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Forest
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Pacific Northwest
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Environmental Assessment

West End OHV Project

Heppner Ranger District
Umatilla National Forest

Grant, Morrow, and Wheeler, Counties

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Chapter 1

Purpose and Need

PURPOSE AND NEED

Introduction

In 2003, the Chief of the Forest Service identified the four greatest threats facing our nation's forests. One of those threats is unmanaged recreation, including impacts from unmanaged off-highway vehicle use (OHVs). To address this issue, the Forest Service developed a national strategy to evaluate recreational motor vehicle use on NFS lands. The strategy would work towards resolving issues such as damage to wetlands, wildlife habitat and fragile soils, disturbance to wildlife, spread of noxious weeds, and conflicts between recreationists. Following a national public comment process, this strategy was then formalized as new national travel management regulations and published as a "final rule" in the Federal Register in 2005.[1]

The final rule entitled, "*Travel Management – Designated Routes and Areas for Motor Vehicle Use*," became effective December 2005 and revises several regulations to require designation of roads, trails, and areas for motor vehicle use on National Forests and National Grasslands. The "*Travel Management – Designated Routes and Areas for Motor Vehicle Use*," will be referred to as the Travel Rule in the remainder of this document. To meet the direction and intent of the Travel Rule, every National Forest and grassland unit is to develop or revise their travel management plan for motorized vehicle use by 2009 as needed to provide for motorized vehicle travel on designated routes and areas only.

Highlights of the Travel Rule are:

- Each National Forest or Ranger District is to designate those roads, trails, and areas open to motor vehicles.
- Designation will include class of vehicle and, if appropriate, time of year for motor vehicle use.
- Once the designation process is complete, the rule will prohibit motor vehicle use off the designated system or use that is inconsistent with the designations.
- Designation decisions will be made locally, with public input and in coordination with state, local and tribal governments.

To meet these new regulations, the Forest Service began the process to evaluate necessary changes to the motorized routes and areas within the portions of the Heppner Ranger District of the Umatilla National Forest that were identified in the 1992 Access and Travel Management Decision. The West-End OHV project area, identified as the area west of the Sunflower Flat Road (FS Road 22), encompasses a total of about 91,000 acres.

Project Area

The West-End OHV project area is located in the western portion of the Heppner Ranger District in Grant, Morrow, and Wheeler counties, Oregon, about 20 miles south of the town of Heppner. You can

[1] 70 FR 68264 – 68291, November 9, 2005. A "rule" establishes enforceable regulations that have gone through a national public process.

access the project area from State Highway 207. A legal description of the area includes T. 6 S., R. 24 E., Sections 21, 26-28, and 33-35; T. 6 S., R. 26 E., Sections 26 and 35; T. 7 S., R. 23 E., Sections 11 thru 14; T. 7 S., R. 24 E., Sections 1 thru 5, 7 thru 18, and 20 thru 24; T. 7 S., R. 25 E., Sections 1 thru 27 and 34 thru 36; T. 7 S., R. 26 E., Sections 1, 2, 6 thru 36; T. 7 S., R. 27 E., Sections 7, 17 thru 20, and 29 thru 33; T. 8 S., R. 25 E., Sections 1, 2, and 11 thru 14; T. 8 S., R. 26 E., Sections 1 thru 30 and 33 thru 35; T. 8 S., R. 27 E., Sections 4, 17 thru 21, and 29-31; Willamette Meridian, Surveyed (Figure 1-1).

The project area comprises about 91,000 acres within the National Forest boundary in the Upper Rock Creek, Wall Creek, and Lower John Day River-Kahler Creek Watersheds. The topography is generally a south aspect with varying terrain ranging from plateaus in the Long Prairie and Sunflower Flat areas to steep canyons and drainages in the Wall Creek and Bologna Creek drainage areas. The elevation ranges between 4,987 feet at Wheeler Point and 2,625 feet where Big Wall Creek leaves the forest boundary. There is 19,982 acres of the Monument Big Game Winter Range and 2,985 acres in the Kahler Winter Range both located in the southern portion of the project area. There are no inventoried roadless areas, no wilderness areas and no wild and scenic rivers within the project area.

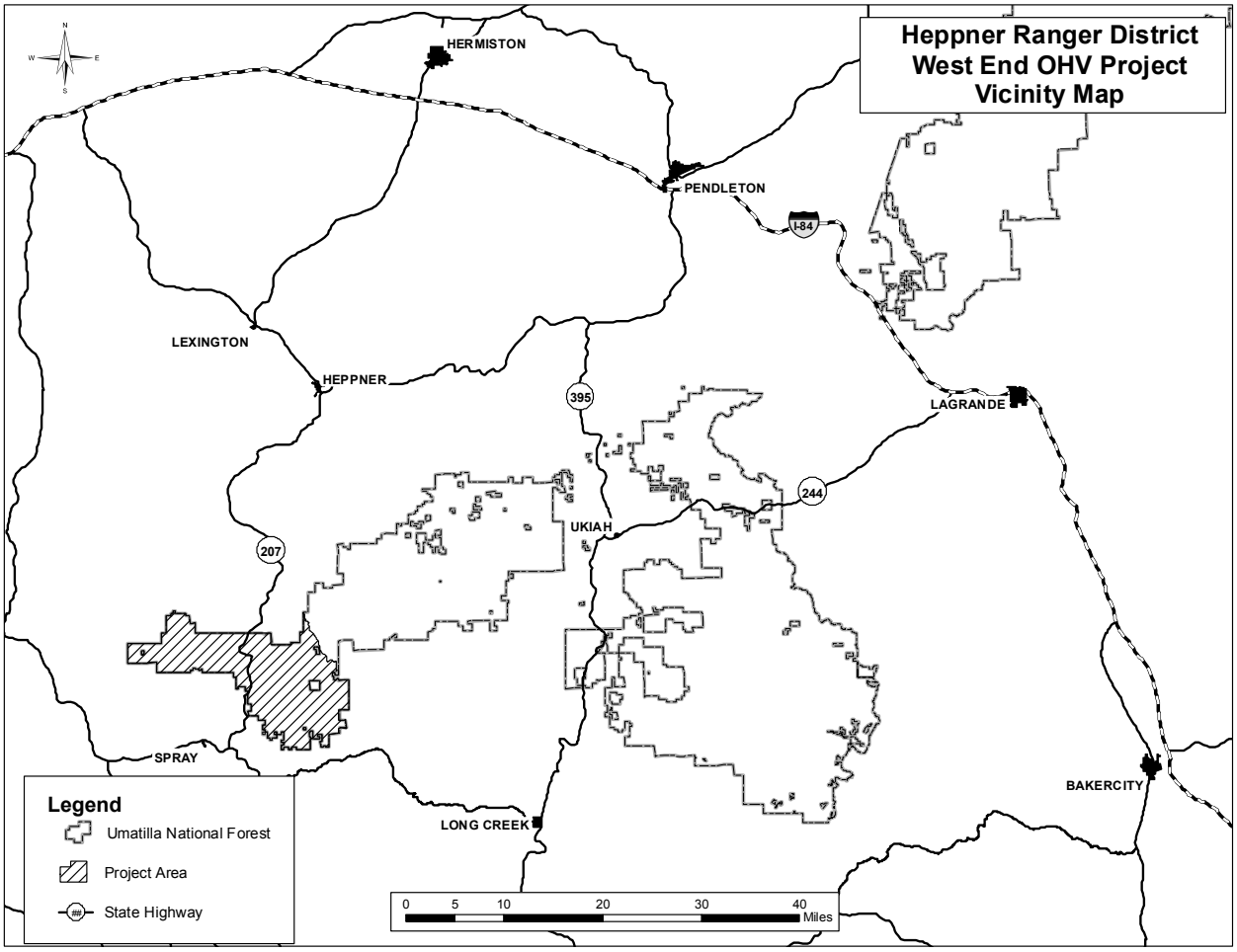

Figure 1-1: Location of the West-End OHV Project Area

Background

In 1992, the *Motorized Access and Travel Management Plan for the Heppner Ranger District* (1992 ATM Plan) was completed. The West-End of the Heppner Ranger District has been operating under this plan since that time. There have been several indicators that highlight the need to re-evaluate the area's current ATM plan in relation to OHV use.

1. The plan allows OHV cross country travel in the general forest area. This equates to approximately 61,000 acres of the 91,000 acre planning area. Although cross country travel is allowed on only certain management areas, the on-the-ground delineation of these areas is not well defined. It is often associated with an elevation band, vegetation type change, or land feature (such as riparian areas). It is difficult for users to know and understand where changes in use restrictions occur and it results in challenges in enforcing the ambiguous boundaries on the ground. Cross country travel has occurred in areas inconsistent with that decision. This 61,000 area open to cross country travel is not consistent with the intent of the Travel Rule.
2. OHV use has increased dramatically. Nationally, it is estimated that there has been more than a 10-fold increase in OHV users since 1972. From 1982 to 2000, the number of people driving motor vehicles off road in the United States increased over 109 percent. From 1997 to 2001 the number of ATV's in use increased by almost 40 percent. (Federal Register, Vol. 70, 216, November 9, 2005). Similar trends are noted in the State of Oregon. Information from the Oregon Parks and Recreation Department indicate that ATV operating permits have more than doubled in the last seven years. An increase in use has been noted locally as well. Morrow County opened an OHV park in 2002 adjacent to the national forest. In 2003, the county estimates that they had approximately 4,725 visitors. It is estimated that approximately 33,500 visited the park in 2007.
3. Current regulations were developed when OHVs were less widely available, less powerful, and less capable of cross country travel than today's models. The West-End OHV area has provided a recreational niche for motorized users where Class I (4-wheeler) and Class III (motorcycle) riders have had the opportunity to ride cross country in areas that are closed to other motorized vehicles such as passenger cars and pickup trucks. As discussed above, the use of OHVs has increased since the 1992 ATM plan was established.
4. Morrow and Grant Counties, the Forest Service and recreational riders desire to have and provide the opportunity for users to explore the County Park and adjacent public lands. The Morrow-Grant County OHV Park was expanded in 2008 and now is approximately 8,000 acres. The acquisition of additional land has resulted in an increase in the boundary shared with the National Forest. Currently, the Morrow-Grant County OHV Park and the adjacent Forest Service lands have differing polices in place for the management of OHV use. The Park has a designated trail system while the Forest is currently open to cross country travel. As the Forest develops a plan for the West-End OHV area, the counties, the Forest Service, and recreational riders desire to have logical connections to designated routes on public lands.
5. With increased use, there is a higher potential for resource impacts related to unmanaged motorized use, as well as an increased potential for user conflicts. Impacts from OHVs when traveling off existing roads and trails include vegetation damage, noxious weed spread, wildlife disturbance, stream bank destabilization, and sediment inputs into streams.

Where cross country travel is allowed, OHVs may continue to ford streams and drive through Riparian Habitat Conservation Areas (RHCAs) off of existing roadbeds or trails. There are approximately 16,000 acres of RHCAs, of which over 2,200 acres are riparian areas along fish bearing streams. Mid-Columbia steelhead trout has been identified as a federally listed species since the 1992 ATM Plan was adopted. There are currently about 37 miles of designated critical habitat within the planning area.

Since the 1992 ATM plan was completed for the West-End OHV area, several streams in the area have been listed as 303(d) listed as temperature or sediment impaired streams.

The Oregon Department of Fish and Wildlife (ODFW) reports that they have witnessed an increase of big game (especially elk) moving from public to private lands. This is more evident on the Fossil big game management unit and has led to a reduction in the public hunting opportunity on public lands. ODFW cites recent Starkey Experimental Forest research that indicates disturbances to big game from all terrain vehicles exceed all other common recreational activities such as hiking, horseback riding, and mountain biking.

Over the course of several years there have been increasing complaints and local user debate associated with motorized use in the West-End OHV area, including the area around Bull Prairie, a developed recreation site. There is an increasing desire from the recreating public to provide both motorized and non-motorized recreational opportunities within the project area. In addition to the public debate associated with Bull Prairie campground, there is a desire from some segments of the public to reduce the amount of area available for OHV use during hunting seasons in the West-End area.

6. In 2008 a mixed use analysis was conducted. This engineering analysis was completed to assess the consistency with Oregon state law and the general suitability of mixed motor vehicle use on roads on the Heppner Ranger District. This analysis resulted in restricting OHV use on certain road segments to reduce the risk to OHV riders and improve public safety. These adjustments were implemented in 2008 and resulted in severing several connections associated with some popular OHV loops.
7. Since the 2005 Travel Rule has been published, the public has expressed widely varying opinions associated with the current and future management plans on the West-End OHV project area. In September of 2006, the Heppner Ranger District initiated a public information campaign using websites, newsletters, visitor contacts, and public meetings. Recreation related comments were widely varied and ranged from keeping things the way they are, eliminating OHV use altogether, providing recreational riding opportunities, maintaining OHV access for hunters, eliminating OHV use during hunting seasons, maintaining adequate connections to the OHV park, eliminating connections to the OHV park, to providing more non-motorized recreation opportunities. Many expressed resource related concerns related to wildlife, water, fish, and noxious weed spread. Public input and local resource specialist knowledge was used in the development of this project. See public input section.

Purpose and Need for Action

The purpose of the proposed action is to implement the Forest Service's Travel Rule (36 CFR §261.13, 2007) across the entire Heppner Ranger District of the Umatilla National Forest. In 1992, the *Motorized Access and Travel Management Plan for the Heppner Ranger District* (1992 ATM Plan) was completed. The West-End of the Heppner Ranger District has been operating under this plan since that time.

In consideration of the Forest Service's Travel Rule, the Umatilla National Forest Plan, and the need for adjustments to the 1992 ATM plan as described in the background section, the following describes the need for this proposed action:

1. There is a need for travel management on the Heppner Ranger District to be consistent with national direction as published in the Federal Register, 36 CFR Parts 212, 251, 261, 295 "Travel Management; Designated Routes and Areas for Motor Vehicle Use" (Federal Register 2005: 70FR68264) (Travel Rule). The 1992 plan restricts cross country travel on 31,000 acres of the project area and allows cross country travel on over 61,000 acres. There is a need to bring the 61,000 acres consistent with the Travel Rule.
2. There is a need to designate a system of roads, trails, and/or areas that reduces the potential for impacts from cross country travel associated with noxious weed spread, sedimentation, fish habitat, water quality, and the disturbance of big game habitat within the West-End OHV project area.
3. There is a need to designate a system that helps address concerns associated with the disturbance of big game while occupying the general forest area within the West-End OHV project area, particularly within the Fossil big game management area.
4. Currently full size vehicles and OHVs have access to all roads within the Bull Prairie Campground. OHVs create noise when operating within the campground or when traveling through the campground to reach other destinations. This condition has the potential to cause conflicts between users of the campground. The Forest Plan standards require that, within Management Area A6 – Developed Recreation, OHV use is managed to minimize conflicts between users. There is a need to adjust OHV use within the developed campground at Bull Prairie.
5. There is a need to provide for logical connections along designated routes for OHV use to meet public demand for loop rides, restore connections where connections have been eliminated due to the risk to public safety, and to provide connections to the Morrow/Grant County OHV Park.

Proposed Action

The proposed action is described in detail in Chapter 2 and in Appendix A (maps) of this Environmental Assessment. The Forest Service proposes to:

1. Designating 61,000 acre area closed to cross country travel.
2. Designating 77 miles of existing system roads as trails that would be available for Class I and III OHV use only. Class II OHV use would not be permitted on these routes. Off trail use would not be allowed from designated trails. This would not change motorized access for vehicles other than Class I and III OHVs. The closed roads designated as trails would remain on the road system and be available as needed for administrative use for activities such as fire suppression. The Alternative 2 Map identifies designated trails proposed to be open for OHV use as a dashed line.
3. Designating 6 miles of new trails for Class I and III OHV use. The Alternative 2 Map identifies designated new trails as a triple parallel line.
4. Designating roads within the Bull Prairie Campground as closed to OHV use.

Consistency with Laws, Regulations, and Policies

This environmental assessment (EA) has been prepared pursuant to the requirements of the National Environmental Policy Act (NEPA, 40 CFR §1500-1508, 2007), the Natianl Forest Management Act (36 CFR Part 219, 2007), and the 1990 Umatilla National Forest Land and Resource Management Plan (Forest Plan), the Council on Environmental Quality Regulations, Clean Water Act, Clean Air Act, National Historic Preservation Act, and the Endangered Species Act.

This environmental analysis is tiered to and supplements the analysis in the final environmental impact statement (FEIS) and planning record supporting the Forest Plan. Documented analysis in the Forest Plan have been referenced rather than repeated in some instances. Analyses pertaining to the FEIS for the Forest Plan are contained in the Forest Planning Record located at the Forest Supervisors office in Pendleton, Oregon. The Forest Plan guides management of the Umatilla National Forest.

Umatilla National Forest Land and Resource Management Plan

The Umatilla National Forest Land and Resource Management Plan (Forest Plan) provides programmatic direction for the Forest, including the West-End OHV Project Area. The Forest Plan does this by allocating parts of the Forest to different resource emphasis areas or management areas, and prescribing the type and intensity of management that may occur within each of the 25 management areas. The Management Areas for the West-End OHV Project Area are shown on Map 6 in Appendix A. Compliance with goals and desired future conditions are discussed in the forest plan consistency section in Chapter 3 of this document. Compliance with Forest Plan standards and guidelines will be discussed in the specific resource sections, as applicable, in Chapter 3.

The proposed action would occur within eight management areas (see Map 6, Appendix A).

Management area standards and guides

The Proposed action and action alternatives are designed to comply with the following Forest Plan Management Area standards and guides:

A3 – Viewshed 1 (664 acres) – OHV use is allowed.

A4 – Viewshed 2 (1,718 acres) – OHV use is allowed.

A6 – Developed Recreation (259 acres) – OHV use will be restricted to the roads and trails within the developed sites and managed to minimize conflicts between users.

C1- Dedicated Old Growth (3,909 acres) – Motorized vehicle use will be restricted to only those designated routes (roads and trails) necessary to cross the area and/or provide for activities occurring in adjacent management areas.

C3 – Big Game Winter Range (22,307 acres) – OHV use will be permitted on designated routes. OHV use will be curtailed by closures where this use is determined to be detrimental to wintering big game species.

C5 – Riparian and Wildlife (2,960 acres) – OHV use is permitted but limited to designated routes.

D2 – Research Natural Area (84 acres) – All recreation OHV use will be prohibited.

E1 – Timber and Forage (58,237 acres) – OHV use is permitted.

Forest Plan Goals

The proposed action and action alternatives are designed to address the following Management Area goals:

A3 – Viewshed 1 (Forest Plan, pages 4-99 thru 4-104): The goal is to manage the area seen from a primary travel route, use area, or water body, where forest visitors have a major concern for the scenic qualities as a natural appearing landscape.

A4 – Viewshed 2 (Forest Plan, pages 4-105 through 4-110): the goal is to manage the areas seen from a travel route….where some forest visitors have a major concern for the scenic qualities (Sensitivity Level 2) as a natural appearing to slightly altered landscape.

A6 – Developed Recreation (Forest Plan, pages 4-117 thru 4-120): the goal is to provide recreation opportunities that are dependant on the development of structural facilities of user conveniences where interaction between users and evidence of others is prevalent.

C1 – Dedicated Old-Growth (Forest Plan, pages 4-144 through 4-146): the goal is to provide and protect sufficient suitable habitat for wildlife species dependent upon mature and/or overmature forest stands, and promote a diversity of vegetative conditions for such species.

C3 – Big Game Winter Range (Forest Plan, pages 4-151 through 4-154): The goal is to: "Manage big game winter range to provide high levels of potential habitat effectiveness and high quality forage for big game species.

C5 – Riparian (Fish and Wildlife) (Forest Plan, pages 4-163 through 4-166): The goal is to: maintain or enhance water quality and produce a high level of potential habitat capability for all species of fish and wildlife within the designated riparian habitat areas while providing for a high level of habitat effectiveness for big game.

D2 – Research Natural Area (Forest Plan, pages 4-175 thru 4-177): The goal is to preserve naturally occurring physical and biological units where natural conditions and processes are maintained, insofar as possible, for the purpose of: comparison, education and research, and preservation of gene pools.

E1 – Timber and Forage (Forest Plan, pages 4-178 through 4-181): The goal is to: manage forest lands to emphasize production of wood fiber (timber) and encourage production of forage.

Forest Plan Management Direction

The proposed action and alternative actions are designed to address the forest plan standards and guides for Off Highway Vehicle Use (Forest Plan, page 4-51).

1. Ensure off highway vehicle use is managed to protect other resources, promote safety of users, and minimize conflicts with other uses. Use OHV prohibitions only where needed to minimize disturbance to wildlife, provide a range of recreation opportunities, or to protect the soil and water resources.

> In the development of the proposed action and alternatives to the proposed action protection of resources was considered and areas of concern were avoided or mitigated. Safety of users was addressed under the mixed use analysis which was completed independently from this project.

2. Continue and expand programs and agreements with Oregon for OHV trails and facilities.

> Four alternatives were developed to include additional routes accessing the Morrow County OHV Park.

3. Encourage OHV use to remain on designated routes by using route location, design, and public information programs. Routes should be planned to integrate on-road and off-road travel and disperse use across broad areas.

The proposed routes under 3 action alternatives include open roads, trails and closed roads across the entire project area.

4. If necessary to eliminate OHV use, insofar as possible, provide a substitute area for the OHV opportunity eliminated.

This project proposes to eliminate cross country travel and designate various amounts and locations for additional OHV routes.

