Fair	2171	17%	Mid
023XY619OR	DRY SANDY LOAM 8-10	Cheatgrass	/BRTE/	25	Poor	282	2%	Early
023XY619OR	DRY SANDY LOAM 8-10	Green rabbitbrush/cheatgrass	/CHV18/BRTE/	18	Poor	40	0%	Early
023XY619OR	DRY SANDY LOAM 8-10	Green rabbitbrush/cheatgrass	/CHV18/BRTE/	18	Poor	442	3%	Early
023XY619OR	DRY SANDY LOAM 8-10	Green rabbitbrush/crested wheatgrass	/CHV18/AGCR/	25	Fair	1535	12%	Early
024XY628OR	SODIC BASIN 8-10	Spiny hopsage	/GRSP/		Good	13	0%	Late
023XY636OR	SHALLOW LOAM 8-10	Crested wheatgrass	/AGCR/	18	Fair	173	1%	Early
023XY619OR	DRY SANDY LOAM 8-10	Basin Big Sagebrush/cheatgrass	/ARTRT/BRTE/	12	Poor	659	5%	Early
023XY636OR	SHALLOW LOAM 8-10	Cheatgrass	/BRTE/	14	Poor	1251	10%	Early
023XY636OR	SHALLOW LOAM 8-10	Wyoming big sagebrush	/ARTRW8/	11	Poor	921	7%	Early
024XY622OR	COOL SODIC TERRACE 8-10	Basin big sagebrush	/ARTRT/	19	Good	572	5%	Early
023XY636OR	SHALLOW LOAM 8-10	Wyoming big Sagebrush/cheatgrass	/ARTRW8/BRTE/	12	Poor	115	1%	Early

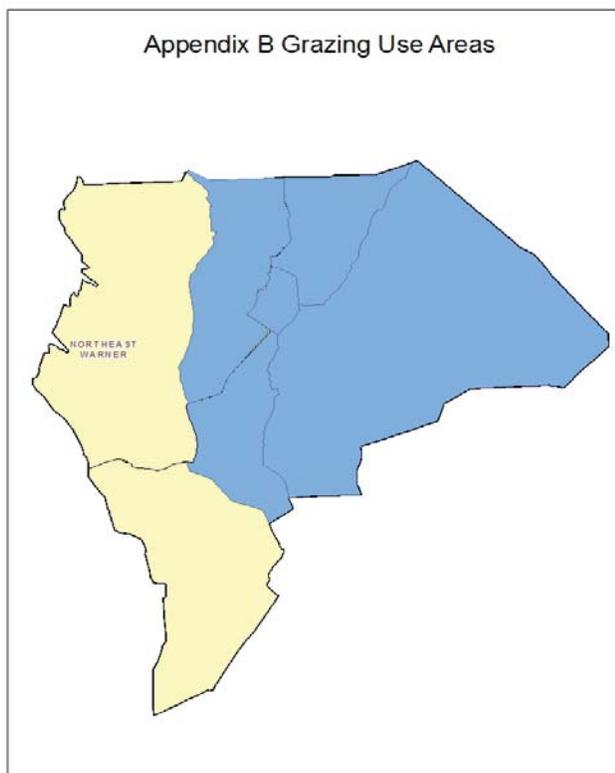
²INCOMPLETE – incomplete data available due to lack of mapping in those areas or possible private land.³OAT = Observed Apparent Trend – rating of 26-35 = upward, rating of 17-25 stable, rating of 7-16 = downward.

APPENDIX B

Grazing Use Areas on the Northeast Warner Allotment

The Northeast Warner Allotment is currently grazed with a total of 6155 AUMs authorized on BLM-administered lands. This allotment is grazed by four permittees and four grazing permits for a ten-year period. The west side of the allotment, highlighted in yellow in Figure 1, is grazed primarily by one permittee, authorization number 3601273. This permit will be renewed under a separate EA, and livestock typically do not mix much with the other three permittees. Although no actual permanent fences or topographic boundaries prevent the intermingling of livestock, minimal mixing of the two herds occurs throughout the season. Figure 1 depicts an estimate of livestock use areas based on conversations with livestock operators. These are not administrative boundaries, but rather commonly accepted boundaries between cooperating operators. The East side of the Northeast Warner Allotment, highlighted generally in blue in Figure 1, is grazed in common by three permit holders, all renewing their permits under this EA decision. These livestock all run in common however typically do not mix with the fourth permittees livestock.

Figure 1: General use areas of grazing.



Boundaries identified are not completely separated by fences. The area in yellow is generally grazed by permittee with authorization number 3601273. The blue area is grazed in common by permittees with authorization numbers 3601213, 3601232, and 3601239.