5. In riparian areas, trails for motorized use will be managed to protect water quality and fish and wildlife habitat. Existing motorized use trails should be relocated outside the floodplain or hardened where practical. OHV use will be limited to designated routes.

The interdisciplinary team considered effects to water, fish, and wildlife during the identification of designated trails in the action alternatives. This information can be found in the project file located at the Heppner Ranger District. In addition, the analysis includes environmental effects of trails within Riparian Habitat Conservation Areas and other habitat areas. This analysis can be found in Chapter 3 of this EA.

6. Emphasize permitted activities rather than prohibited ones in signing and information to minimize recreation use conflicts.

This project will designate roads, routes and trails open to OHV use. When implemented, signing will inform users of permitted activity.

7. Review the forest motorized access and travel management plans annually and revise as necessary.

This project will be monitored. Designated trails and roads would be revised as necessary.

8. Public information describing the areas and routes where motorized use is permitted, prohibited, or restricted explaining the conditions of use and providing reasons for such closures will be provided on a travel map. The map will be reviewed annually and revised as necessary.

A Motor Vehicle Use Map (MVUM) will be produced following the decision of this project. This map will identify a designated system for OHV use and other motorized travel. All areas and roads not included on this map would be closed to OHV use. Changes to the system would be identified annually and updated maps would be made available.

Public Involvement

The Heppner Ranger District initiated public dialogue to evaluate options to designate roads, trails or areas for OHV use within the West-End area in September of 2006. District officials have shared information and received feedback through public meetings, newsletters, a website, written correspondence and telephone calls. The proposed action was developed after 18 months of collaborative efforts with federal, state, county, and tribal agencies, motorized and non-motorized recreation user groups, conservationists, hunters and interested individuals along with consideration of the general and specific criteria as described in the Travel Rule.

Alternatives to the proposed action where developed based on comments and information gathered

from public meetings, letters, and telephone calls received during the scoping process as well as the interdisciplinary team's knowledge of the area and resources along with the criteria of the Travel Rule.

A complete record of public participation and scoping activities is documented in the project record and the West-End OHV analysis.

Table 1-1: Public Participation

Contact	Date	Number of Individuals/Groups Contacted
Newsletter Distribution – identifying future OHV project and response card to return to be added to project mailing list	Fall 2006	100 + local users throughout the west end of the district and individuals that stopped at the district office.
News release – Heppner Ranger District Begins Public Involvement Process for West-End OHV Project	October 27, 2006	Newspaper circulation in Morrow and Umatilla Counties
Meeting Brief – Heppner Chamber of Commerce – plan to evaluate the OHV Rule regulations on the Heppner Ranger District	November 3, 2006	Approximately 20 people attended
Newsletter mailing – announcing the project and how the public will be involved	November 6, 2006	189 Letters mailed to individuals that were involved in Access Travel Management Project in 1992 112 Letters mailed to Forest's project mailing list
Newsletter – made available at Morrow County OHV Park	November 2006	OHV park adjacent to project area.
Meeting Brief – Confederated Tribes of the Umatilla Indian Reservation – inform of upcoming West-End OHV Project, distributed Fall 06 Newsletter	November 2006	Quarterly meeting with Tribal members and staff.
Meeting Brief – John Day Snake River Resource Advisory Committee – inform of upcoming West-End OHV Project, distributed Fall 06 Newsletter	November 27, 2006	15 RAC Members
Telephone calls – Senator Briefing – verbal briefing with Senator Gordon Smith's staffer and Senator Ron Wyden's staffer	January 31, 2007	Senators representing the local area
Mailing – Congressman Greg Walden and Congresswoman Cathy Morris staffers – sent copy of congressional briefing paper on OHV rule implementation plan	February 7, 2007	Congress representing the local area
Telephone calls – Morrow, Grant , and Wheeler County Judges informing of project and requesting feedback	February 13 and 14, 2007	Judges representing counties within the project area
Newsletter mailing – includes newsletter update, map of project area, directions on how to comment, dates of Open Houses	February 23, 2007	147 letters mailed to Tribal representatives and individuals that had requested to be involved in this project
Website – Project specific website launched	Spring 2007	Internet users looking for information on Forest Service, Umatilla National Forest, recreation or OHV trails
News Release – Heppner Ranger District Schedules Open Houses in March, Public input Requested to Identify OHV Route Designations	March 2, 2007	Newspaper circulation in Morrow and Umatilla Counties

Open House – Heppner, OR – request for public input to identify a designated system for OHV travel west of the 22 Road.	**March 12, 2007**	**12 people attended**
Television Notice – Heppner TV – Notice of public meetings	**March 2 thru March 12, 2007**	**Local Television station advertisement channel**
Open House – Heppner, OR– request for public input to identify a designated system for OHV travel west of the 22 Road.	**March 16, 2007**	**11 people attended**
Open House – Monument, OR– request for public input to identify a designated system for OHV travel west of the 22 Road.	**March 19, 2007**	**4 people attended**
Open House – Fossil, OR– request for public input to identify a designated system for OHV travel west of the 22 Road.	**March 22, 2007**	**5 people attended**
Newsletter mailing – includes newsletter update, Project update information	**July 13, 2007**	**140 newsletters mailed**
SOPA - Umatilla National Forest's *Schedule of Proposed Actions*, updated quarterly	**October 1, 2007 thru present**	**191 hard copies mailed, 61 e-mails sent Internet users visiting the PALS database or the Umatilla National Forest Reading Room**
Letter – Scoping Letter – proposed action and announcement of public meetings	**February 14, 2008**	**210 letters mailed 42 e-mails sent**
Telephone calls – Morrow, Grant , and Wheeler County Judges – update information and offer to present/discuss proposed action	**February 28, 2008**	**Judges representing counties within the project area**
Telephone calls – Congressman Walden, Senator Wyden, Senator Smith, Congresswoman McMorris-Rodgers, Senator Murray – update information to congressional field offices:	**February 28, 2008**	**Congressional delegates representing the local area**
Newspaper article: East Oregonian – announcement of proposed action and public meetings	**February 29, 2008**	**Newspaper circulation in Eastern Oregon**
Public Meeting: Heppner Ranger District Office – Provide information on proposed action and receive comments	**March 3, 2008**	**9 people attended**
Public Meeting: Monument, OR – Provide information on proposed action and receive comments	**March 5, 2008**	**15 people attended**
Public Meeting: Fossil, OR – Provide information on proposed action and receive comments	**March 6, 2008**	**7 people attended**
Meeting: Morrow County Court – present proposed action and history of OHV use on the District	**March 26, 2008**	**6 people attended**
Newspaper Article: East Oregonian – Ranger District Looks to Change Access Trails at OHV Park	**March 29, 2008**	**Newspaper circulation in Eastern Oregon**
Meeting: John Day / Snake River Resource Advisory Committee – presentation of the West-End OHV project	**April 4, 2008**	**15 RAC Members**

Newsletter mailing – includes newsletter update, Project update information	**July 29, 2008**	**243 newsletters mailed**
Meeting: John Day / Snake River Resource Advisory Committee – presentation of the West-End OHV project	**September 5, 2008**	**15 RAC Members**
Meeting: Quarterly Coordination Meeting with Natural Resources Department of the confederated Tribes of the Warm Springs Reservation – provided update on project status	**September 22, 2008**	**10 People attended**
Letter – Inform public of expected EA release date and upcoming public meetings	**December 9, 2008**	**248 letters mailed**

Treaty Rights

The Forest Service, through the Secretary of Agriculture, is vested with statutory authority and responsibility for managing resources of the National Forests. No sharing of administrative or management decision-making power is held with any other entity. However, commensurate with the authority and responsibility to manage is the obligation to consult, cooperate, and coordinate with Indian Tribes in developing and planning management decisions regarding resources on National Forest System land that may affect tribal rights.

In 1855, two treaties that affect the Umatilla National Forest were signed between the United States government and several Indian tribes. The treaty with the Walla Walla, Cayuse, and Umatilla tribes and bands of Indians in Washington and Oregon Territories (today referred to as the Confederated Tribes of the Umatilla Indian Reservation) was signed on June 9, 1855. On June 26, 1855, a treaty was signed with the Tribes of Middle Oregon (these groups are now known as the Confederated Tribes of the Warm Springs Indian Reservation).

The West-End OHV Environmental Assessment project area lies within the area ceded to the United States by the Tribes as a result of the 1855 Treaty. The treaty was subsequently ratified by Congress and proclaimed by the President in 1859. As a result of the treaty, elements of the Tribes' culture, such as tribal welfare, land and resources were entrusted to the United States government. Trust responsibilities resulting from the Treaty dictate, in part, that the United States government facilitates the execution of treaty rights and traditional cultural practices of the Tribes by working with them on a government to government basis in a manner that attempts a reasonable accommodation of their needs, without compromising the legal positions of the Tribes or the Federal Government.

Although no written comments were received from the Tribes, the effects of the proposed action and alternatives were evaluated according to past statements of tribal interest that expressed concerns regarding similar projects and outlined Treaty Rights resources that could be affected by the project. These concerns have included:

1. Potential impacts to fish habitat and populations
2. Implementation of adequate measures to protect the fishery resource and production in the John Day Basin
3. Potential impacts of the proposed projects on salmonid species listed as threatened and endangered under the Endangered Species Act
4. Impacts of the proposed projects on PACFISH and water quality standards, and measures the

Forest Service will implement to adhere to those standards

5. Impacts to wildlife in the usual and accustomed use areas
6. Project impacts on archaeological sites and Traditional Cultural Properties
7. Access to traditional use areas for tribal members

Because tribal trust activities often occur in common with the public, the Umatilla National Forest will strive to manage tribal ceded land in favor of the concerns of the tribes, as far as practicable, while still providing goods and services to all people.

Issues

The Forest Service encourages public involvement in the identification of issues and development of alternatives through a process called 'scoping'. During scoping, a general description of this project's purpose and need and proposed action was distributed to the public through letters, personal contact, and the Forest's Schedule of Proposed Actions. The public was invited to comment on the potential conflicts posed by the proposed action. These comments were then used to identify issues, alternatives to the proposed action, and the extent of environmental analysis necessary for making an informed decision.

In addition to issues identified through public response, the Interdisciplinary Team considered potential issues not identified by the public. This was done by first identifying all the activities connected to accomplishing the proposed action. Then the team identified potential cause/effect relationships associated with each type of action that could result in resource conflicts, relying in part on public comments from previous, similar projects. The Interdisciplinary Team considered these potential conflicts or issues, together with those identified during scoping, to determine whether it required development of an alternative to the proposed action, needed mitigation measures, or whether it was beyond the scope of this project. Issues are discussed below. Comments were received from 23 individuals, three organizations and six government agencies. Three issues were considered to be major or relevant to the development of alternatives to the proposed action. Relevant issues are defined as "unresolved conflicts between alternative uses of available resources" [NEPA § 102(2)(E)]. A summary of these effects is presented at the end of Chapter 2, with a more detailed discussion in Chapter 3, Environmental Consequences.

Issues Recommended for Alternative Development

Reduced Off Highway Vehicle Access Opportunities

***Issue**: Eliminating cross country motorized use will reduce OHV opportunities.*

The Forest Service received several comments that the proposed action either eliminated favorite routes, resulting in a measurable reduction in recreational access opportunities for OHVs, or that identified additional routes for designation that were not included in the Proposed Action. The Forest Service identified the comments that were route-specific and that took issue with not designating a specific route. In each case, the Forest Service reviewed each route for the site-specific, cause-effect relationships between the Proposed Action and the concerns about recreational opportunities expressed by the comments. The Forest Service assessed the ability for these routes to be used while avoiding adverse resource impacts. The routes that created important connections and access, had no potential to cause adverse resource impacts, and addressed the recreational opportunity issue were included in

an alternative to the Proposed Action.

Access to campsites within the Bull Prairie Campground was also a specific concern to OHV users. Several comments expressed the desire to have the opportunity to camp at Bull Prairie Campground with the ability to ride from their campsite onto the designated OHV system.

Indicators:

- Miles of designated roads and trails open to OHV use
- Connections or access important to OHV users including: loops and connections, access to viewpoints, and access to the Morrow/Grant County OHV Park
- Area within Bull Prairie Administrative site that is accessible to OHVs

Effects of Designating Routes on Non-Motorized Recreational Opportunities

Issue*: Designating eighty-one miles of Class I and Class III trails for OHV use beyond open roads currently available for OHV use and motorized vehicle traffic would unnecessarily reduce the overall potential area available for predominately non-motorized recreational pursuits.*

The Forest Service received comments expressing a general concern about the amount of proposed motorized access and the overall effect this access would have on non-motorized recreational opportunities. Comments were also received that stated specific concerns that the increase in OHV popularity and the nearby Morrow/Grant County OHV Park would cause an increase in OHVs within the Bull Prairie Campground. They were concerned over the solitude and quietness of Bull Prairie Campground.

Indicators:

- Acres of non-motorized influence in the project area
- Area within Bull Prairie Administrative site that is accessible to OHVs

Effects of Designating Routes on Wildlife and Seasonal Habitat Areas

Issue*: Designating additional routes for OHV use beyond what is currently open to full size vehicles would perpetuate adverse effects on wildlife.*

The Forest Service received comments expressing a general concern about the amount of proposed motorized access and the overall effect this access would have on wildlife habitats; particularly big game.

Indicators:

- Habitat Effectiveness Index for Rocky Mountain Elk
- Habitat acres of OHV influence within ¼ mile of trails

Other Issues

Issues that were not considered major, but which related to existing regulations or which help to better understand the consequences of the proposed activities were considered other issues and will be tracked throughout this document. These other issues are generally of high interest or concern to the public or are necessary to understand the full extent of the alternatives.

Indicators:

- Potential effects to management indicator species, endangered, threatened, and sensitive species, species of interest and their habitats.
- Acres of detrimental soil disturbance resulting from this project
- Potential for sedimentation to enter streams (tons per square mile per year)
- Total miles of designated roads and trails within riparian areas
- Potential effects on 303d listed streams
- Impacts to: sediment or fines reaching fish bearing streams, riparian vegetation, and stream bank stabilization.
- Effects to threatened fish and their habitat
- Effects of OHV activity to sensitive plant species occurring within the project area
- Potential for noxious weed establishment, spread, and treatment costs
- Potential for damage to archeological sites
- Capability of the area to provide naturalness and solitude
- The availability of the area to continue to provide known resources and existing uses.

Permits and Licenses

None required

Project Record

A Project Record will be maintained at the Heppner Ranger District. Items contained in the Project Record include: Scoping letters sent to Tribes, other Governmental Organizations, public mailing lists; letters received during the Scoping process from concerned citizens; emails from concerned citizens and Forest Service IDT members; minutes of meetings; West-End OHV Public Participation Plan; the project initiation letter and specialist reports. This Project Record may be reviewed at the Heppner Ranger District, 117 S. Main, Heppner, Oregon 97836.

Decisions to be Made

The Heppner District Ranger will serve as the deciding official for this project. After considering the environmental effects disclosed in this document, the District Ranger would make the following decisions for off highway vehicle travel on the Heppner Ranger District:

1. Which, if any, roads, trails, or areas should be designated for OHV use?
2. Whether or not to designate 61,000 acre area as open to cross country travel?
3. What class of OHVs to allow on specific roads, trails, or designated areas?
4. What season(s) to allow OHV use?
5. How many miles of new trail, if any, should be constructed? Where should construction of new trails occur?

6. What adjustments should be made to manage user conflicts in Bull Prairie Campground?

Preview of Remaining Chapters

Chapter 2 – Alternatives

This chapter describes and compares the alternatives considered for the West-End OHV project, and provides a basis for choice among options by the decision-maker and the public. Some of the information is based upon the design of the alternative and some of the information is based upon the environmental, social, and economic effects of implementing each alternative.

Chapter 3 – Environmental Consequences

This chapter summarizes the physical, biological, social, and economic environments of the affected project area and the potential changes to those environments due to the implementation of the alternatives discussed in Chapter 2. It also presents the scientific and analytical basis for the comparison of alternatives presented.

Chapter 4 – Consultation and Coordination

This chapter provides a list of the primary preparers of this document; a list of: agencies, organizations, and persons who were consulted or from whom scoping comments were received.

Bibliography

List of reference material cited by each specialist in writing their reports and this environmental assessment.

Appendices

Appendix A – Maps:

Detailed maps of for each alternative

Forest Plan management area map

Detailed maps of Bull Prairie Campground area for each alternative

Chapter 2

Alternatives

ALTERNATIVES

Chapter 2 describes and compares the No Action, Proposed Action, and 3 alternative ways to manage OHV[1] travel on the West End of the Heppner District. These alternatives were designed to address or resolve the relevant issues identified through public involvement and cause/effect analysis. A team of resource specialists (Interdisciplinary Team) developed these alternatives within the framework of the Forest Plan and applicable laws. Also presented are alternatives considered but eliminated from detailed study and the reasons for their elimination. This Chapter concludes with a comparative summary of the alternatives considered in detail. This comparison, combined with the more detailed disclosure in Chapter 3, provides the information necessary for the Responsible Official to make an informed choice between alternatives.

Range of Alternatives

The alternatives for this project were designed to express a range of possible actions. The interdisciplinary team developed the range of alternatives and project design elements presented in this chapter, based on the Purpose and Need and the issues described in Chapter 1.

An adequate range of alternatives is one that fully meets the Purpose and Need and addresses the relevant issues. An alternative to the Proposed Action must: (1) address one or more of the issues; and (2) meet the Purpose and Need. An action alternative that does not meet both criteria may be eliminated from detailed study.

Other influences on the development of alternatives included: Forest Plan goals and objectives, Forest Plan standards and guidelines, consultation requirements under the Endangered Species Act, and other federal and state laws and regulations. Considering these influences, the interdisciplinary team developed alternatives that address a range of designated routes and effects on resources.

Alternatives Considered in Detail

Alternative 1: No Action

Alternative 1 is a No Action Alternative that would allow the previously approved July 1992 Motorized Access and Travel Management Environmental Assessment and Decision Notice to continue as the management direction for OHV use in the West-End area of the Heppner Ranger District. There would be a total of 207 miles of roads for OHV use and Class I and III OHV cross country travel would be permitted throughout the general forest area.

Under the No Action Alternative all classes of OHV travel would continue on all National Forest system roads designated open to mixed use and overland Class I and III OHV use off roads would continue within the general forest area. Class I and III OHV use in the Winter Range is allowed only on designated trails (open roads) in compliance with seasonal use restrictions. The seasonal use restriction is: seasonal roads are open to OHV from April 16 to November 30.

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[1] OHV use within the project area refers to the following OHV vehicle descriptions as described in 36 CFR :
Class I – (quads, 3- wheelers) vehicles 50 inches or less in width, dry weight of 800 pounds or less, has a saddle, and travels on three or four wheels.
Class II OHVs include – (Jeeps, Sand Rails, SUVs, Side X Sides, etc) vehicles wider than 50", and dry weight of more than 800 pounds.
Class III – (motorcycles) vehicles on two tires, dry weight less than 600 pounds.

The no action alternative allows for the most non restrictive use of OHVs. There would be 207 miles of designated roads and overland travel permitted throughout the general forest. A detailed map of Alternative 1 can be found in Appendix A.

Table 2-1: Alternative 1 – Designated OHV use

	Open all year (Green)	**Seasonal restrictions (Blue)**	**Total Miles**
Designated roads: Class I, II, and III OHVs (Map designation – solid)	189	18	207
Designated trails: Class I and III OHVs only (Map designation – dashed)	0	0	0
Designated new trails: Class I and III OHVs only (Map designation – triple parallel line)	0	0	0
Overland travel of Class I and III OHVs	Yes		
Total	189	18	207

Alternative 2: Proposed Action

The Proposed Action identifies a designated system of roads and trails that would be available for OHV use. There would be a total of 290 miles of roads and trails available as motorized trails for OHV use. Existing open and closed roads would be designated as an OHV system. New trails would be added to provide connections to other trail systems on the Forest and to the Morrow/Grant County OHV Park. OHV travel from an open road up to 300 feet laterally for camping or wood gathering is allowed, provided that travel over or around a physical road-closure device is not required. No OHV use would be allowed off of designated trails. The proposal focuses on roads and routes that were important to the users and provided access to key destinations on the forest, loop systems within the designated system, and connections into the Morrow/Grant County OHV Park. A detailed map of the Proposed Action can be found in Appendix A. The proposed action would designate OHV use to include:

Table 2-2: Alternative 2 – Designated OHV use

	Open all year (Green)	Seasonal restrictions (Blue)	Total Miles
Designated roads: Class I, II, and III OHVs (Map designation – solid)	189	18	207
Designated trails: Class I and III OHVs only (Map designation – dashed)	46	31	77
Designated new trails: Class I and III OHVs only (Map designation – triple parallel line)	5.5	0.5	6
Cross country travel of Class I and III OHVs	No		
Total	240.5	49.5	290

Designated roads:

207 miles of designated roads that are open to all motor vehicle traffic would be designated open for Class I, Class II, and Class III OHVs. OHV travel from an open road up to 300 feet laterally for camping or wood gathering is allowed, provided that travel over or around a physical road-closure device is not required. The Alternative 2 Map identifies designated roads as a solid line.

Designated trails:

77 miles of designated trails would be available for Class I and III OHV use. Class II OHV use would not be permitted on these routes. Off road use would not be allowed from designated trails. The Alternative 2 Map identifies designated trails proposed to be open for OHV use as a dashed line.

Designated new trails:

6 miles of new trail would be designated as motorized trails for Class I and III OHV use.

There would be 7 sections of constructed or designated new trails to close loops or connect two trail systems. The Alternative 2 Map identifies trails proposed to be designated or constructed for OHV use as a triple parallel line. Trails are located throughout the project area:

- The proposed trail in section 15, T 7 S, R 25 E would provide a connection from Fairview Campground to FS Road 2500400. (See Alternative 2 Map).
- The proposed trail in section 25, of T. 7 S., R. 25 E. along with trails proposed in section 31 of T 7 S, R 26 E and sections 6 and 8 of T 8 S, R 26 E would provide a route around the 24 road that is closed to OHV use due to mixed use restrictions.
- The proposed trail in section 10 of T. 7S, R. 26 E. would provide a connection from 2128060 road to the 2128030 road providing access into the Morrow/Grant County OHV Park.
- The proposed trail in section 23 of T. 7S, R. 26 E. would provide a connection from the 2128065 road to the 2128060 road. This connection would provide a loop connection between the Morrow/Grant County OHV Park and the National Forest.
- The proposed trail in section 2 of T. 8 S., R. 26 E would provide a connecting loop between the 2400156 and the 2309020. This route was identified by the public as a popular riding loop.

Seasonal restrictions:

Seasonal restrictions would be associated with 49.5 miles of designated roads, designated trails and designated new trails (see Alternative Map 2, seasonal roads and trails are identified in blue).

- Forty-three miles of designated roads and designated trails within the Monument and Kahler Winter Ranges would include seasonal restrictions for OHV use. There would be 18 miles of designated roads seasonally closed to all motor vehicle traffic and twenty five miles of designated trails seasonally closed to OHV use. The seasonal restrictions would be consistent with the Heppner Ranger District Access and Travel Management Plan for the Monument and Kahler Winter Ranges. Winter Range seasonal restrictions are closed December 1 thru April 15. No OHV use on these designated roads and designated trails would be allowed during the closed period.
- A 6.5 mile designated route and trail, closed FS Road 2128065 and the proposed connecting trail at the southern end of this route, would be closed from September 15 thru December 1 to coincide with the big game rifle hunting season. This seasonal closure is located in Sections 2, 11, 13, 14, 23, and 24 of T. 7 S., R. 26 E.

OHV use limits:

- OHV use would not be allowed within the Bull Prairie Campground and administrative site (see Map 8, Appendix A). The gate on the 2307035 would be the boundary on the southern end of the campground. The 2000350 and the 2039000 would be the boundary at the north end of the campground.
- OHV use would not be allowed cross-country.
- OHV use would not be allowed on closed roads unless identified as a designated trail.
- OHV use would not be allowed off designated trails.

The proposed action would eliminate cross-country travel and the use of closed roads and user created trails within the project area that were determined to conflict with general criteria as outlined in the Travel Rule. The proposed action provides 290 miles of designated roads and designated trails for Class I and Class III OHV use. Class II OHVs would have access to 207 miles of those designated roads.

Changes to the Proposed Action following scoping:

Minor changes to the proposed action have been made based on information gathered or mapping errors

identified following the release of the Proposed Action to the public.

2300018 Removed from proposed action, a culvert has been removed. This road was previously decommissioned.

2400014 Removed from proposed action, this is an isolated closed road.

2039020 Show as open, mapped incorrectly in proposed action.

2400000 Correct mixed use road allocation, mixed use restriction ends at the junction of the 2406000.

Alternative 3:

Alternative 3 would only allow OHV use on existing designated roads. This alternative more closely matches the OHV policy on the east end of the district and is an alternative proposed during the scoping process. There would be 207 miles of designated roads available for travel. OHV travel from an open road up to 300 feet laterally for camping or wood gathering is allowed, provided that travel over or around a physical road-closure device is not required. This alternative also serves as a baseline for comparison, along with the No Action Alternative. Together they represent the outer limits of the motorized access decision space for this action. A detailed map of Alternative 3 can be found in Appendix A. This alternative meets the purpose and need by designating roads where OHV use would be allowed.

Table 2-3: Alternative 3 – Designated OHV use

	Open all year (Green)	Seasonal restrictions (Blue)	Total Miles
Designated roads: Class I, II, and III OHVs (Map designation – solid)	189	18	207
Designated trails: Class I and III OHVs only (Map designation – dashed)	0	0	0
Designated new trails: Class I and III OHVs only (Map designation – Yellow and black solid line)	0	0	0
Cross country travel of Class I and III OHVs	No		
Total	189	18	207

Designated roads:

207 miles of designated roads that are open to all motor vehicle traffic would be designated open for Class I, II, and III OHV use.

Designated trails:

No trails would be designated for Class I, II, and III OHV use.

Designated new trails:

No new trails would be designated for OHV use.

Seasonal restrictions:

Seasonal restrictions in Alternative 3 would include the same 18 miles of road in the Monument Winter

Range as in Alternative 2. This seasonal closure would apply to Class I and III OHV use as well. The winter range seasonal restrictions are closed roads December 1 thru April 15. No OHV use on these roads would be allowed during the closed period (See Map 3, seasonal roads are identified in blue).

OHV use limits:

- OHV use within the Bull Prairie Campground would be the same as Alternative 2. OHV use would not be allowed within the Bull Prairie Campground administrative site.
- OHV use would not be allowed cross-country.
- OHV use would not be allowed on closed roads.

Alternative 4:

This alternative was developed to address the general concern expressed regarding the need for small loops and larger connections across the project area, between the Morrow/Grant County OHV Park, connecting areas east and west of Highway 207, and to provide access to developed campgrounds for OHV users. The proposed action was reviewed with site specific comments made about loops and the Interdisciplinary Team's review to make connections between areas. There would be 207 miles of designated roads and 86 miles available as designated trails and designated new trails for a total of 293 miles available for OHV use. New trails would be added to provide connections to other trail systems on the forest and provide loops and access to the Morrow/Grant County OHV Park. The proposal focuses on roads and routes that were important to the recreational users and provided access to key destinations on the Forest, connections into the Morrow/Grant County OHV Park, access to a portion of the campsites at Bull Prairie Campground, and maximize loop systems. A detailed map of Alternative 4 can be found in Appendix A. Alternative 4 would designate OHV use to include:

Table 2-4: Alternative 4 – Designated OHV use

	Open all year	Seasonal restrictions	Total Miles
Designated roads: Class I, II, and III OHVs (Map designation – solid)	189	18	207
Designated trails: Class I and III OHVs only (Map designation – dashed)	53	25	78
Designated new trails: Class I and III OHVs only (Map designation – (triple line)	8	0	8
Cross country travel of Class I and III OHVs	No		
Total	250	43	293

Designated roads:

207 miles of designated roads that are open to all motor vehicle traffic would be designated open for Class I and Class III OHV. This would be the same as Alternative 2 with two roads added within the Bull Prairie Campground and administrative site.

- In section 7 of T. 7 S., R. 28 E. extend the designation of FS Road 2307035 into the south campground and designate FS Road 2309000 into the north campground as designated roads within the Bull Prairie Campground and administrative site.

Designated trails:

78 miles of roads that are currently closed to highway legal motor vehicles would be designated as open motorized routes for Class I and III OHV use. Three additional designated trails would be included along with those routes identified in Alternative 2. Additional designated trails would be included as follows:

- In section 3 of T. 7 S., R. 24 E. designate FS Road 2140428 as a designated trail to connect a designated new trail between FS Roads 2142000 and 2140428. This route would provide access around mixed use restriction on Road 2100000.
- In section 12 of T. 7 S., R. 24 E. and sections 6 and 7 of T. 7 S., R. 25 E designate FS Road 2100393 as a designated trail to create a connection between Road 2141000 and 2100390. This would provide access around mixed use restrictions on FS Road 2100000 permitting riders to move between the Collins Butte area and the Fairview Campground area.
- In section 9 of T. 7 S., R. 25 E designate FS Road 2516101 as a designated trail to coincide with a new trail that would provide a shorter route out of Fairview Campground to the east side of State Highway 207.

Designated new trails:

Eight miles of new trail would be constructed or designated as new trails for Class I and III OHV use. This would include the seven sections identified in Alternative 2 (6 miles) plus six new sections (2 miles) specific to Alternative 4. Designated new trails are used to close loops or connect two trail systems. Additional trails unique to Alternative 4 would be included as follows:

- In section 3 of T. 7 S., R. 24 E. designate a new trail between 2100000 and 2140428 to provide a connection between the north and south areas of Road 2100000.
- In section 13 of T. 7 S., R. 24 E. designate a new trail between 2141020 and 2141040 to create a popular riding loop identified by the public.
- In section 17 of T. 7 S., R. 24 E. designate a new trail between 2142095 and 2500059. This connects a ridge on FS Road 2142000 to FS Road 2500000.
- In section 9 of T. 7 S., R. 25 E. designate a new trail between 2516000 and 2516101 to provide a shorter route out of Fairview Campground to the east side of State Highway 207.
- In section 10 of T. 7 S., R. 25 E. designate a new trail between 2000350 and 2516102 to provide a location for a designated OHV crossing of State Highway 207.
- In section 9 of T. 7 S., R. 26 E. designate a new trail between the south end of Morrow/Grant County OHV Park to 2307040. This trail would connect into a new trail system currently under development in the OHV Park.

Seasonal restrictions:

- Alternative 4 would include the same seasonal restrictions in the Big Game Winter Ranges as Alternative 2.
- There would be no seasonal restriction on the designated route 2128065 and new trail.

OHV use limits:

- OHVs would not be allowed within the paved portions of the Bull Prairie Campground administrative site (see Map 9, Appendix A).

- OHV use would not be allowed cross-country.
- OHV use would restrict travel on closed roads not identified as designated trails.

Alternative 5:

Alternative 5 addresses the general comments about wildlife concerns while still addressing the need for loops and trail connections. There would be 207 miles of designated roads and 26 miles available on designated trails and designated new trails for a total of 233 miles available for OHV use. A detailed map of Alternative 5 can be found in Appendix A. Alternative 5 would designate OHV use to include:

Table 2-5: Alternative 5 – Designated OHV use

	Open all year	Seasonal restrictions	Total Miles
Designated roads: Class I, II, and III OHVs (Map designation – solid)	189	18	207
Designated trails: Class I and III OHVs only (Map designation – dashed)	13	8	21
Designated new trails: Class I and III OHVs only (Map designation – (triple line)	5	0	5
Cross country travel of Class I and III OHVs	No		
Total	207	26	233

Designated roads:

207 miles of designated roads that are open to all motor vehicle traffic that would be designated open for Class I, II, and III OHV use as well. This would be the same as Alternative 2.

Designated trails:

13 miles of roads that are currently closed to motor vehicles would be designated as open motorized trails for Class I and III OHV use. Three of these designated trails would link the trail system back into the Morrow/Grant County OHV Park. Four sections of designated trails are associated with the FS Road 24 mixed use bypass. Nineteen other designated trails are proposed to provide loops, connections and access to various viewpoints or destinations throughout the project area.

Designated new trails:

Five miles of new trail would be designated as motorized trails for Class I and III OHV use. Five trails proposed in Alternative 2 would also be included in Alternative 5. This would include the trail at Fairview Campground, the three connecting trails bypassing the mixed use restriction on the 2400000 road, and the trail connecting the 2128060 to the 2128030 and leading into the Morrow/Grant County OHV Park.

One additional trail is proposed to connect the north half of the 2128065 designated route to the 21287064.

Seasonal restrictions:

Alternative 5 would include the same seasonal restrictions in the Monument Winter Range as Alternative 2. The use restrictions would include 26 miles of designated roads and designated trails. Alternative 5 has proposed 23 fewer miles of designated trails than proposed in Alternative 2. The designated trail, FS Road

2128065, would be shortened with a different connecting designated new trail than proposed in Alternative 2. There would be no seasonal restriction on designated trail FS Road 2128065 and associated new trail.

OHV use limits:

- OHV use within the Bull Prairie Campground would be the same as Alternative 2. OHV use would not be allowed within the Bull Prairie Campground administrative site.
- OHV use would restrict travel cross-country in the general forest.
- OHV use would restrict travel on closed roads not identified as designated trails.

Alternatives Considered but not in Detail

Open Forest Road 2128000 for OHV use.

The Travel Rule identifies specific criteria for the designation of roads considered for OHV use: speed, volume of traffic, composition and distribution of traffic on roads, and the compatibility of vehicle class with road geometry and road surface. The mixed use analysis considered these parameters when designating area roads as closed to OHVs. This determination was made outside of the scope of this project. OHV use on roads where highway legal motor vehicle traffic mixed with OHV use (mixed-use) creates high levels of safety concerns will not be included in this analysis. The mixed use analysis identified twenty-nine miles of roads open to motor vehicle traffic that will be closed to all classes of OHV use due to mixed use concerns under all alternatives. This would include the paved portion of FS Road 2039 into Bull Prairie, FS Road 21-West from State Highway 207 to FS Road 25, 4.6 miles of FS Road 2128 and FS Road 24 from Highway 207 to junction with FS Road 2406. Alternative routes to roads closed to OHV use due to mixed use restrictions were considered in alternative development.

Designate trails for Class II vehicles

This alternative was not fully developed due to the difference in size, weight and capability of Class II OHVs compared to Class I and III OHVs. All designated roads would be open for Class II OHV use. The 1992 ATM plan provides 207 miles of designated roads for Class II OHV use. These 207 miles of designated routes are included in all alternatives. It was determined that enforcement challenges between Class II OHVs and small pickups would be difficult with the current resources available. Therefore the decision to limit vehicle size on designated trails was drawn at Class I and III OHVs. By limiting the type of OHV use on designated trails it was possible to include additional routes for the use by Class I and III OHVs.

Build a trail around Bull Prairie to connect the 2039000 (north) and 2307035 (south) sides of the reservoir.

Due to the restrictions in the Bull Prairie Campground identified in the proposed action a commenter requested an alternative route to get to roads and trails on either side of the campground. This alternative was not fully developed because access around the campground is provided using designated routes through the Morrow/Grant County OHV Park on existing designated roads and trails. There is not a cross country route currently being used by OHV riders and a specific location has not been identified to locate this trail.

Allow OHV full access to Bull Prairie Campground and administrative site.

OHV use in the Bull Prairie Campground has increased in recent years. This reservoir is designated by the Oregon State Marine Board as a motor prohibited water body (OAR-ORS: 250-020-0125). A general criterion of the Travel Rule includes consideration of conflicts among uses of National Forest System lands when considering the designation of roads and trails (36 CFR 212.55). OHV access to the campground has been limited in all action alternatives. Alternative 1 allows full access into the campground and

Alternative 4 provides access to a portion of the campsites on the outer edges of the campground. See the recreation analysis in Chapter 3 of this EA for a more detailed description of the effects of each alternative on access to Bull Prairie Campground. This alternative was not fully developed as an action alternative because Alternative 1 provides a basis for comparison between access within the campground and restricting that access as described in the proposed action.

Close all roads to OHVs.

During the scoping process it was suggested that an alternative be developed that would restrict OHV use from all roads. This alternative was not developed because it would not meet the purpose and need of the project to designate a system of roads, trails and riding areas for OHV use. The Forest Plan provides guidance and standards for OHV use on the forest. Seven of the management areas within the project area allow some level of OHV use.

Designate all open and closed roads for OHV use but allow no cross country travel.

All open roads included in this analysis are designated open for OHV use. Open roads that are not included in this analysis are either closed to OHV use based on mixed use concerns or because they are roads that are not within the Forest Service's jurisdiction. The interdisciplinary team reviewed each closed road for resource issues that could not be mitigated or that would be cost prohibitive to mitigate. The results of this analysis can be found in the project file. Cross country travel was eliminated from all action alternatives because use of such a large area would not be consistent with the national policy in that the area designation is intended to be limited to small, definable areas, such as sand dune areas, lakebeds or mineral quarries where such use can be effectively contained and managed and has limited resource impacts. With continued increase in the use of OHV for recreation and considering the size and landscape of this area this approach would be hard to manage and result in the undesirable impacts to resources.

Eliminate all connections between the Forest and the Morrow/Grant County OHV Park

An alternative to eliminate connections between the OHV Park and the Forest Service was not considered in detail because people are currently enjoying the OHV Park and heading onto National Forest lands to enjoy various recreational activities. Activities may include sight seeing from OHVs, riding to a specific area to picnic or fish, and recreational riding. An alternative that does not meet the purpose and need of the project can be eliminated from detailed analysis. Eliminating connections to the OHV Park would not meet the purpose and need to provide connections to the Morrow/Grant County OHV Park. The proposed action and the alternative actions provide a variety of connections to the OHV Park (see Alternative Comparison Table at the end of this Chapter).

Designate OHV riding areas

Although many people enjoy the cross country travel currently occurring within the project area an alternative was not developed that provides a designated riding area. Throughout the development of this project and the scoping of the proposed action no specific areas were identified by the public as a desired riding area. A designated riding area is intended to be limited to small, definable areas, such as sand dune areas, lakebeds or mineral quarries where such use can be effectively contained and managed and have limited resource impacts. The project area does not contain any areas or terrain that would lend itself to a defined space where overland travel would be a manageable form of recreation for OHV users. For these reasons an alternative that included designated riding areas was not fully developed.

Management Requirements and Project Design Elements

The Umatilla National Forest uses two types of mitigation when planning or implementing any project. Management requirements would be implemented to meet the stated objectives. These requirements

represent standard operating procedures or Best Management Practices for the protection of forest resources. The source for the requirements is the Forest Plan guidelines and provisions developed by the Umatilla National Forest. Project design elements are practices that the interdisciplinary team develops during the analysis to address site-specific environmental concerns that were not sufficiently addressed by existing management requirements.

1. The design, location, and maintenance of OHV routes would be the result of specific trail management objectives developed for each OHV trail by a number of resource specialists.
2. Monitoring OHV activities in order to detect existing and likely future impacts to water quality and aquatic features. If impacts exist or are likely to occur, appropriate corrective measures would be implemented.
3. Design of OHV trails would avoid tight radius curves and steep slopes where possible.
4. OHV trail construction would occur when the soil is dry, include developing needed drainage structures, and seeding the sites before the rainy season.
5. During trail layout and construction follow existing edges and openings; minimize trail construction within interior closed canopy forest.
6. Do not construct OHV trails within Dedicated Old Growth or winter range habitat.
7. Avoid green trees and snags where possible during trail construction. If green trees and snags are felled during construction, leave them where they lay unless necessary to cut them out of the trail.
8. Downed wood cut out of trails during trail maintenance should remain on the forest floor.
9. Minimize width of constructed trails to accommodate 50 inch width OHV use.
10. Provide the Forest Service personnel with weed identification material so that they might be better able to recognize the presence of noxious weeds. Display weed information for public users on information boards.
11. Access routes and areas where disturbance has occurred will be inspected and treated for noxious weeds on an annual basis.
12. If priority noxious weeds are found on designated trails the route may need to be closed until the area has been treated.

Monitoring and Evaluation

Monitoring would occur for the consistency of the effects of motor vehicle use on designated roads and trails and in designated areas with the forest plan when appropriate and feasible (36 CFR 212.57).

Comparison of Alternatives

OHV Planning Comparison of Alternatives.

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 2-6. Comparison Response to Purpose and Need by Alternative:

	1	2	3	4	5
There is a need for travel management on the Heppner Ranger District to be consistent with the Travel Rule by designating roads, trails, and areas for OHV use.	Cross country travel on 61,000 acres throughout the project area and 207 miles of designated roads for OHV use. Does not comply with the Travel Rule.	Designated system includes 290 miles of roads, and trails for OHV use. Complies with the Travel Rule.	Designated system includes 207 miles of roads, and trails for OHV use. Complies with the Travel Rule.	Designated system includes 293 miles of roads, and trails for OHV use. Complies with the Travel Rule.	Designated system includes 233 miles of roads, and trails for OHV use. Complies with the Travel Rule.
Potential for impacts from cross country travel associated with noxious weed spread, sedimentation, fish habitat, water quality, and the disturbance of big game habitat.	Impacts to resources would occur where OHV travel cross country and along designated routes. Unable to locate or monitor impacts from all OHV cross country use.	Impacts to resources would only occur along 290 miles of designated routes. Monitoring and management of impacts would be possible.	Impacts to resources would only occur along 207 miles of designated routes. Monitoring and management of impacts would be possible.	Impacts to resources would only occur along 293 miles of designated routes. Monitoring and management of impacts would be possible.	Impacts to resources would only occur along 233 miles of designated routes. Monitoring and management of impacts would be possible.
Disturbance of big game while occupying the general forest area, particularly within the Fossil big game management area. **(Miles of OHV system roads and trails per square mile in the general forest area)** **(elk security areas, cover > ¼**	Fossil Big Game Unit 4.2 miles/mile² and 0 acres of elk security. Heppner Big Game Unit 3.2 miles/mile² and 0 acres of elk security.	Fossil Big Game Unit 2.6 miles/mile² and 3,263 acres of elk security. Heppner Big Game Unit 2.3 miles/mile² and 10,913 acres of elk security.	Fossil Big Game Unit 2.6 miles/mile² and 4,140 acres of elk security. Heppner Big Game Unit 1.6 miles/mile² and 15,307 acres of elk security.	Fossil Big Game Unit 2.7 miles/mile² and 3,127 acres of elk security. Heppner Big Game Unit 2.3 miles/mile² and 10,939 acres of elk security.	Fossil Big Game Unit 2.4 miles/mile² and 3,944 acres of elk security. Heppner Big Game Unit 1.8 miles/mile² and 13,902 acres of elk security.

mile from OHV routes)					
Adjust OHV use within the Bull Prairie Campground to minimize conflicts between users.	No adjustment made. Operation of OHVs would continue within and through the campground. Possible conflicts between users.	Operation of OHVs in the campground or traveling through the campground would not be allowed. Possible conflicts between users reduced.	Same as Alternative 2	Operation of OHVs would be allowed at 6 campsites located in the north and south camping areas but not within the main portion of the campground. OHVs would not be allowed to travel through the campground. Possible conflicts between users reduced from Alternative 1 but greater than alternative 2, 3, and 5.	Same as Alternative 2
There is a need to provide logical connections to meet public demand for loop rides, restore connections where connections have been eliminated due to the risk to public safety, and to provide connections to the Morrow/Grant County OHV Park.	Cross country travel provides the opportunity to make connections. 2 designated connections to OHV Park and 2 connections made by cross country travel.	Designated trails identified to complete loop rides and make connections between designated roads. Designates new trails to validate user created routes. Designates trail to bypass FS 24 road. 4 designated connections to OHV Park provide access to east half of project area.	No connections or loops using designated trials. OHV use only on roads also open to passenger vehicles. No bypass of mixed use restricted roads. 2 connections to OHV Park with access to about 6 miles of the National Forest OHV road and trail system.	Loops and connections are the same as Alternative 2 with 6 additional connections or loop opportunities. Includes trail to bypass FS 24 Road. 5 designated connections to OHV Park providing access to the entire project area.	Loops and connections reduced compared to alternative 2, several connections remain. Includes trail to bypass FS 24 Road. Same connection locations to OHV Park as Alternative 2.

Table 2-7. Comparison of Effects to Resources by Alternative

Recreational Opportunities	1	2	3	4	5
Total Miles Available for OHV Travel	207+	290	207	293	233
Designated trails – open all year (miles)	0	46	0	53	13
Designated trails - seasonal (miles)	0	31	0	25	8
Designated new trail – open all year	0	5.5	0	8	5
Designated new trail - seasonal	0	.5	0	0	0
Cross country travel of Class I and III OHVs	Yes	No	No	No	No
OHV rider access to developed National Forest campgrounds: allowed to ride OHVs in and out of campsites.	OHV riders have access to all campsites within Bull Prairie and Fairview campgrounds.	OHV riders have no access to campsite within Bull Prairie and have access to all of Fairview campground	No OHV rider access	OHV riders have access to a portion of Bull Prairie campsites and all of Fairview	Same as Alternative 2
OHV Park Connections	2 + cross country	4	2	5	4
Loops and connections around mixed use restrictions on FS Roads 21, 24, and 2128	Cross country	035 trail gets you from north of 21 to route system to the west. 3 mile by pass trails parallels the 24 road. Trail 065 partially parallels 2128 although it does not directly connect to Big Wall Creek.	No	Same as Alternative 2	Roads 21 and 24: Same as Alternative 2. Road 2128: designate Trail 065 connects into 064 and 060 to get you into Grassy Butte area. Does not directly connect to Big Wall Creek.
Designated new trails to create	Cross country	Limited	No	Yes	No

riding loops: 020 to 156, 2142 to 428, and 2141 to 390.					
Access to Specified View Points	All - Cross country	All	Limited	All	All
Non-Motorized Influence Zone (acres) (area > 0.5 mile from OHV use)	0	7,867	12,281	7,799	10,893

Wildlife and Wildlife Habitat	**1**	**2**	**3**	**4**	**5**
Acres of Rocky Mountain Elk habitat: > 0.25 miles from designated routes in the Monument Winter Range	0	9,255	11,896	9,255	10,783
Acres of Rocky Mountain Elk habitat: > 0.25 miles from designated routes in the Kahler Winter Range	0	1,795	2,528	1,795	2,506
Acres of Rocky Mountain Elk habitat: > 0.25 miles from designated routes in the E1 Management Area	0	14,869	20,726	14,674	18,544
Potential American marten habitat: miles of designated trail within habitat	No designated trails identified	21.1 - foraging 8 - denning	0	21.8 - foraging 8.3 - denning	6 - foraging 2.7 - denning
Columbia Spotted Frog - Sensitive	May Impact	No Impact	No Impact	No Impact	No Impact
Bald Eagle -Sensitive	May Impact	No Impact	No Impact	No Impact	No Impact
All other Endangered, Threatened, and Sensitive species	No Effect/Impact	No Effect/Impact	No Effect/Impact	No Effect/Impact	No Effect/Impact

Hydrology and Soils	**1**	**2**	**3**	**4**	**5**
Detrimental soil condition (acres) from newly designated trails	N/A	2.9	0	3.9	2.4
Erosion potential from OHV use on designated trails (tons/year)	88[2]	29	0	30	9
Potential stream sedimentation (tons/year)	0.015	0.007	0	0.007	0.002
OHV trail crossings of streams	465[2]	154	0	155	36
[2] For comparison purposes the total miles of closed roads were used to account for cross country travel throughout the project area.					

Fish and Aquatic Habitat	**1**	**2**	**3**	**4**	**5**
Mid-Columbia Steelhead	May Effect	May Effect (Beneficial)	May Effect (Beneficial)	May Effect (Beneficial)	May Effect (Beneficial)
Interior Redband Trout	May impact individuals or habitat	May Impact (Beneficial)	May Impact (Beneficial)	May Impact (Beneficial)	May Impact (Beneficial)
Designated Critical Habitat for Steelhead	May Effect	May Effect (Beneficial)	May Effect (Beneficial)	May Effect (Beneficial)	May Effect (Beneficial)
Essential Fish Habitat for Chinook Salmon	May Effect	May Effect (Beneficial)	May Effect (Beneficial)	May Effect (Beneficial)	May Effect (Beneficial)

Botany and Noxious Weeds	**1**	**2**	**3**	**4**	**5**
Arrow-leaved thelypody	May impact individuals or habitat	No Impact	No Impact	No Impact	No Impact
Bolander's spikerush	May impact individuals or habitat	No Impact	No Impact	No Impact	No Impact

Potential miles of roads and trials where noxious weeds could be distributed	430[3]	290	207	293	233
Annual cost to survey and treat designated trails system.	$13,000+	$6,059	$0	$6,278	$1,889
[3] Total miles under Alternative 1 includes all closed roads in the project area to account for cross country travel disturbance.					

Undeveloped areas	**1**	**2**	**3**	**4**	**5**
Happy Jack – miles of new trail	Cross country	0.8	0	0.8	0
Keith Canyon – miles of new trail	Cross country	2.7	0	2.7	2.7
Willow Springs – miles of new trail	Cross country	0.4	0	0.4	0

Chapter 3

Environmental Consequences

Analysis of Resources

ENVIRONMENTAL CONSEQUENCES

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives presented in the chart at the end of Chapter 2.

For the purpose of comparing alternatives the no action alternative will be analyzed as the 1992 Motorized Access and Travel Management Decision as it is being implemented today. This would include cross country travel occurring within the entire project area throughout the year.

Recreational Opportunity

This section incorporates by reference the Recreation Specialist Report contained in the Project Record located at the Heppner Ranger District. Methodologies, assumptions and limitations of analysis and other details are contained in the report. A summary of the affected environment and predicted effects of the alternatives are discussed here.

OHV Oriented Activities

An issue that was brought up during scoping and project development was the concern that eliminating cross country motorized use would reduce OHV opportunities.

The analysis compares:

- Connections or access important to OHV users including: loops and connections, access to viewpoints, and access to the Morrow/Grant County OHV Park
- Miles of designated roads and trails open to OHV use

Affected Environment

OHVs currently access to the entire 91,000 acre project area for OHV activities although most use occurs on open and closed roads. Because there is no defined boundary where the winter range begins and the general forest ends enforcement of OHV cross country travel has not occurred within the project area. Therefore OHVs have had the ability to create any loop or connection or to reach any destination limited only by their riding ability and the terrain. Access between the OHV Park and the Forest Service land could occur anywhere due to the cross country travel allowed on the National Forest but because the OHV Park has a designated trail system, and does not allow riders off of that system, access between the OHV Park and the Forest Service land is limited to those trails designated by the OHV Park.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

Loops and Connections

Since cross country travel occurs throughout the project area in the No Action Alternative the need for loops and connections can be made overland. Riders would continue to use open terrain to ride around obstacles and make needed connections cross country.

Views Points

This Alternative allows access to the major view points such as Wheeler Point, Collins Butte, Ant Hill, Little Tamarack Mountain, and Tamarack.

Morrow/Grant County OHV Park Access

The OHV Park is currently fencing the parks boundary and has designated trails. There is currently four locations were there is access into the park from the project area. These four locations are the only access into the OHV Park because the park does not allow cross country travel.

- Road 2039 and Road 2128 connects to the day use area.
- The OHV Park has installed a gate at designated trail 2100320.
- The OHV Park has installed a gate at designated trail 2128030.
- Cross country would no longer connect the OHV Park and the adjacent National Forest land due to the park boundary fence.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Loops and Connections

During project development some popular loops currently being used as OHV trails were incorporated into the designated system. These loops and connections were included in the proposed action after review by the interdisciplinary team to determine if resource damage would be limited or mitigated. A total of 77 miles of designated trails would be included to provide connections between designated roads (see Alternative 2 map in Appendix A). These connections would make riding loops and provide OHV users access between road systems that would otherwise have required backtracking or riding for many additional miles on roads open to vehicle traffic. In addition to the 77 miles of designated trails this alternative proposes to include 6 miles of new trail designation to enhance riding opportunities throughout the project area. The new trails are as follows:

- The proposed trail in sections 2 of T. 8 S., R. 26 E would provide a connecting loop between roads 2400156 and 2309020; a popular loop mentioned during project development.

- The proposed trail in section 25, of T. 7 S., R. 25 E. along with trails proposed in section 31 of T 7 S, R 26 E and sections 6 and 8 of T 8 S, R 26 E would provide a route around the 24 road that is closed to OHV use.
- The proposed trail in section 15, T 7 S, R 25 E would provide a connection from Fairview campground to FS Road 2000400. This would be the only OHV route in and out of the campground.
- The proposed seasonal trail in section 23 of T. 7S, R. 26 E. would provide a connection from the 2128065 road to the 2128060 road. This trail provides a large loop out of the OHV Park and also connects into most of the designated OHV system east of State Highway 207.

Views Points

This Alternative allows access to the major view points, such as the Wheeler Point area, Collins Butte, Tamarack Mountain, Little Tamarack Mountain, and Ant Hill.

Morrow/Grant County OHV Park Access

There are four connections proposed along the southern boundary of the Morrow/Grant County OHV Park (OHV Park).

- 2128320, this connection would provide access into the OHV Park on the west side.
- 2039000 is a designated road that enters the OHV Park one mile northeast of Bull Prairie.
- 2128065, this connection would provide OHVs access to the OHV Park on the east side of the OHV Park except during the rifle hunting seasons.
- 2128030 are proposed as designated trails and will include a new designated trail to tie into the OHV Park about one mile west of the seasonally designated trail on the east side of the OHV Park. These trails would complete the large loop out of the OHV Park.

Cumulative Effects

The Morrow/Grant County OHV Park is located along the northern boundary of the east portion of the project area. Connections to the OHV Park are included in the direct and indirect effects. There are several locations along the project boundary that are administered by the Bureau of Land Management. None of these areas have roads or designated OHV trials that are connected into the proposed Forest Service designated trail system. All other property along the boundary is privately owned. For this reason there are no other areas outside of the OHV Park that would affect loops or connections, access to viewpoints or access into the OHV Park.

Other projects occurring on the District that may affect use of designated routes would include temporary road closure for active timber sales, prescribed burning, road maintenance, or wildfire suppression. At any time one of these activities could temporarily close or block a designated route. Gates used for grazing allotment management may also create the appearance of a closure but would not eliminate OHV access to a designated road or trail.

Alternative 3

Direct and Indirect Effects

Loops and Connections

There are no new trails, loops, or connections in this Alternative. Only roads open to highway legal vehicles are designated as OHV routes.

- There is still a connection by open roads from the 25 road area and the top of the ridge road 2142, and roads 2516/2519.
- There is limited riding in the Long Prairie and Brown Creek area.
- Roads 23 and 2402 would have a dead end.
- The Whitetail Butte area would have limited riding other than open road 2000350.
- OHVs can still ride between the Grassy Butte Area south of Bull Prairie on open roads.

Views Points

- Access to Tamarack Mountain and the Wheeler Point area would remain under this alternative. These view points are accessible by all highway legal motor vehicles.
- There would be no OHV access to Collins Butte.
- There would be no OHV access to Ant Hill.

Morrow/Grant County OHV Park Access

There would be two connections between the OHV Park and the National Forest.

- Designated Road 2039 would bring all OHV riders that want to access the National Forest into the Bull Prairie area and out to state Highway 207. The total designated roads available to ride OHV from this connection would be about 7 miles. This designated road would not provide connections to other riding areas on the National Forest.
- Designated Road 2128 would provide about half mile of OHV riding before reaching a road designated as closed to OHV use.

Cumulative Effects

Cumulative effects are the same as described in Alternative 2.

Alternative 4

Direct and Indirect Effects

Loops and Connections

Alternative 4 addresses the idea of providing riding loops and larger connections across the project area between the Morrow/Grant County OHV Park and connecting areas east and west of Highway

207. All designated roads and designated trails would include those identified in Alternative 2 with five additional trail designations and one designated trail altered. Although the mileage difference between Alternative 2 and 4 is small this alternative adds six additional loops for longer rides and develops connections across the entire project area that are not included in Alternative 2.

- Designate a trail on the 2100428 and designate a new trail between 2142000 and 2100428. This route would provide access around mixed use restriction on Road 21 from the Brown Creek-Long Prairie area.
- Designate a trail on the 2100393 to create a connection between designated roads 2141000 and 2100390. This would provide a second connection between the west side of the project area to the center of the project area and also provide access around mixed use restriction on Road 21 from the Brown Creek-Long Prairie area.
- Designate a trail on the 2516101 and designate two new trails to provide a connection between Fairview Campground and a crossing for State Highway 207. One designated new trail would connect the designated road 2516 and 2516101, the other designated new trail would connect the designate roads 2000350 and 2516102. These three designations would provide a location for crossing of State Highway 207. This combination of routes would also provide a shorter route out of Fairview Campground to the east side of State Highway 207. This is the only alternative to designate this connection between the east and west side of Highway 207. OHV users would be able to leave the OHV Park or Bull Prairie campground and ride on the west half of the project area without loading their OHVs on to trailers and driving to a new location to unload.
- Designate an existing trail between 2141020 to 2141040 to validate a current cross country riding loop just north of Collins Butte.
- Designate a new trail between 2142095 and 2500059, connecting the top of the ridge with the Road 25 area.
- The designated trail on the 2128065 and associated trail would be open to OHV use all year. There would not be a seasonal restriction during rifle season. Not having a one trail with a separate seasonal restriction would make all routes in the north half of the project area consistent.

Views points

View points would be the same as in Alternative 2.

Morrow/Grant County OHV Park Access

The three connections proposed in Alternative 2 would be the same in this alternative. One new designated trail between the south end of the Morrow/Grant County OHV Park to Road 2307040 would be included under this alternative. This was suggested by OHV Park managers to create additional loops in and out of the OHV Park.

Cumulative Effects

Cumulative effects are the same as described in Alternative 2.

Alternative 5

Direct and Indirect Effects

Loops and Connections

Alternative 5 eliminates most of the designated trails identified in Alternative 2. The trails designated in Alternative 5 where important riding loops, connections, or destinations that meet a particular route identified during scoping. Ten designated trails were included to create connections to the OHV Park, by pass mixed use restricted roads, or provide access to important view points. Seven areas in the Monument Winter Range include designated trails with seasonal restrictions while still providing access to specific areas. The following designated roads and trails would be included in Alternative 5:

- Designate a trail on road 2141035 to connect roads 2142 and 2141. This connection is important in avoiding Road 21 which is closed to OHV use.
- Designate trails on roads 2142031 and 2142033 as an OHV riding loop.
- The proposed trail in section 25, of T. 7 S., R. 25 E. along with trails proposed in section 31 of T 7 S, R 26 E and sections 6 and 8 of T 8 S, R 26 E would provide a route around road 24 that is closed to OHV use.
- The proposed trail in section 15, T 7 S, R 25 E would provide a connection from Fairview Campground to Road 2000400. This is the only OHV route in and out of Fairview campground.
- Designate a seasonal trail on 2408060 for access above West Bologna Canyon to a high ridge often used as a viewpoint by forest visitors.
- Designate seasonal trails on 2400140 and 2400144 for access to the Bologna Basin area from Ant Hill.
- Designate seasonal trails on 2400218, 2400223 and 2400225. These designated trails are popular riding trails currently being used.
- Designate seasonal trails on 2407046, 2407047 and 2400182 for access to Little Tamarack Mountain and Ant Hill viewpoints.

Views Points

View points would be the same as in Alternatives 2 and 4.

Morrow/Grant County OHV Park Access

The same three connections between the Morrow/Grant County OHV Park are proposed as in Alternative 2 with one adjustment. The designated trail on road 2128065 would be shorter by approximately three miles. This trail would connect to a designated new trail to road 2128064. This proposal would allow the route to be open all year instead of closed during rifle hunting season as in Alternative 2. This would create consistency on seasonal trails within the project area. There would be only one seasonal restriction period on designated trails. This seasonal restriction would be within the Monument and Kahler Winter Ranges consistent with Access and Travel Management for the Heppner District.

Cumulative Effects

Cumulative effects are the same as described in Alternative 2.

Summary

The total miles of routes designated for OHV use varies by 86 miles between alternatives. All alternatives provide access throughout the project area with specific areas of interest or riding opportunities differing by alternative. Table R-1 shows the type of designated route and miles for comparison of overall OHV use within the project area.

Table R-1: Miles of designated OHV routes and areas within the West End OHV Project.

Alternatives	1	2	3	4	5
Designated roads – open all yr (miles)	189	189	189	189	189
Designated roads - Seasonal	18	18	18	18	18
Designated trails – open all year (miles)	0	46	0	53	13
Designated trails - seasonal (miles)	0	31	0	25	8
Designated new trail – open all year	0	5.5	0	8	5
Designated new trail - seasonal	0	.5	0	0	0
Total Miles Available for OHV Travel	207+	290	207	293	233
Cross country travel of Class I and III OHVs	Yes	No	No	No	No

Alternative 1 has no restriction on loops and connections due to cross country travel occurring throughout the project area. Access to all viewpoints would be possible. Access to the OHV Park would be at the counties discretion as to where they locate trails along the common boundary between the OHV Park and the National Forest.

Alternative 2 provides: a designated trail to Fairview Campground, connections to the Long Prairie area, a riding loop OHV riders are currently using, routes to bypass roads closed to OHVs, access to all view points, and several connections into the OHV Park. Alternative 2 does not provide access across Highway 207 or access between areas north of Long Prairie to areas east and Fairview campground.

Alternative 3 does not provide a connection to Fairview Campground, no connections from the Long Prairie area, no riding loops identified as currently used, no access across Highway 207, provides connections into about 7 miles of designated routes for OHV riders who originate in the OHV Park and access to several viewpoints.

Alternative 4 includes 3 additional miles over Alternative 2. These 3 additional miles provide several loops and connections providing access across the entire project area. Alternative 3 provides: access to Fairview Campground, several riding loops OHV users are currently using, two routes to bypass closed road 21, access out of the Long Prairie area to other riding areas and campgrounds, access across State Highway 207, access to all view points, and the most routes connecting the OHV Park.

Alternative 5 eliminated the dead end designated trails in Alterative 2 that did not access a destination. Alternative 5 does have access to Fairview campground, access to bypass the 21 road and the 2128 road, access to all view points, and 4 connections to the OHV Park. Alternative 5 does not provide access across Highway 207, or access between areas north of Long Prairie to areas east and Fairview campground, and eliminates popular riding loops.

NON-MOTORIZED ZONES

Another issue that was brought up during scoping was a concern over designating eighty-one miles of Class I and Class III trails for OHV use would unnecessarily reduce the overall potential area available for predominately non-motorized recreational pursuits.

The analysis compares:

- Acres of non-motorized influence in the project area

Affected Environment

The desire for a non-motorized experience was commented on during the scoping process. With cross country travel being allowed in the general forest few acres offer a non-motorized experience when OHVs are present. Motorized use is not consistent in this area and is seasonally dependant. Use is highest during big game hunting seasons followed by holiday weekends, then other weekends and bird hunting seasons.

Environmental Effects

The total acres of motorized influence zone were determined for each Alternative. The motorized influence zone was considered to be the area along a motorized road or trail where the sights, sounds, and presence of motorized vehicles are most likely to be present. While it is recognized that this is affected by topography, vegetation, and the type and intensity of motorized use this approach attempts to quantify the potential effects on recreational experiences. To quantify the area of influence any area within ½-mile of any designated road or trail was considered to be potentially influenced by motorized access. It is important to remember that OHV use in the project area is not constant but it is expected to continue to increase over time. Areas of motorized influence identified are a possibility and not a certainty.

Table R-2 shows the comparison between each alternative by acres of non-motorized influence and miles of closed roads that are available for forest users to use (non-motorized use) without OHV disturbance.

Table R-2: Non-Motorized Zone Comparisons

	Alternatives				
	1	2	3	4	5
Non-Motorized Influence Zone (acres) (area > 0.5 mile from OHV use)	0	7,867	12,281	7,798	10,587
Percent of Acres Not Influenced by Motorized Use	0%	9%	14%	9%	12%
Miles of Closed Roads without Motorized Use	0	145	222	143	201

The figures in each alternative identify areas where non-motorized zones are more than ½ mile away from any designated roads or trails. Areas in black are those non-motorized influence zones specific to the Alternative. Areas in gray are included on the map to demonstrate the maximum non-motorized influence area possible due to the cumulative effects of traffic on open roads. The gray area is also the non-motorized influence area under Alternative 3.

Alternative 1 – No Action

Direct and Indirect Effects

OHVs would have the potential to create impacts to non-motorized users within the same spatial area. Alternative 1 does not provide any areas of non-motorized influence due to cross country travel occurring throughout the project area.

Alternative 2 – Proposed Action

Direct and Indirect Effects

The figure below identifies areas where non-motorized zones are more than ½ mile away from any designated roads or trails. Areas in black are those areas specific to Alternative 2. Areas in gray are included on the map to demonstrate the maximum non-motorized influence area possible due to the cumulative effects of traffic on open roads. The gray area is also the non-motorized influence area under Alternative 3.

Non-motorized areas are scattered throughout the project with the highest concentration of non-motorized zones along the southern boundary of the project area.

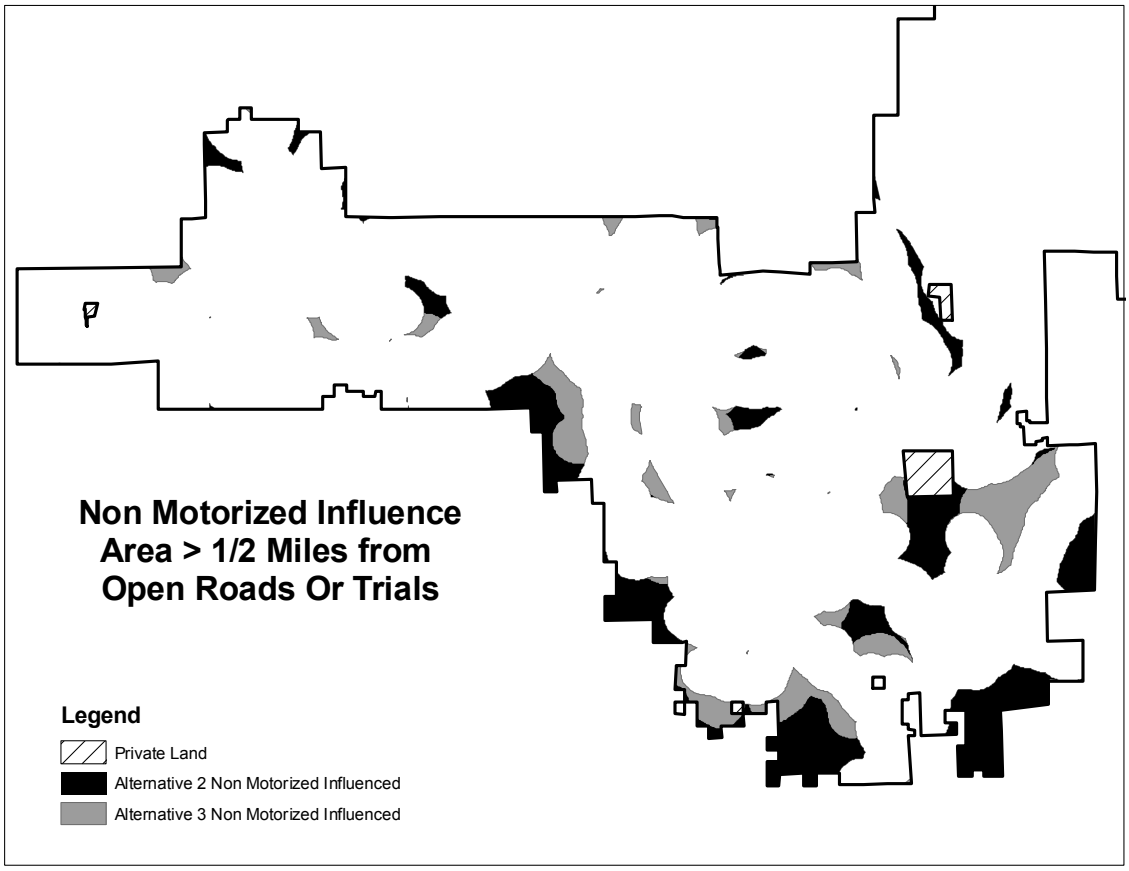

Figure 1: Non-Motorized Zone for Alternative 2

Cumulative Effects

All roads within the project area were included in defining the motorized zone. No additional roads within the project area boundary would affect this zone. Additional motorized influences could be seen or heard from ongoing logging operations such as the Bologna Timber Sale, Ant Timber Sale, various thinning projects, and future fuels reduction projects such as the Indian Creek Fuels Management project and the Long Prairie Fuels Project and Pre-commercial Thin.

Four areas on the Heppner Ranger District are designated as non-motorized areas. The Texas Butte, Skookum, and Potamus inventoried roadless areas as well as the Non-Motorized Dispersed Recreation A1 Management Area provides over 22,500 acres for those seeking non-motorized recreational opportunities. Designation of OHV trails within the project area would have no effect on these previously identified areas and would not affect the non-motorized recreational opportunities which exist there.

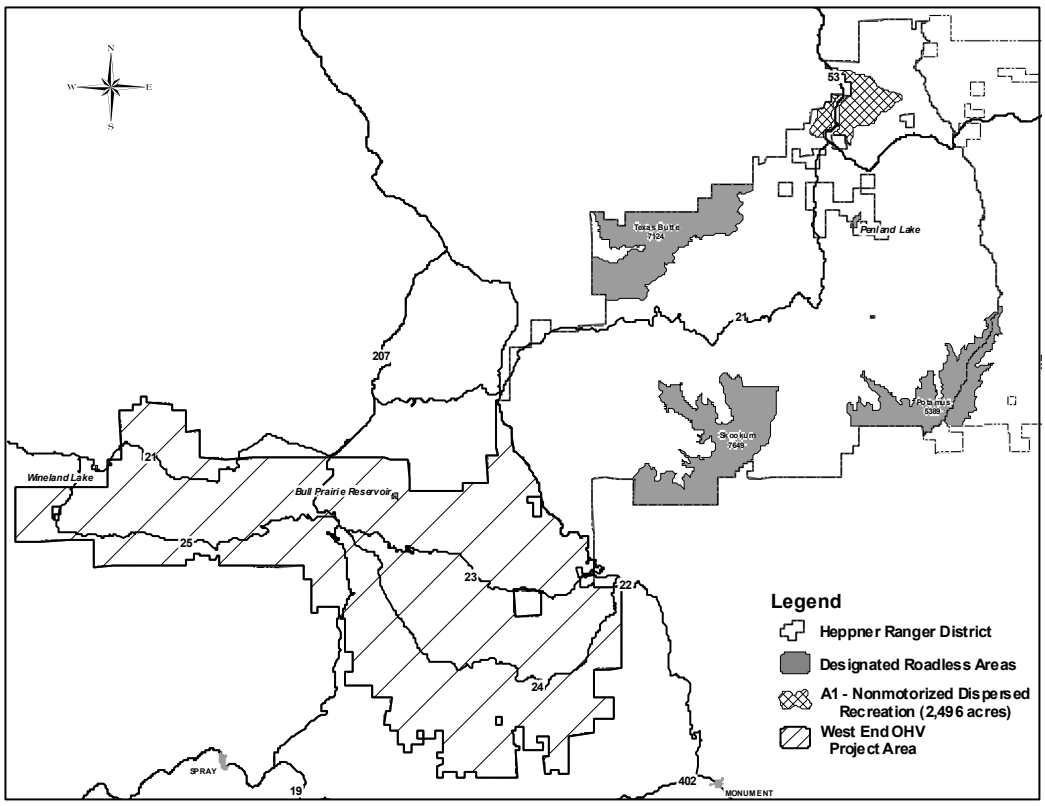

Figure 2: Inventoried Roadless Areas and A1 Non-motorized Dispersed Recreation Management Areas on the Heppner Ranger District.

Alternative 3

Direct and Indirect Effects

This alternative provides the greatest number and largest areas of non-motorized zones. 86 percent of the area would still be influenced by OHVs or other motorized vehicles. By reducing the total miles of designated roads and designated trails for OHV use it would be expected that concentration of OHV users would increase on designated roads resulting in increased occurrence of disturbance within the motorized zone.

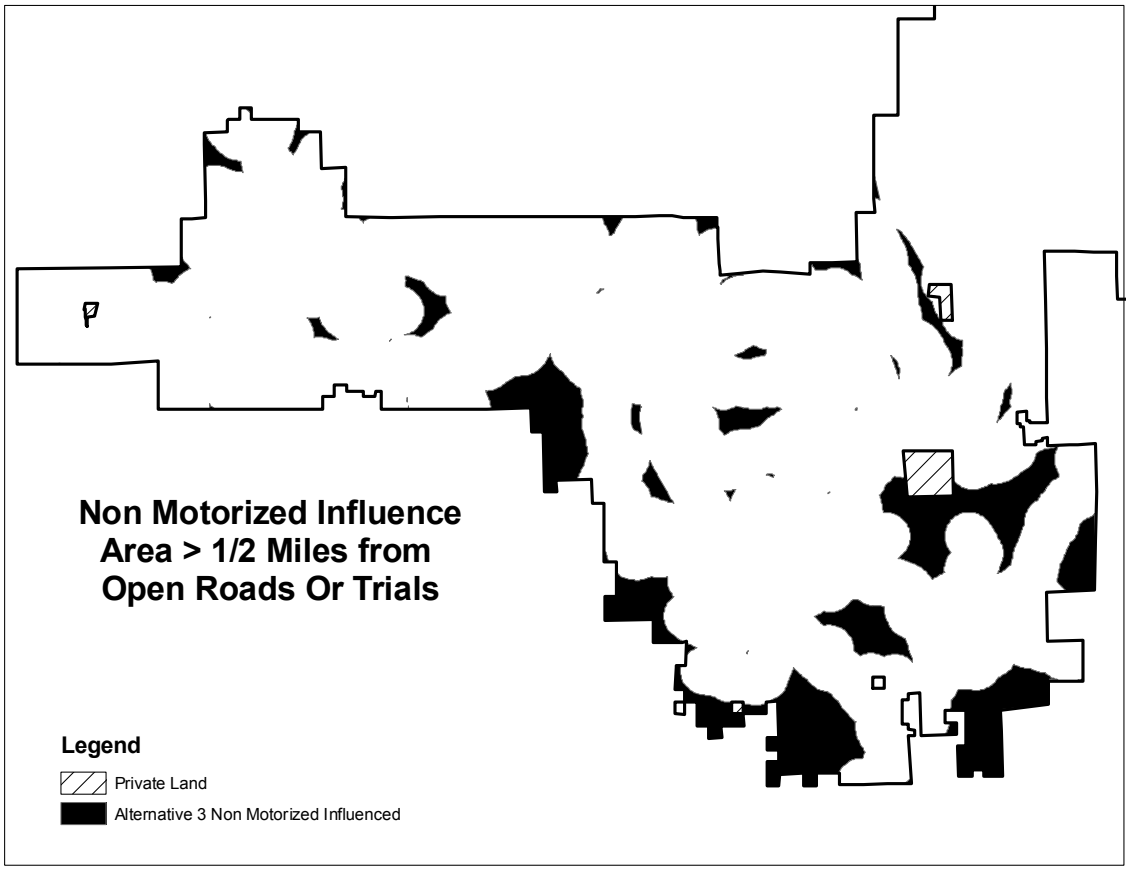

Figure 3: Non-Motorized Zone for Alternative 3

Cumulative Effects

Cumulative effects would be the same as is Alternative 2.

Alternative 4

Direct and Indirect Effects

Alternative 4 is generally the same as alternative 2 with one 69 acre area being added to the motorized influence zone. This added area is associated with designated trail 2100393.

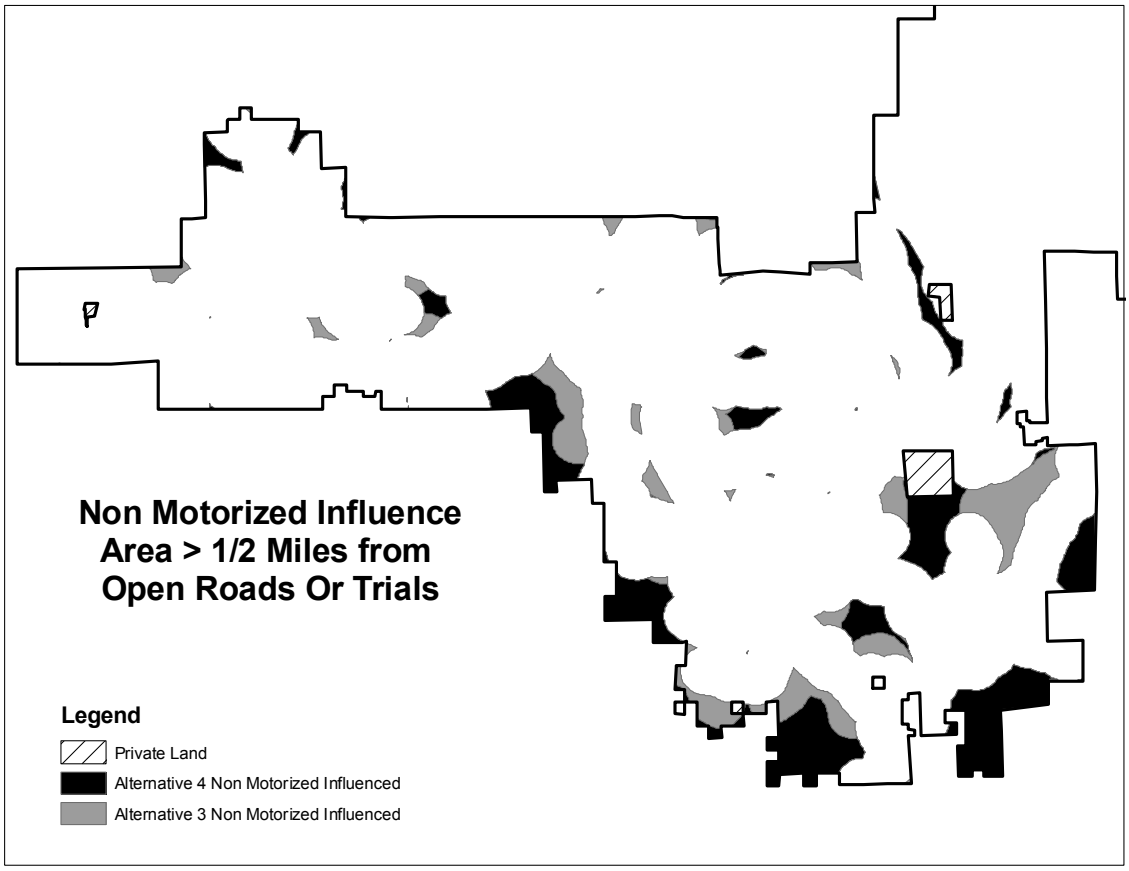

Figure 4: Non-Motorized Zones for Alternative 4

Cumulative Effects

Cumulative effects would be the same as is Alternative 2.

Alternative 5

Direct and Indirect Effects

Alternative 5 increases several large blocks of non-motorized zones. The blocks in the Kahler Winter Range, Little Wilson Creek area, and west of East Bologna are nearly maximized to the non-motorized zone in Alternative 3. Other small additional non-motorized zones occur throughout the project area (see map for details). The total area of non-motorized zone in Alternative 5 is 10,893 acres or 12 percent of the project area.

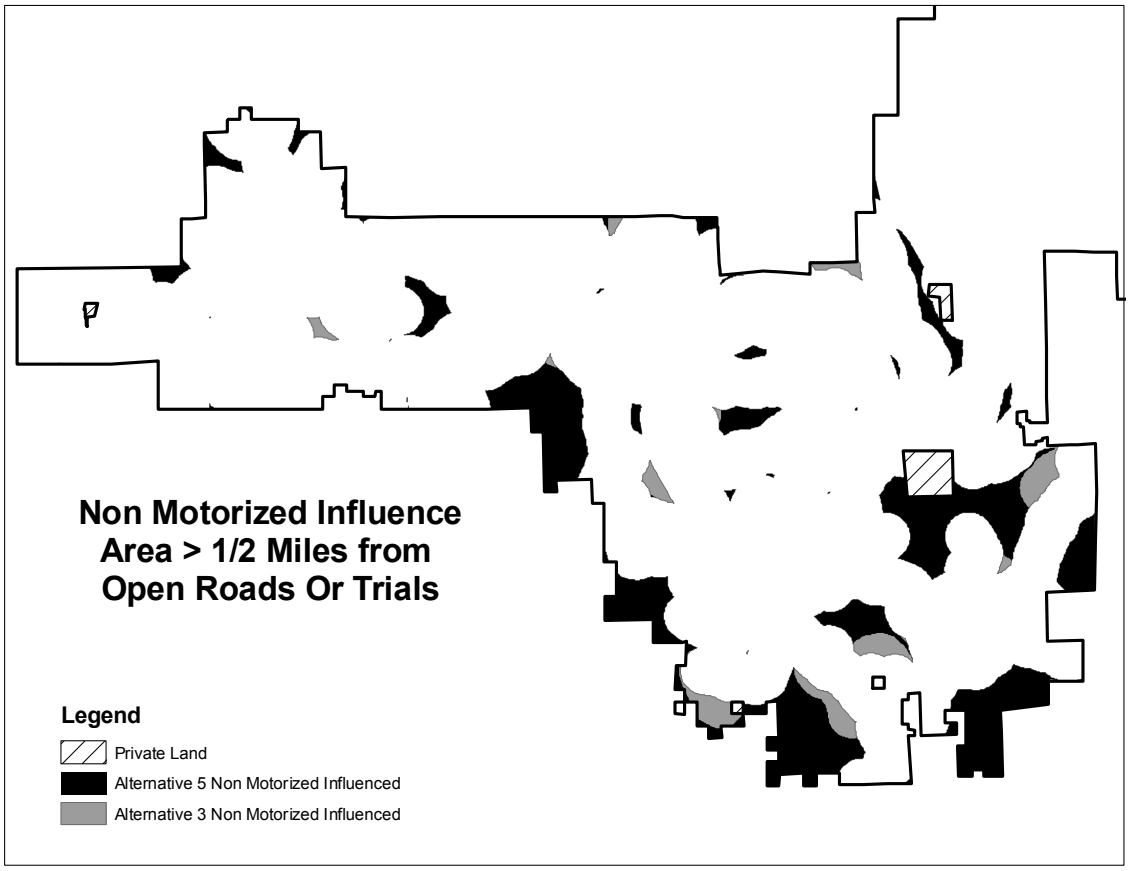

Figure 5: Non-Motorized Zone for Alternative 5

Cumulative Effects

Cumulative effects would be the same as is Alternative 2.

Summary

Do to the influences of cross country travel Alternative 1 provides no areas of non-motorized influence. Many, but not all, of the smaller areas identified in Alternative 3 as being non-motorized influence zones are also included in Alternative 5. Most of the larger blocks or areas of non-motorized zones in Alternative 3 are also in Alternative 5 but the blocks or areas included in the non-motorized zones are smaller in Alternative 5. Alternatives 2 and 4 are nearly identical in the size and locations of non-motorized zones with the overall area being less than those areas of non-motorized influence found in Alternatives 3 and 5.

Developed Campgrounds

Another issue that was brought up during the scoping process was concerns over OHV use within the Bull Prairie Campground and the availability of campsites for OHV users.

This analysis compares:

- Area within Bull Prairie Administrative site that is accessible to OHVs
- OHV access into Fairview Campground

Affected Environment

There are two developed campgrounds in the project area.

Bull Prairie Campground is a fee site with 30 campsites, day use area, dump station, boat launch and 4 fishing docks. There is a handicap accessible hiking trail that circles the lake. No motorized vehicles are allowed on this trail. Bull Prairie has a well and water system that provides water to campers. The State of Oregon reviewed its regulation for Bull Prairie Reservoir last year and left it non-motorized. (Oregon Marine Board (ORS/250-20-125)

Fairview campground is currently a non-fee campground with five campsites and one outhouse. The campground has a spring fed water system that supplies water to campers. This campground outhouse and water supply make it a popular site to stop at as a rest area when traveling.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

Bull Prairie Campground

The No Action Alternative allows OHV into Bull Prairie from three areas.

- From the north directly out of the Morrow/Grant County OHV Park a trail connects to the closed road 2100320 and open road 2000350 in the Wildhorse area.
- From the east Road 2039 connects into the Morrow/Grant County OHV day use area and the Wilson creek area.
- From the south, Road 2307035 connects into the Grassy Butte/Wall Creek area.

OHVs currently have access to all 30 campsites. OHVs are allowed to ride on the roads within the campground.

Fairview Campground

The No Action Alternative allows OHV into Fairview Campground from cross country travel only. There are no designated roads or trails that lead into the campground. Without a trail system it is difficult to access any extended riding areas.

- The only access road into Fairview campground is State Highway 207, state law prohibits unlicensed OHV on this road.
- Cross country travel is allowed in the area around the campground.
- OHVs are allowed on the road within the campground.

The No Action Alternative allows OHV users access to all 5 campsites within Fairview Campground.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Bull Prairie Campground

Alternative 2 would limit use within the campground but still allow access from parking areas to the campground. See Appendix A, Map 8: *Bull Prairie Campground Alternatives 2, 3, and 5.*

- From north directly out of the Morrow/Grant County OHV Park the closed road 2100320 and open road 2000350 would allow riders a place to park OHVs and within walking distance of the campground.
- From the east Road 2039 connects into the Morrow/Grant County OHV day use area and would allow riders the same place to park as from the north open road 2000350.
- From the south, Road 2307035 connects into the Grassy Butte/Wall Creek area. The gate on 2307035 would be the limit for OHVs access. This would still provide walking access to the campground and lake area.

All paved roads within the administrative site and the campground area would restrict OHVs. OHVs would not be allowed to operate at any campsites.

Fairview Campground

- Alternative 2 proposes a designated new trail from Fairview Campground connecting into the 25 road system. This would provide OHV access from the campground into the area west of Highway 207.
- State law will continue to prohibit unlicensed OHVs on State Highway 207.
- Cross country travel to access the campground would be eliminated.

Alternative 2 allows OHV users access to all 5 campsites within Fairview Campground.

Cumulative Effects

Other camping areas near the project area include the Morrow/Grant County OHV Park, and dispersed campsites throughout the Heppner Ranger District. The Morrow/Grant County OHV Park has 35 campsites and 8 cabins available for overnight camping. Dispersed sites throughout the Heppner Ranger District would be accessible by OHVs as well as any other vehicle.

Other activities occurring on the forest such as timber sales, vegetation management projects, planting and fencing contracts or other contracted work would not affect the availability of designated campsites. There are no other management activities planned in the project area that would affect campground availability.

Based on the 2004 National Visitor Use Monitoring the primary use of the Umatilla National Forest is hunting, followed by relaxing and fishing. Forest visitors are likely to occupy campground sites either in the developed campgrounds or dispersed sites within the project area when using the forest for any of these activities. Receipts from Bull Prairie Campground show that the campground is generally at 40 to 70 % capacity on any given weekend. Two exceptions are Memorial weekend and mid-July. During these two periods the campground is at 90 percent

capacity. Use at Fairview campground is generally low. The highest use period is during rifle season. OHV users may find campsites limited during high use periods.

Alternative 3

Direct and Indirect Effects

Bull Prairie Campground

In Bull Prairie Alternative 3 would be the same as Alternative 2.

Fairview Campground

- The only access into Fairview campground is State Highway 207, state law prohibits unlicensed OHV on this road.
- OHVs are allowed on the road within the campground.

Although OHV users would have access to all 5 campsites within Fairview Campground they would not have access out of the campground. OHV users would be required to haul OHVs to designated roads.

Cumulative Effects

Cumulative effects would be the same as Alternative 2.

Alternative 4

Direct and Indirect Effects

Bull Prairie Campground

Alternative 4 would increase OHV use within the campground over Alternative 2 but reduce access over what is currently allowed. Access routes would be the same as in Alternative 2 but would increase access into a portion of the campground sites.

- From north directly out of the Morrow/Grant County OHV Park: the designated route 2100320 and designated road 2000350 would extend into the North Campground.
- From the east: designated road 2039 would also extend into the North Campground.
- From the south: designated road 2307035 would extend into the south campground.

OHVs would be restricted in the main portion of the campground. OHV users would not be allowed to operate OHVs at sites 1 thru 9 and 12 thru 24. The campsites at the north and south end of the campground would allow campers with OHVs to ride out of these campsites onto other designated roads and systems. The north campsites would tie into road 2039 road and connect to the Morrow/Grant/OHV Park. The south campground would connect into road 2307035 and into the Grassy Butte/Wall Creek area. This alternative allows campers riding OHVs access to and from 6 campsites. OHVs are restricted from 22 sites and the boat launch area.

Fairview Campground

Access into Fairview Campground would be the same as Alternative 2. Two additional designated routes north of the campground would increase access to the designated road and trail system.

- Alternative 4 proposes to add 2516101 as a designated route and designated two new routes to complete connections between the east and west sides of Highway 207. This would provide greater access to Fairview Campground from various riding areas and designated routes.
- A crossing is proposed across Highway 207 connecting Roads 2516102 and 2000350. This would connect Fairview to the east side of Highway 207, and the Morrow/Grant County OHV Park

Access to the campsites would be the same as Alternative 2.

Cumulative Effects

Cumulative effects would be the same as Alternative 2.

Alternative 5

Direct and Indirect Effects

Bull Prairie Campground

Alternative 5 would be the same as the Proposed Action.

Fairview Campground

Alternative 5 would be the same as the Proposed Action.

Cumulative Effects

Cumulative effects would be the same as Alternative 2.

Summary

Bull Prairie

Alternative 1 would provide full access to campsites and would only limit OHV use on Road 2039 coming into Bull Prairie Campground from Highway 207. In Alternatives 2, 3 and 5 Bull Prairie Campground would have more restrictions to OHVs within the campground allowing use only from parking areas and not within the campground. Alternative 4 would allow access to and from campsites in the north and south campground (6 sites) but not within the main campground.

Fairview

Alternative 1 would allow cross country access into Fairview campground but would not have any roads or trails to provide access. In Alternative 2 and 5 Fairview Campground would designate a new trail to connect the campground into the 25 road system. Alternative 4 would also designates this trail and an additional trail to create a connection across Highway 207 providing OHV access to the Morrow/Grant County OHV Park and designated roads and trails east of the highway.

Alternative 3 would allow no riding out of Fairview Campground. All alternatives allow OHV users access to the campsites.

Wildlife Habitat

This section incorporates by reference the Wildlife Specialist Report and Biological Evaluation contained in the Project Record located at the Heppner Ranger District. Methodologies, assumptions and limitations of analysis and other details are contained in the report. A summary of the affected environment and predicted effects of the alternatives are discussed here.

MANAGEMENT INDICATOR SPECIES

Rocky Mountain Elk

***Issue**: Designating additional routes for OHV use beyond what is currently open to full size vehicles would perpetuate adverse effects on wildlife.*

This analysis compares:

- Habitat Effectiveness Index for Rocky Mountain Elk
- Habitat acres of OHV influence within ¼ mile of trails

Affected Environment

Currently, the elk population is slightly below management objectives set by the State of Oregon for the Heppner Unit and above objectives in the Fossil Unit (the area west of Highway 207). The Oregon Department of Fish and Wildlife (ODFW) has expressed concern over the level of motorized disturbance in the analysis area, and its impact on their ability to manage the elk herd, particularly in the Fossil Unit (the area west of State Highway 207).

The big game habitat effectiveness model (USDA 1990, Appendix C) is used to predict the influence of forest management on elk and other big game species. It is intended to be a relative measure of effectiveness, and does not consider many factors (such as weather, predation, disease, hunting, harvest, etc) that would influence the "actual number" of elk found in an area.

Under the West End OHV Project, only one of the three habitat variables used to calculate the Habitat Effectiveness Index would be affected. No vegetative treatment or manipulation would occur that would impact the quality, size, or distribution of existing cover stands. Only the measure of open road density within the analysis area would be affected under the No Action and the Action Alternatives. In the calculations below (Table W-03), all roads (open and closed) are considered open in the existing condition due to the fact that cross country travel is permitted. This includes the winter range area, which was not specifically included in the area where cross country OHV travel is permitted in the 1992 Access and Travel Management Plan.

The Umatilla Forest Plan (1990) establishes standards and guidelines for elk habitat for many of the management areas on the Forest. The analysis area includes portions of two Forest Plan Management Areas that have standards for big game habitat: C3 (Winter Range) and E1 (Timber and Forage). The Monument Winter Range is the largest winter range (approximately 61,000 acres) on the Forest. It spans nearly the entire southern boundary zone of the Heppner Ranger District to the furthest west extent of the North Fork John Day Ranger District. The Kahler Winter Range is approximately 3,000 acres in size. The remainder of the analysis area is primarily E1

habitat. The E1 management area was broken along Highway 207 into an east and west portion. This represents a logical break within the E1 area, and corresponds with the Wildlife Management Unit boundary identified by the State. The Fossil unit lies west of Highway 207, while the Heppner unit lies to the east. Table W-01 compares the Forest Plan standards with the current condition of elk habitat in the analysis area.

Table W-01. A comparison of HEI for Rocky Mountain elk habitat in the West End OHV analysis area.

	Forest Plan Standard	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
C3 Monument Winter Range	70	62	63	63	63	63
C3 Kahler Winter Range	70	55	65	65	65	65
E1 West – Fossil Unit	30	44	50	52	50	51
E1 East – Heppner Unit	30	53	57	59	57	58

Under the current condition, HEI and satisfactory cover standards are not being met in either winter range. Low satisfactory cover levels in the C3 winter range are a result of the limited capability of the hot dry and warm dry biophysical environments (those generally lying within the winter range) to produce and sustain satisfactory cover, large tracts of grassland habitat, past management activities, and recent wildfire (2007 Monument Complex Fire). The existing habitat effectiveness in the winter range is not consistent with the Forest Plan standard which states "Elk habitat will be managed on designated big game winter ranges to achieve a habitat effectiveness index of no less than 70, including discounts for roads open to motorized vehicular traffic" as described in Thomas (1979). HEI is currently below Forest Plan standards for the same reasons that satisfactory cover is below standards. HEI standards are being met in both the east and west portions of the E1 management area.

Recent research indicates that roads and off road recreation influence the distribution of big game (Rowland et al. 2004, Rowland et al. 2000, Wisdom et al. 2004). Elk generally avoid roads that are open to motorized traffic. The energy expenditure related to avoidance or fleeing from off road activity and road-related disturbance can reduce the body condition of elk and ultimately reduce the probability of surviving the winter (Cook et al. 2004). In addition to HEI, a proximity analysis of open roads (open to OHVs and/or pickups) to elk habitat (forage, marginal, and satisfactory cover) will be used to analyze the effects of the various action alternatives on elk and elk habitat. Because cross country travel is permitted in the analysis area, there are technically no refuge areas for big game that are distant from potential OHV or other motorized disturbance. In reality, some areas are inaccessible to OHVs, and do provide refuge areas for big game. Due to the difficulty involved in identifying these areas, they have not been quantified.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

In the short term, the quantity and quality of elk habitat would remain unchanged. Cross country OHV travel would be permitted in general forest under this alternative. In the E1 west area (Fossil Unit) and E1 east area, the density of roads available to OHV use would remain 4.2 and 3.2 miles per square mile, respectively, and cross country travel would continue. This alternative would be consistent with the Forest Plan standards and guidelines for the C3 (winter range) management area. However, due to the difficulty distinguishing the ambiguous boundary between winter range and general forest, cross country OHV travel would likely continue in the winter range. Cross country travel would continue to cause disturbance to big game foraging and cover habitat. Forage and cover habitat adjacent to roads used by OHVs would continue to be under utilized in both the winter range and general forest due to disturbance and displacement associated with OHV use. Due to the fact that refuge areas would be virtually non-existent, elk would continue to be displaced to lands outside the National Forest boundary. This would be especially true in the E1 west area (Fossil unit) due to the high density of roads accessible to OHVs and the gentle topography and relatively open vegetation types that facilitate cross country OHV use in this area. For these reasons, HEI would remain the same as that described in the existing condition.

Elk would continue to expend energy avoiding or fleeing from off road activity and road-related disturbance within the analysis area (Cook et al. 2004). These responses to OHV use, both on and off road, would impact body condition of elk by reducing energy stored for the winter, lactation, and gestation, and reducing the probability of surviving the winter in a similar manner as is currently occurring under the existing condition. Productivity and survival of elk would likely continue to be lower in the E1 management areas (east and west) and the C3 winter ranges than areas where cross country OHV travel is not allowed.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Under all 4 of the action alternatives, HEI would increase in the C3 (Monument and Kahler winter ranges) and E1 (east and west) management areas as a result of restricting OHVs to designated routes (open roads and trails). Refer to Table W-01 for HEI values under each of the alternatives. Improvement in HEI indicates that the elk habitat within the analysis area would be more effective in terms of optimizing use of the project area. In this case, the improvement in the total HEI in the E1 and C3 management areas is solely due to reductions in the density of roads used by motorized vehicles and disturbance associated with this activity. Reduced disturbance, through elimination of cross country travel and the designation of routes open to OHVs would improve the quality of available general forest and winter range habitat. Because these alternatives would improve HEI and reduce disturbance during critical periods, they would be consistent with direction provided in the Forest Plan for the C3 and E1 management areas.

Under all of the action alternatives, existing open and seasonally open roads would remain open to OHV use. Cross country travel would be prohibited under all of these alternatives. A varying level of designated trails (closed roads) would remain open to OHV use; refer to alternative discussions

for specific miles that would remain open. Prohibition of cross country travel would create cover patches that would provide security or refuge areas for big game. For the purposes of this analysis, 0.25 miles was used to buffer open system roads and designated trails under each of the alternatives in order to identify areas with low motorized vehicle-related disturbance. Research indicates that elk respond to motorized vehicles by avoiding cover and foraging areas adjacent to open roads. In those areas greater than 0.25 miles from an open road or trail, big game would be less likely to respond to the sound of vehicle use on roads, and utilize available habitat. The action alternatives would result in a greater proportion of the available habitat within the Kahler and Monument winter ranges and the E1 west (Fossil unit) and E1 east (Heppner unit) areas being utilized by elk. Refer to Table W-02 for the results of the West End OHV Project road proximity analysis.

Table W-02. Acres of habitat within 0.25 miles of open roads.

Management Area	Alternative	Habitat Type		
		Forage (acres > 0.25 miles from open road)	Marginal Cover (acres > 0.25 miles from open road)	Satisfactory Cover (acres > 0.25 miles from open road)
C3 Monument (Heppner Unit)	2	4,836	4,371	48
	3	5,869	5,945	82
	4	4,836	4,371	48
	5	5,366	5,342	75
C3 Kahler Basin (Fossil Unit)	2	1,021	764	10
	3	1,432	1,075	21
	4	1,021	764	10
	5	1,431	1,054	21
E1 West (Fossil Unit)	2	2,323	2,349	140
	3	3,260	2,857	187
	4	2,233	2,218	135
	5	2,683	2,695	174
E1 East (Heppner Unit)	2	3,563	6,091	403
	3	5,142	8,715	565
	4	3,568	6,114	406
	5	4,507	7,935	550

The action alternatives would result in cover and forage patches where elk would be less likely to be impacted by OHVs. Alternative 3 would have a greatest reduction in vehicle-related disturbance when compared to the other action alternatives, based on the fact that more acres of forage and cover (primarily marginal cover) distant from open roads would be available for big game under this

alternative. When compared to Alternative 3, Alternative 5 would result in fewer acres of forage and cover (approximately 1,501 acres less cover and 1,716 acres less forage) greater than .25 miles from a designated route or trail (refer to Table W-02). Alternative 2 and 4 would have very similar outcomes in relation to the road proximity analysis. While these alternatives create cover and foraging areas at least 0.25 miles from open roads, they would create 1,289 (winter range) and 2,371 (general forest) fewer acres of cover further than .25 miles from a designated road or trail when compared to Alternative 5. Because open road densities in the E1 west area (Fossil hunting unit) are relatively high, the observed improvement (increased acres of cover and forage > .25 miles from a designated route) between alternatives is relatively small (640 acres difference between alternatives). However, the creation of additional acres distant from motorized access and disturbance in this portion of the project area would positively impact the distribution of big game across the landscape, and would likely improve the body condition of elk by reducing energy expenditures associated with fleeing or avoiding motorized vehicles.

By reducing disturbance associated with OHV use and cross country travel, these alternatives have the potential to positively impact the body condition of elk within the analysis area. Under these alternatives, less energy would be expended avoiding or fleeing from off road activity and road-related disturbance during the summer and fall. As a result, stored energy would be available for gestating and lactating cows during the spring and fall, and to sustain elk through the critical winter period (Cook et al. 2004).

Creation of new trails is expected to have minimal impacts on big game; these routes generally already exist and are being used. New routes would be designed to reduce disturbance and avoid dense forested habitats that may be used for hiding cover. No new designated trails (construction of new trails) would occur in the winter range.

Alternatives 2, 3, 4, and 5 would all improve the quality of elk habitat in the analysis area. By eliminating cross country OHV travel and creating refuge areas, elk would be more likely to stay on the Forest during hunting season, rather than being displaced to adjacent private land. The Oregon Department of Fish and Wildlife's ability to meet elk management objectives in the Heppner and Fossil units would be improved as a result.

Cumulative Effects

Past activities and events in the analysis area that affected elk and elk habitat include timber harvest (including Rimrock, Bologna Basin, and Sunflower Bacon vegetation management projects), existing roads, road closures (Access and Travel Management) and OHV management, and wildfire. Timber harvest has affected forest structure and composition, reducing the amount of cover habitat in the analysis area. Timber harvest has also fragmented habitat, creating a mosaic of forested stands and man-made openings. Conversely, the amount of foraging habitat for big game has increased in response to past harvest. Road construction associated with timber harvest increased road densities and disturbance within the analysis area. Increased open road densities increase the vulnerability of elk to hunting. Research has found that they tend to select for habitats further away from open roads (Rowland et al. 2000). More recently, road closures associated with access and travel management activities on the south end of the Umatilla National Forest have reduced road densities. The road density in the Monument winter range is currently quite low (approximately 0.56 miles open road per square mile). Access and Travel Management planning also permitted cross country travel within the analysis area. OHV management within the analysis area has reduced refuge areas and increased disturbance associated with OHVs. Wildfire

within the analysis area (and the Monument winter range) has impacted elk habitat. Large wildfires like the Monument Complex Fire (2007) and the Wheeler Point Fire (1996) burned at high intensity in portions of the analysis area, reducing cover habitat for elk. Past activities have resulted in the current condition of elk habitat in the analysis area.

Present activities, actions, and events that affect elk and elk habitat include timber harvest and OHV use. Timber harvest is currently occurring within both winter range and general forest habitats within the analysis area. This activity impacts both the quality and quantity of cover habitat within the analysis area. Current OHV management is having the same impacts as those described in the previous section; however, due to the increase in OHV use since the ATM Plan was created, the magnitude of these impacts is much greater today than what occurred in the past.

The East Fork Indian Fuels project and the Long Prairie Fuels project have the potential to impact elk habitat by making elk more visible through reduction of low level screening vegetation and converting cover habitat to forage. Due to the size of the proposed treatment area, it is expected that these projects would not adversely impact elk. The District-Wide Pre-Commercial thinning project may also impact hiding cover for elk in past plantations; retention of higher stem densities adjacent to open roads and clumps within units would reduce impacts to elk.

When the expected effects of these alternatives are combined with the residual and expected effects of past, present, and future actions, activities, and events in the analysis area, there would be a reduction in disturbance and vulnerability due to the elimination of cross country travel to OHV use.

Summary

Under Alternative 1 disturbance in the winter range would decrease compared to the existing condition. HEI would stay the same in the E1 management area and improve in the C3 management area. This alternative would be consistent with the forest plan standard for HEI.

Under Alternative 2 disturbance to big game would be reduced through the creation of forage and cover patches greater than 0.25 miles from designated routes (see Table W-02); however, the size of these patches would be among the lowest (second only to Alternative 4) when compared to the other action alternatives. HEI would improve in all two management area allocations under this alternative (refer to Table W-01). HEI would improve in the C3 and E1 management areas. For this reason these alternatives would be consistent with the Forest Plan. Disturbance during the critical winter use period, calving season, and the summer would be reduced.

Under alternative 2, approximately 6 miles of designated trail would be closed from September 15 to December 1. The closure period of this OHV trail would roughly approximate the beginning and ending of firearms hunting for big game (deer and elk). Closure during this period would reduce disturbance in an area known to provide security cover for big game. In relation to the road proximity analysis, the effects of Alternative 2 would be virtually the same as those of Alternative 4.

Under Alternative 3 disturbance to big game would be reduced the most under this alternative. The most acres of refuge areas would be created through route closures under this alternative. HEI would also have the greatest improvement under this alternative in the four management area allocations that were analyzed (see Table W-01).

In terms of the road proximity analysis, Alternative 3 would create the most refuge and foraging areas distant from roads open to motorized use. In terms of the action alternatives, this alternative would result in the greatest improvement in the distribution of elk and utilization of available habitat.

Alternative 4 would have the least improvement in terms of OHV-related disturbance and vulnerability of big game when compared to the other action alternatives. This alternative would include a designated new trail that would provide access from the east end of the analysis area to the west end of the analysis area. Potentially, use of the designated routes west of Highway 207 would increase due to improved connectivity to the Morrow/Grant County OHV Park. Activities associated with this alternative would have the same impacts on HEI as those described under Alternative 2.

In terms of the road proximity analysis, alternative 4 would create the least refuge and foraging areas distant from roads open to motorized use.

Under Alternative 5 disturbance to big game would be reduced considerably under this alternative when compared to the no action alternative. HEI would also be improved under this alternative in all analyzed management area allocations (refer to Table W-02). This improvement would be between Alternatives 2 and 3.

Alternative 5 would provide refuge and foraging areas distant from open roads on slightly fewer acres than Alternative 3.

Primary Cavity Excavators, Pileated Woodpecker, Northern Three-toed Woodpecker

Affected Environment

Primary cavity excavators (PCE) include bird species that create holes for nesting or roosting in live, dead, or decaying trees. They also provide secondary cavity users such as owls, bluebirds, and flying squirrels habitat for denning, roosting and/or nesting.

In general, habitat for primary cavity excavators consists of dead and/or dying trees and downed wood in various size classes and stages of decay. Habitat can occur in a variety of vegetative communities with various structural conditions (Thomas 1979). Existing and suitable habitat can be found throughout the analysis area, except for non-forest areas and forest stands in the process of regeneration (stand initiation, and stem exclusion).

Preferred habitat (foraging and nesting) for the pileated woodpecker includes dense moist forest types (mixed conifer) in late seral stages with a high density of dead/downed wood habitat (Marshall et al. 2003, USDA 1990). Stands generally include large diameter (>21" dbh) snags and downed wood (USDA 1990 and Bull and Holthausen 1993). In general, this habitat occurs in the mid and upper elevations of the analysis area in small scattered patches. Larger patches are available on the east end of the analysis area.

Preferred habitat for the northern three-toed woodpecker includes late successional, cold/moist forest types (lodgepole/mixed conifer) with high standing-wood density, and burned stands (Marshall et al. 2003). This habitat occurs in scattered patches within the Wheeler Point Fire (1996) area. Due to the age of the fire and natural snag-fall, there are currently few suitable habitat acres within the analysis area. There are no C2 management areas within the analysis area being managed to provide suitable habitat for this species.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

Current OHV use is not impacting suitable habitat for these species. Snags and green trees are not being affected by cross country travel or use of closed roads by OHVs.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Under all of the action alternatives, there would be no measurable impact on primary cavity excavator species including the pileated woodpecker and the Northern three-toed woodpecker. The proposed activities do not include vegetative treatment of stands that may provide habitat for these species. Under all of the action alternatives (except for Alternative 3), new trail construction would occur. Construction of these trails may impact a very small number of green trees and snags where they cannot be avoided. This impact would be negligible in terms of impacts to suitable habitat. Habitat features (snags and green trees) located along designated routes and trails would not be impacted by management activities. Snags that have fallen across designated routes and trails would be cut out of the way by users or agency personnel; however, logs cut out of these routes and trails would remain on-site.

Cumulative Effects

The proposed activities would have no direct or indirect impacts on these species or suitable habitat for primary cavity excavators. Because there would be no direct or indirect impacts on these species or suitable habitat, there would also be no cumulative impacts on these species and their habitat.

American Marten

Affected Environment

Preferred habitat for the American marten includes late successional, moist forest types (mixed conifer) near developed riparian areas with high downed wood densities, generally above 4,000 feet in elevation (Ruggiero et al. 1994). This species depends mainly on small mammals such as red-backed voles, squirrels, and snowshoe hare for food. In the winter, the marten forages beneath the snow in downed wood for prey. This species has not been observed in the analysis area. Using current GIS data, there are approximately 8,176 acres of suitable denning habitat and 22,453 acres of suitable foraging habitat within the project area. All of these habitat acres are considered secondary, lower quality habitats due to vegetative composition and structure and elevation.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

The effects of this alternative would be the same as those currently occurring in the analysis area. Cross country travel would continue within the general forest portion of the analysis area. Disturbance in the few suitable American marten habitat patches within the analysis area would continue. In addition to allowing cross country OHV travel, this alternative would allow OHV access on approximately 3 miles of closed road within Dedicated Old Growth stands that are potentially suitable to the American marten.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

The proposed activities would not alter the composition or structure of suitable American marten habitat in the analysis area. Under all of the action alternatives, cross country OHV travel would be prohibited, reducing disturbance in potential habitat. Disturbance associated with use of closed forest roads by OHVs would also be reduced by each of the action alternatives. Refer to Table W-03 for the miles of designated trail and new trail that would occur within suitable American marten habitat under Alternatives 2, 3, 4, and 5. If present, American marten may avoid trails when they are in use. Under Alternatives 2, 4, and 5 new designated trails would occur within suitable American marten habitat. New trail construction would not impact the suitability of American marten habitat because vegetative structure and composition would not be affected. The potential for impacts to this species are very small due to the fact that it is not known to occur in the analysis area and there would be no impact on potential habitat.

Table W-03. Miles of designated trails and new trails lying within American marten habitat

Miles of Trail	Foraging Habitat				Denning Habitat			
	Alt 2	Alt 3	Alt 4	Alt 5	Alt 2	Alt 3	Alt 4	Alt 5
Designated Trail	19.8	0	20.1	5.0	7.5	0	7.8	2.2
New Trail	1.3	0	1.7	1.0	0.5	0	0.5	0.5

Construction of new OHV trails would not occur in Dedicated Old Growth (management area C1) stands potentially used by this species.

Cumulative Effects (all action alternatives)

Past activities, actions, and events that have affected American marten habitat include timber harvest and insect and disease outbreaks. Timber harvest has occurred in suitable American marten habitat. This activity altered stand structure and composition, created openings in the forest canopy, and fragmented habitat. These harvested acres are in varying stages of recovery. Snag and downed wood (used for denning) densities were also impacted by harvest. Snags and downed wood were removed from harvest units or in many cases, piled and burned. Insects and

disease outbreaks also impacted suitable habitat by reducing canopy closure below levels preferred by this species. These past activities, actions, and events have combined to create the existing condition of suitable American marten habitat in the analysis area.

The proposed Long Prairie Fuels project has the potential to affect approximately 70 acres of denning habitat within the project area. These acres would no longer be considered suitable following treatment.

When the expected effects of these alternatives are combined with the residual and expected effects of past, present, and future actions, activities, and events in the analysis area, there would be no cumulative impact on the American marten or its habitat. The proposed activities would reduce disturbance associated with OHV use in the analysis area. The proposed activities would not impact overstory canopy structure or composition or downed woody material potentially used by this species for denning or foraging.

Summary

Alternatives 2 and 4 would have virtually the same impacts. Under these alternatives, there would be approximately 28 miles of designated trail and 2 miles of new trail within suitable American marten habitat where disturbance could occur. Approximately 0.2 miles of closed roads within C1 old growth units open to OHVs. When compared to the other 2 action alternatives, these alternatives would have the least positive impact (in terms of reduced motorized disturbance) on suitable American marten habitat.

Alternative 3 would prohibit OHV use on all closed roads within the analysis area. For this reason, this alternative would have the greatest positive impact on potential American marten habitat with regards to motorized disturbance.

The impacts of Alternative 5 would be similar to those described under Alternative 3. This alternative would prohibit OHV use on all but 21 miles of designated trails and 5 miles of new designated trail within the analysis area. For this reason, this alternative would have a greater positive impact on potential American marten habitat with regards to motorized disturbance than Alternatives 2 and 4.

This level of designated routes in all action alternatives would be consistent with Forest Plan direction for the C1 management area.

THREATENED, ENDANGERED, PROPOSED, CANDIDATE, AND SENSITIVE SPECIES

Five species listed on the Regional Forester's sensitive species list and one species listed on the *US Fish and Wildlife Service Threatened and Endangered Species List* either occurs in the project area or suitable habitat occurs within the project area. Other species either on the Regional Forester's Sensitive List or the US Fish and Wildlife Services Threatened and Endangered Species List were eliminated from further effects analysis. Rational for the elimination from in-depth effects analysis can be found in the Wildlife Specialist's Report located in the project file.

Table W-04. Federally ESA listed and Region 6 Sensitive Species with a potential to occur on the Umatilla National Forest.

Species	Listing	Effects of No Action	Effects of Alternatives 2, 3, 4, and 5
California wolverine *Gulo gulo*	Sensitive	No Impact[1]	No Impact
Columbia spotted frog *Rana luteiventris*	Sensitive	May Impact[2]	No Impact
Northern Bald Eagle *Haliaeetus leucocephalus*	Sensitive	May Impact	No Impact
Lewis' woodpecker *Melanerpes lewis*	Sensitive	No Impact	No Impact
White-headed woodpecker *Picoides albolarvatus*	Sensitive	No Impact	No Impact
Gray wolf *Canis lupus*	Endangered	No Effect[3]	No Effect

California Wolverine - Sensitive

Affected Environment

The wolverine prefers high elevation, conifer forest types, with limited exposure to human interference (Ruggiero et al. 1994, Wolverine Foundations (TWF) 2008). Natal denning habitat includes open rocky slopes (talus or boulders) surrounded or adjacent to high elevation forested habitat that maintains a snow depth greater than 3 feet into March and April (Ruggiero et al. 1994, TWF 2008). The wolverine is an opportunistic scavenger, with large mammal carrion the primary food source year-round. While foraging, they generally avoid large open areas and tend to stay within forested habitat at mid and high elevations (>4,000') and typically travel 18-24 miles to forage (Ruggiero et al. 1994, TWF 2008).

[1] No Impact to R6 sensitive species individuals, populations, or their habitat

[2] May impact individuals or habitat, but would not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

[3] No effect on a proposed or listed species or critical habitat.

Snow tracking surveys conducted across the District, since 1991, for wolverine, fisher, American marten, and lynx have resulted in one suspected set of wolverine tracks (February 18, 1994) approximately 15 miles northeast of the analysis area along the 2105 Road. The quality of these tracks was poor (melted out and poor snow conditions), so positive identification was impossible. Suitable denning habitat is not present in the project area. Using current GIS, there are approximately 68,000 acres of suitable foraging habitat in the project area, based on vegetative composition and stand structure. All of these acres are considered lower quality habitat. The wolverine has not been observed in the analysis area, and is not currently known to occur in the analysis area.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

There would be no change in potential wolverine foraging habitat within the analysis area due to the fact that no vegetative treatment is proposed. Cross country travel would continue in those areas where potential foraging habitat occurs (higher elevation general forest habitat), so there would be no change in the existing level of disturbance in the project area.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Under all of the action alternatives, there would be no direct or indirect impacts on this species. The wolverine is not currently known to occur on the District or Forest. There would also be no change in foraging habitat suitability. Disturbance associated with OHV use (cross country travel and on closed system roads) would be reduced under all of the action alternatives (2, 3, 4, and 5). Use of designated or new trails within wolverine foraging habitat has the potential to cause disturbance in the immediate vicinity of these routes. Refer to Table W-05 for the miles of designated trails and new trails within wolverine foraging habitat. Due to the fact that the wolverine is not known to occur in the area, and the chance of a wolverine passing through the area very small, and new trial construction would not impact the suitability of foraging habitat, there would be no impact to this species.

Table W-05. Miles of designated trails and new trails lying within wolverine habitat.

Miles of Trail	California Wolverine Foraging Habitat			
	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Designated Trail	57.3	0	58.5	15.2
New Trail	4.8	0	5.9	3.7

Cumulative Effects

Past activities, actions, and events that affected California wolverine habitat include timber harvest, wildfire, road construction, and road closures associated with Access and Travel Management. Past timber harvest practices are still apparent in some areas within the analysis area. This activity

has resulted in fragmentation of habitat; openings created by these activities would be avoided by foraging wolverine. Wildfire has also affected the structure and composition of suitable wolverine habitat. High and moderate severity fire converted suitable wolverine foraging habitat to an unsuitable condition. Road construction associated with timber harvest has resulted in increased disturbance and fragmented suitable foraging habitat. Road closures associated with Access and Travel Management planning reduced disturbance in suitable habitat. These past activities, actions, and events have combined to create the existing condition of wolverine habitat in the analysis area.

The Long Prairie Fuels project has the potential to affect suitable wolverine habitat on a small number of acres (approximately 70) within the project area. These acres would not be considered suitable following treatment. The East Fork Indian Fuels project also has the potential to affect suitable wolverine habitat.

When the expected effects of these alternatives are combined with the residual and expected effects of past, present, and future actions, activities, and events in the analysis area, there would be no cumulative reduction in suitable habitat for this species. The proposed activities would not alter vegetative structure in suitable wolverine habitat. Although disturbance would increase in the area immediately adjacent to new trails, there would be a net reduction in disturbance through limiting OHV access on closed roads and eliminating cross country OHV use.

Summary

Disturbance to habitat is relative to the miles of designated trails in each alternative. Alternative 4 has the greatest miles of routes with alternative 3 having the least miles. Significance of the difference in miles is minimal.

Determination and Rationale (Alternatives 1, 2, 3, 4 and 5)

The proposed activities under these alternatives would have no impact on the California wolverine. The rationale for this determination is as follows:

- The California wolverine is not known to occur in the analysis area. No suitable natal denning habitat is present in the analysis area. For these reasons, there would be no direct impacts on this species.
- The proposed activities (eliminating cross country travel, road closures, and trail construction) would not impact the suitability of suitable wolverine habitat.
- Although newly constructed trails would result in OHV related disturbance, there would be a net reduction in disturbance due to associated road closures. Although a portion of new trails is located within suitable habitat, trail construction would not impact the vegetative structure and composition of suitable foraging habitat and the potential for disturbance very low.

Columbia Spotted Frog - Sensitive

Affected Environment

The Columbia spotted frog frequents waters and associated vegetated (grassy) shorelines of ponds, springs, marshes, and slow-flowing streams and appears to prefer waters with a bottom layer of dead and decaying vegetation (NatureServe Explorer 2008, Csuti et al. 1997, Corkran and

Thoms 1996). They typically occur between 150 and 8,000 feet in elevation (Corkran and Thoms 1996). Spotted frogs breed in the spring in shallow water at pond edges, stream margins, and in inundated floodplain areas (Corkran and Thoms 1996). Springs may be used as over-wintering sites for local populations of spotted frogs.

The Columbia spotted frog is known to occur in the analysis area. Surveys in 2006 located Columbia spotted frogs in several ponds adjacent to the 2307 road and in a tributary to Porter Creek. Although there have been no observations elsewhere in streams and ponds in the upper and middle elevations within the E1 management area, this species is assumed present due to the presence of suitable habitat. Larger streams would likely be used by adults during the summer. Marshy areas along these streams could be used for breeding during the spring. Perennial stock ponds in the analysis area would be considered suitable breeding habitat for the Columbia spotted frog.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

This alternative would prohibit cross country travel in the C3 management area. Suitable habitat is not present in this portion of the analysis area. The remainder of the suitable and occupied spotted frog habitat in the analysis area would continue to be affected by cross country OHV travel. Stream crossings, ponds, and springs would potentially be affected; there is a potential for direct mortality of adults, subadults, and tadpoles at these locations.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

The impacts of each of the action alternatives would be similar to one another. Cross country travel would be eliminated under all of the action alternatives, reducing the potential for direct and indirect impacts to this species and suitable/occupied habitat. All new trail construction would occur outside of Riparian Habitat Conservation Areas under all of the action alternatives; therefore, there would be no direct effects on this species or potentially occupied habitat. Use of OHVs on closed roads would not impact this species; no suitable or occupied breeding habitat is located along these routes under any of the action alternatives.

Cumulative Effects

Past activities that affected suitable spotted frog habitat include cattle grazing, timber harvest, aspen restoration, and gravel pit/pond construction. Past cattle grazing affected suitable habitat by altering the structure and composition of riparian communities. Riparian habitat quality was adversely impacted by historic grazing. Grazed habitats are currently recovering from past overgrazing. Past cattle grazing also created suitable breeding habitat through the creation of water sources (ponds) where they previously did not exist. Past timber harvest occurred within and adjacent to riparian habitat in the allotment. These activities resulted in disturbance to riparian habitats, a reduction in stream shading, and reduced habitat quality. Rock pit ponds created by road construction associated with timber harvest increased available habitat for the spotted frog in

upland areas. Aspen restoration activities (fencing, planting, etc.) have improved riparian habitat condition. These past activities have combined to create the existing condition of suitable spotted frog habitat in the analysis area.

Present activities in the project area include livestock grazing and aspen restoration. Current cattle grazing is occurring at relatively low stocking levels within the analysis area, when compared to historical grazing. Cattle grazing is not adversely affecting suitable spotted frog habitat in the analysis area. Direct impacts to spotted frogs are considered negligible. Aspen restoration activities will improve riparian habitat condition in the future.

Reasonably foreseeable future activities in the project area include cattle grazing, aspen restoration, and maintenance of water sources. Future cattle grazing and aspen treatments are expected to have the same effects as those described above. Maintenance of water sources has the potential to affect breeding sites and cause mortality of developing tadpoles and froglets. These effects would not persist beyond the year in which pond cleaning occurs.

When the expected effects of this alternative are combined with the residual and expected effects of past, present, and future actions, activities, and events in the analysis area, there would be no cumulative impact on suitable spotted frog habitat or populations.

Determination and Rationale (No Action)

This alternative may impact individuals or habitat for the Columbia spotted frog, but would not contribute to a trend towards federal listing or cause a loss of viability to the population or species. This determination is based on the following:

- Spotted frogs are present in the analysis area.
- There is a potential that continued cross country OHV use would impact individual spotted frogs at potential breeding sites.

Determination and Rationale (All Action Alternatives)

Alternatives 2, 3, 4, and 5 would have no impact on the Columbia spotted frog and its habitat. The rationale for this determination is as follows:

- The spotted frog is present in the analysis area.
- No proposed trail construction would occur in RHCAs.
- All of the action alternatives would reduce potential impacts on this species by eliminating cross country OHV travel and reducing OHV activity in riparian areas.

Bald Eagle - Sensitive

Affected Environment

Preferred habitat for the northern bald eagle occurs near large bodies of water (rivers, lakes, etc.) that supports an adequate food supply (NatureServe Explorer 2008 and USDI 1986). In the Pacific Northwest recovery area, preferred nesting habitat for bald eagles is predominately uneven-aged, mature, coniferous stands (ponderosa pine and Douglas-fir) or large black-cottonwood trees along riparian corridors (NatureServe Explorer 2008 and USDI 1986). Eagles usually nest in mature conifers with gnarled limbs that provide ideal platforms for nests. The nest tree is characteristically

one of the largest in the stand and usually provides an unobstructed view of a body of water (USDI 1986). In Oregon, the majority of nests are within 0.5 miles of the shoreline (Anthony and Isaacs 1989). Important prey species include fish, birds, mammals, and carrion. (NatureServe Explorer 2008 and USDI 1986).

Bald eagle winter foraging habitat is present in the southern portion of the analysis area. Bald eagles are commonly noted along the North Fork John Day River between the months of November and March. A bald eagle nest is present in the analysis area in the Ant Hill/Dry Creek area. This nest has been active every year since it was discovered in 1994.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

There is a potential that cross country OHV use could occur within ¼ mile of the Dry Creek bald eagle nest, potentially disturbing bald eagles during the nesting season. There would be no loss or change in nesting or foraging habitat under this alternative. This alternative would be consistent with the Bald and Golden Eagle Protection Act (USDI 1940).

Cumulative Effects

Cross country OHV use would likely be reduced in the winter range under this alternative. It is expected that use in the winter range would continue to some degree due to management and enforcement issues. The potential for OHV use within ¼ mile of the Dry Creek bald eagle nest would also be reduced as a result. Because potential use would be reduced adjacent to the nest, cumulative impacts would be reduced under this alternative.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Disturbance would be reduced to foraging or nesting bald eagle. These alternatives would have a positive impact on the bald eagle and its habitat. Under all of the action alternatives, year-round closed roads and seasonally closed roads in the winter range would also not be open to OHV use during the winter use period (December 1 – April 15), further reducing potential disturbance. Designated trails within the winter range (use allowed between April 15 and November 30) are located away from the Dry Creek bald eagle nest, and would not impact foraging or nesting bald eagle. Designated trails in the general forest portion of the analysis open to OHV use throughout the year would not impact the bald eagle because eagles would be unlikely to use these areas during the non-breeding season.

Cumulative Effects

Because the proposed activities under Alternatives 2, 3, 4, and 5 would not disturb or otherwise impact bald eagle foraging or nesting habitat, there would also be no cumulative impacts on this species under these alternatives.

Determination and Rationale (Alternative 1)

Alternative 1 may impact individuals or habitat for the bald eagle, but would not contribute to a trend towards federal listing or cause a loss of viability to the population or species. This determination is based on the following:

- The bald eagle is present in the southern portion of the analysis area. The Dry Creek Bald eagle nest is also located within the winter range portion of the project area.
- There would be no impact on the suitability of nesting or foraging habitat.
- Cross country travel would likely continue in the winter range. OHV use in close proximity (within ¼ mile) has the potential to disturb bald eagles during the nesting season. Potential disturbance associated with cross country OHV use in this portion of the project area would not agitate or bother eagles to a degree where they would be injured, experience reduced productivity, or abandon the nest. If OHV use occurred within ¼ mile of the nest, it would be infrequent and short in duration due to poor access and the topography adjacent to the nest. Under the existing condition, the Dry Creek nest has fledged 20 birds in the last 15 years; this level of productivity exceeds the Recovery Goal provided by the Pacific Bald Eagle Recovery Plan (USDI 1986).

Determination and Rationale (Alternatives 2, 3, 4, and 5)

Alternatives 1, 2, 3, 4, and 5 would have no impact on the bald eagle or its habitat. The rationale for this determination is as follows:

- The bald eagle is present in the southern portion of the analysis area.
- There would be no impact on the suitability of nesting or foraging habitat.
- Cross country travel would be eliminated in the winter range under all of the alternatives, reducing the potential for disturbance during the period when eagles are present.
- Designated trails (closed roads open to OHV use) are located in areas where their use would not disturb this species.

White-headed Woodpecker and Lewis' Woodpecker – Sensitive

Affected Environment

The white-headed woodpecker is listed as a Region 6 Sensitive Species. It is also a Management Indicator Species in the Umatilla National Forest Land and Resource Management Plan (USDA 1990). The white-headed woodpecker differs from many of the other primary cavity excavators identified as MIS in the Forest Plan in its near exclusive selection of mature, single-stratum ponderosa pine dominated habitats. The white-headed woodpecker is present on the Heppner Ranger District.

The Lewis' woodpecker is listed as a Region 6 Sensitive Species. It is also a Management Indicator Species (MIS) on the Umatilla National Forest. The Lewis' woodpecker is typically associated with open ponderosa pine woodland habitat near water. They have also been associated with stand replacement fires (5 to 10 years post-fire). The Lewis' woodpecker has been observed in the analysis area.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

The activities proposed under this alternative would have no direct or indirect impact on this species. Large diameter snags and green trees and late and old structure ponderosa pine habitats would not be affected under this alternative. Because there would be no direct or indirect impacts on this species and its habitat, there would also be no cumulative impact on this species.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Under all of the action alternatives, there would be no measurable impact to this species or its habitat. The proposed activities do not include vegetative treatment of stands that may provide habitat for this species. Under all of the action alternatives (except for Alternative 3), new trail construction would occur. Construction of these trails may impact a very small number of green trees and snags where they cannot be avoided. Habitat suitability would not be altered by the proposed trail construction activities. The potential loss of individual green trees and snags would have a negligible impact on habitat quality. Habitat features (snags and green trees) located adjacent to designated new trails would not be impacted during construction or maintenance activities.

Cumulative Effects

Because there would be no direct or indirect impacts on this species and no reduction in suitable habitat, there would also be no cumulative impact on this species under Alternatives 2, 3, 4, and 5.

Determination and Rationale (Alternatives 1, 2, 3, 4, and 5)

The proposed activities under Alternatives 1, 2, 3, 4, and 5 would have no impact on the white-headed and Lewis' woodpeckers or suitable habitat for these species. The rationale for this determination is as follows:

- The white-headed and Lewis' woodpeckers are likely present in the analysis area.
- Habitat suitability would not be impacted by the proposed activities.
- Impacts to individual large diameter snags and green trees would be negligible; they would be avoided where possible during trail construction.

Gray Wolf - Endangered

Affected Environment

Habitat preference for the gray wolf is prey-dependent rather than cover-dependent. The wolf is a habitat generalist inhabiting a variety of plant communities, typically containing a mix of forested and open areas with a variety of topographic features (Verts and Carraway 1998). Wolves are strongly territorial, with territory size and location strongly related to prey abundance. Wolves prey mainly on large ungulates, such as deer and elk, and to a lesser extent on small mammals. The

gray wolf prefers areas with few roads, generally avoiding areas with an open road density greater than one mile per square mile (NatureServe Explorer 2008). Natal dens typically occur as underground burrows, but can also be caves or other types of shelter. Rendezvous sites are generally open areas. A radio-collared gray wolf dispersed to the Blue Mountains from Idaho in March 1999, and was captured approximately 30 miles southeast of the analysis area and relocated to Idaho. Currently, wolves have been confirmed present on the northern portion of the Forest. The Idaho wolf population has been increasing steadily, and dispersal into the southern Blue Mountains is expected to continue in the future.

Numerous unconfirmed sightings of gray wolves have occurred on the District in the past several years. Habitat for this species occurs throughout the analysis area; due to open road densities, the majority of habitat within the general forest portion of the analysis area is considered marginal. This species is not currently known to occur in the analysis area or District.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

The elimination of cross country travel in the winter range would improve the quality of suitable habitat within the analysis area. Elsewhere in the analysis area, cross country travel would continue; the chance of a wolf moving into the analysis area and remaining would be very low due to the current and expected level of disturbance associated with OHV and other motorized use.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Suitable habitat quality would improve within the analysis area. New trail construction would occur under all action alternatives except Alternative 3. Newly constructed trails would be located in previously roaded areas, and would not affect the likelihood of a wolf entering the area and remaining. There would be a net reduction in routes open to OHVs under all of the action alternatives.

Cumulative Effects

Past activities and events in the analysis area that affected suitable gray wolf habitat include timber harvest, road construction, road closures, and OHV management activities (Access and Travel Management planning). Timber harvest has affected forest structure and composition, reducing the amount of cover habitat in the analysis area. Conversely, the amount of foraging habitat for big game has increased in response to past harvest. Road construction associated with timber harvest increased road densities and disturbance within the analysis area, making the area less suitable for gray wolf. More recently, road closures associated with access and travel management activities on the south end of the Umatilla National Forest have reduced open road densities. Conversely, ATM planning also allowed for cross country OHV use west of the Sunflower Flat (22) Road, increasing disturbance and reducing or eliminating refuge areas distant from open roads. Past activities have resulted in the current condition of gray wolf habitat in the analysis area.

There are no ongoing or reasonably foreseeable future activities, actions, and events with a potential to affect wolf habitat in the analysis area.

When the expected effects of these alternatives are combined with the residual and expected effects of past, present, and future actions, activities, and events in the analysis area, there would be a cumulative reduction in disturbance associated with motorized vehicles. Under all of the action alternatives, the number of acres greater than .25 miles from an open road would increase, although the resulting open road and trail densities would provide marginally suitable gray wolf habitat. The proposed activities would also positively impact elk and mule deer habitat and potentially populations through a reduction in vulnerability during the hunting seasons.

Determination and Rationale (Alternatives 1, 2, 3, 4, and 5)

Under all of the action alternatives, there would be no effect on the gray wolf. The rationale for this determination is as follows:

- The gray wolf is not currently known to occur in the analysis area or on the District.
- No denning or rendezvous sites have been identified on the District; therefore, there would be no impact on these habitats.
- Habitat suitability and quality would be maintained or improve through the elimination of cross country travel.
- Although new trail construction would occur in 3 of the 4 action alternatives, these trails would be located in previously roaded areas, and would not impact the suitability of habitat. There would be a net decrease in open road and trail densities under all of the action alternatives.

SPECIES OF INTEREST

These are species that are of interest to the public at the local or regional level, or were identified as a species of concern by the Fish and Wildlife Service. Table W-06 lists the species of interest that could occur in the analysis area, based on observations or the presence of suitable habitat.

Table W-06. Species of Interest in the West End OHV Analysis Area

Common Name	Scientific Name	Oregon Status (2008)
Northern goshawk	*Accipiter gentilis*	Sensitive-Critical
Olive-sided flycatcher	*Contopus cooperi*	Sensitive-Vulnerable
Long-eared myotis	*Myotis evotis*	Sensitive-Undetermined Status
Long-legged myotis	*Myotis volans*	Sensitive-Undetermined Status
Yuma myotis	*Myotis yumanensis*	None

Northern Goshawk

Affected Environment

Preferred habitat for the goshawk consists of coniferous forests with a mosaic of structural stages. Nesting sites typically consist of a dense cluster of large trees, surrounded by a similar forest type with a more open overstory. The understory is relatively open and the nest site is generally situated within one-quarter mile of a stream or other water source. The best foraging habitat occurs in a mosaic of structural stages scattered across the landscape. Existing research indicates that a mix of dense canopy forest and more open, younger stands that provide protection and access to abundant prey, including those characteristic of both dense and more open habitat types, are selected for in post-fledging areas (Reynolds et al. 1992, Daw and DeStefano 2001, Wiens et al. 2006).

Current GIS indicates that there are currently approximately 10,627 acres of suitable nesting habitat within the project area, based on vegetative structure and composition. There are also approximately 51,778 acres of suitable foraging habitat in the project area.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

Continuation of cross country travel in the analysis area would continue to have the potential to disturb nesting goshawk.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Under all of the action alternatives, there would be no impact on stand structure or composition; therefore, there would be no direct or indirect impacts on habitat for this species. No new trail construction would occur in late and old structure habitat that would potentially be used for nesting. Some new trails are located in suitable foraging habitat; trail construction would not impact the suitability of goshawk foraging habitat. Disturbance would be reduced under all action alternatives through elimination of cross-country travel. Alternative 3 would have the greatest impact in terms of reduced disturbance, followed by Alternatives 5, 2, and 4 respectively. In conclusion, the proposed activities would have a beneficial effect on this species by reducing disturbance in the project area.

Cumulative Effects

Past activities and events in the watershed that affected northern goshawk habitat include timber harvest. Past harvest affected the structure and composition of forested habitats and the distribution of late and old structure stands in the analysis area. Past harvest reduced old forest structural stages and high overstory canopy closure desired for nesting. Harvest activities have created a patchwork of structural stages across the landscape, increasing foraging areas for goshawk. The Monument Complex and Wheeler Point Fires affected suitable goshawk habitat. Past activities have resulted in the current condition of goshawk habitat in the analysis area.

The proposed Long Prairie Fuels Reduction project has the potential to affect 70 acres of nesting and foraging habitat. There are no ongoing activities proposed in the analysis area that would affect or have the potential to affect the goshawk or its habitat.

When the effects of this alternative are combined with the residual and expected effects of past, present, and future activities in the analysis area, there would be no additional reduction in suitable habitat for this species. Potential disturbance associated with cross country travel and OHV use would be reduced under all of the action alternatives.

Olive-sided Flycatcher

Affected Environment

Preferred habitat for the flycatcher consists of coniferous forest associated with openings and edges near water (streams and wet areas) (Marshall et al. 2003). This includes burned areas with snags and scattered tall, live trees, riparian zones, edges of late and early-successional forests, and open or semi open forest stands with low canopy cover (Marshall et al. 2003). Tall, prominent trees and snags, which serve as foraging and singing perches, are a common feature of nesting habitat (Marshall et al. 2003). Preferred habitat occurs in riparian corridors within the analysis area. The species has not been documented in the analysis area; it is presumed present because preferred habitat is present in the analysis area.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

Impacts under this alternative would be similar to what is currently occurring. It is expected that riparian habitat would continue to be affected in both the general forest and the winter range.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Elimination of cross-country OHV travel under all of the action alternatives would reduce disturbance and damage to riparian habitats used by this species. New trail construction would not occur in riparian habitats or measurably impact the availability of large trees and snags potentially used as perches.

Cumulative Effects

The proposed activities would not directly or indirectly impact this species or its habitat; therefore, there would also be no cumulative effects on this species and its habitat.

Bats of Interest

Affected Environment

Bats associated with cave or cave like dwellings (mines, buildings, etc.) for hibernation or roosting (maternity or day/night roost) are not included in this assessment because the analysis area does

not provide these habitat features. Available habitat for bats in the analysis area includes dry upland and moist upland forest types that may be associated with water. Forest dwelling bats often use large-diameter snags with exfoliating bark as roosts. They may also use rock crevices as day or night roosts.

Potential roost habitat (large-diameter snags with exfoliating bark) for forest bats occurs throughout the analysis area. In general, bats have not been specifically surveyed (mist-net or bat detection devices) within the analysis area. Although some bats may be rarer in the Blue Mountains than others, some species have the potential to occur in the project area. For example, Whitaker et al. (1981) considered the long-eared bat to be "the most abundant bat in northeastern Oregon forests." While the Yuma myotis was considered "exceeding scarce" in eastern Oregon (Whitaker et al. 1981). The following species will be assessed as a group and not individually: long-eared myotis, long-legged myotis, and Yuma myotis. These three species are year-long residents in the analysis area.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

The availability of potential roosting habitat (large snags with exfoliating bark) would not be impacted by the proposed activities under this alternative. No trail construction or other activities with a potential to impact snags and green trees would occur under this alternative. There would also be no impact on other forms of hibernacula (caves, rock crevices, etc) through implementation of this alternative.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Because these species use standing dead wood for roosting in forested landscapes, impacts can be inferred through impacts to this habitat feature. New trail construction would occur under alternatives 2, 4, and 5. Although snags and live trees would be avoided during trail layout where possible, there is the potential that a small number of snags and green trees may be impacted by trail construction. In terms of snag availability, this impact would be negligible, and would not impact these species.

Cumulative Effects

Past activities and events in the watershed that affected bat roosting habitat include timber harvest, wildfire, wildfire salvage, and personal use firewood cutting. Timber harvest altered stand structure and composition and removed a portion of the large green trees and snags within affected areas. Removal of large snags with exfoliating bark reduced potential roosting habitat for bats. Reductions in large diameter green trees also reduced potential future roost snags. Wildfire both consumed and created potential roost snags for bats. The longevity of these habitats is relatively short due to the fact that all of the trees in high severity portions of the fire were killed. These trees would be available for a relatively short time while their bark is exfoliating. Low and moderate severity portions of fire areas would provide roost habitat over a longer period of time due to the

presence of a green overstory for snag recruitment. Salvage harvest of dead and dying timber would impact potential roost trees. The size of the area that would be affected, the availability of potential roosts elsewhere (burned and unburned), and the fact that riparian habitats would not be affected by proposed salvage indicate that potential impact would be minor. Personal use firewood cutting reduced densities of large snags in the analysis area, especially close to open roads. Sound snags (often with bark attached or beginning to slip) are generally more sought after than older snags that do not provide good roosting habitat. These activities have resulted in the current habitat condition for bats in the analysis area.

Ongoing and future activities, actions, and events with a potential to affect bats roosting habitat includes personal use firewood cutting and fuels treatment activities. Firewood cutting would have the same effects as those described in the past activities section. Fuels treatment activities would affect roosting habitat for these species; potential roosts may be felled and removed to reduce fire risk.

When the residual and expected effects of past, present, and reasonably foreseeable future activities are combined with the expected effects of these alternatives, there would be no cumulative reduction in roosting habitat for these species. Although a small number of snags (potential roosting structures) may be affected by new trail construction, the level of impact would have no impact on availability of habitat for these species.

Neotropical Migratory Birds

Affected Environment

Neotropical migratory birds are those that breed in the U.S. and winter south of the border in Central and South America. Continental and local declines in population trends for migratory and resident landbirds have developed into an international concern. Partners in Flight (PIF) led an effort to complete a series of Bird Conservation Plans for the entire continental United States to address declining population trends in migratory landbirds. The Partners in Flight Bird Conservation Plans are used to address the requirements contained in Executive Order (EO) 13186 (January 10, 2001), Responsibilities of Federal Agencies to Protect Migratory Birds. Neotropical migrants account for a significant portion of the avian biological diversity in the Wall Creek watershed (USDA 1995b) and elsewhere in the analysis area.

The Conservation Strategy for Landbirds in the Northern Rocky Mountains of Eastern Oregon and Washington (Altman 2000) identifies the following priority habitat types: Dry Forest, Late Successional Mesic Mixed Conifer, Riparian Woodland and Shrub, and several “unique” habitats.

The following habitat types are represented in the West End OHV analysis area: Dry Forest, Mesic Mixed Conifer Forest, Riparian Shrub, Steppe-shrubland, and Aspen.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

Under this alternative, cross country travel would be allowed in general forest habitat and would be likely to continue in the winter range. There is a continued risk of disturbance to nests and nesting

birds through this activity. Use of OHVs off of roads has the potential to directly impact nests of ground and near-ground nesting migratory birds. This activity would have the greatest impact on shrub-steppe associated bird species due to their preference for nesting on the ground. Nests may be abandoned or crushed by this activity. Use of OHVs off-road would not alter stand structure or composition or the suitability of dry forest, mesic mixed conifer forest, riparian shrub, shrub-steppe, or aspen habitats.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

The risk of impacting nests and nesting birds during cross country travel would also be eliminated under these alternatives. Varying levels of closed roads would be available for OHV use under the action alternatives. Refer to individual alternative discussions for this information. The expected level of impact resulting from the use of designated trails by OHVs would be negligible. Population levels would not be measurably impacted by this activity. Varying levels of new trail construction would also occur under the action alternatives. Construction of new trails (Alternatives 2, 4, and 5 only) has the potential to impact nests and nesting birds in the short term, if these activities occur in the spring and early summer. After initial construction, the potential for impacts would be negligible due to the size of the affected area and the low likelihood of birds using these sites for nesting.

Cumulative Effects

Past activities, actions, and events in the analysis area that affected Neotropical migratory bird habitat and associated Neotropical migratory birds include timber harvest, wildfire, and livestock grazing. Timber harvest altered the structure and composition of forested stands in the analysis area. Generally, these activities reduced late and old structure habitat, increasing the proportion of stand initiation, stem exclusion, and young forest stands. Harvest stimulated growth of understory shrubs, grasses, and small diameter conifers in affected stands, improving habitat for some Neotropical migratory birds requiring these habitats. Openings created by these activities are still present on the landscape today. Wildfire and prescribed fire (primarily in dry upland forest) both removed nesting and hiding cover in the short term. In the longer term, these activities and events improve dry forest habitat quality by reducing shade and fire-intolerant vegetation and stimulating shrub and grass production. The Monument and Wheeler Point Fires created high snag density patches in dry forest habitat; birds requiring this feature benefited in the short and mid term. Small patches of moist forest habitat were also burned by the fire; impacts to Neotropical birds in these stands were variable. Habitat for species requiring high snag densities was bolstered, while habitat for those requiring dense shrubs and multiple canopy layers was reduced. Impacts to shrub-steppe and riparian shrub habitats were generally minor. Historic livestock grazing had negative impacts on shrub and grassland communities, altering the structure and species composition in these habitats. This activity also removed nesting cover and structure. More recent livestock grazing impacts dry forest habitat by decreasing ground cover and reducing shrub recruitment. Riparian vegetation continues to recover from past grazing activities. These activities have resulted in the current condition of migratory bird habitat in the analysis area.

Ongoing and reasonably foreseeable future activities, actions, and events that affect Neotropical migratory bird habitat includes riparian planting and caging, fuels treatments and burning, and fire salvage. Riparian planting would continue to reverse impacts resulting from past grazing activities. The continuity of shrubs along streams would improve in the mid and long term through this

activity. Fire salvage in the Monument Fire area would impact approximately 200 acres that burned at high and moderate severity. The majority of these acres lie outside the analysis area. Fuels treatment and prescribed burning have the potential to directly and indirectly impact neotropical migratory birds. The limited size of the affected area and the propensity of these birds to renest if a nest is lost indicates that impacts would be negligible.

The proposed activities under all of the action alternatives would reduce existing levels of disturbance and potential mortality and nest loss associated with cross country travel. Although trail construction under Alternatives 2, 4, and 5 may impact individual birds or nests, these impacts would be negligible at the scale of individual habitat types and the entire analysis area due to the size of the affected area.

Soils

This section incorporates by reference the Soils Specialist Report contained in the Project Record located at the Heppner Ranger District. Methodologies, assumptions and limitations of analysis and other details are contained in the report. A summary of the affected environment and predicted effects of the alternatives are discussed here.

DETRIMENTAL SOIL DISTURBANCE

Affected Environment

Use of existing roads for most of the trail system reduces the concern for trail construction taking soils from vegetative productive capacity, and much of the concern for increased erosion. Constructed roadbeds are generally stable and often have surface rock that reduces sediment production due to OHV use.

Observations of current OHV trails on the Morrow/Grant County OHV Park area provide a comparison of potential effects from off-road trail use. Heavy use of off-road trails by (primarily) 4-wheelers in this adjacent area indicates (that) some trail sections may need higher levels of maintenance to control erosion and excessive rutting. Trail conditions generally are holding up well to heavy use. Some areas of higher clay subsoils become slick when wet and subject to rutting when saturated. Areas of deeper volcanic ash deposits can become very dusty in dry conditions, at times causing gradual loss of these soils in the trail track(s).

Environmental Effects

Alternative 1- No Action

Existing travel use would be expected to remain much the same, with likelihood that cross-country use will increase, as anticipated overall use increases. Off-road and cross-country uses tend to damage soils and create erosion problems in areas that cannot readily be monitored or controlled.

Table S-1. Summary Comparison of Soil Effects by Alternative

Alternatives					
	1	**2**	**3**	**4**	**5**
Miles of new trail	0	6	0	8	5
Acres of new detrimental disturbance	0	2.9	0	3.9	2.4
Sections where added mitigation needed	0	0	0	0	0

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Use of existing roads for the majority of the trail system limits additional soil disturbance to the area of new trail construction. Alternative 3 would limit trails to existing road locations with no new trail construction.

The construction (and continued use) of new trail will remove the area involved from vegetative productivity on a long-term basis. Table S3 includes estimates of the acreage that would be dedicated to new trail use by alternative. Existing roads to be used for this project are already presumed to be removed from the productive base.

Dust from trail use can be an undesirable aspect in certain soil types. Volcanic ash soils, such as found in this area, commonly become dusty with repeated use in the dry times of year.

Cumulative Effects

The proposed trail system predominantly uses existing road templates in either closed or open use status. New construction would add incrementally to the dedicated travel system with the area in acres involved by alternative shown in Table S-1. The trail systems on the Forest are considered administratively reserved for recreation use and thus are not directly compared to (other) vegetative production areas for Plan compliance purposes. The anticipated reduction or deflection of cross-country use by the creation of this trail system is not quantifiable but is considered a preventative or an improvement for soil disturbance concerns.

Total road and trail area is shown in Table S-2 by Alternative. Total miles available for OHV travel were turned into acres (using a 15 feet average width, or 1.82 ac/mile).

Table S-2 Cumulative Area in Trail System by Alternative

ACTIVITY MEASURE	Alternatives				
	1	2	3	4	5
Miles Trail and	207	290	207	293	233

Road Available					
Acres Trail and Road Available	377	528	377	533	424
Acres New Trail	0	2.9	0	3.9	2.4
Total Acres in Trail System	377	531	377	537	426
Percent Area Increase	-	0.5	0	0.7	0.6
Cross Country Travel Allowed	Yes	No	No	No	No

Hydrology

This section incorporates by reference the Hydrology Specialist Report contained in the Project Record located at the Heppner Ranger District. Methodologies, assumptions and limitations of analysis and other details are contained in the report. A summary of the affected environment and predicted effects of the alternatives are discussed here.

WATER QUALITY-SEDIMENTATION

Affected Environment

Currently, OHVs are allowed to drive cross country and on designated open roads in the project area. Most use is on open and closed roads, and off-road travel for extended distances appears to be relatively uncommon.

Natural rates of erosion and sedimentation are highly variable over time and space in part because of variations in weather, topography, and soils. This variation was quantified locally at the South Barometer Watershed Study Area. Suspended sediment was sampled on a daily basis for 11 years in the 3 square mile Study Area, which is located 5 miles east of the OHV project area and in the Wall Creek Watershed. The annual sediment yield varied by 2 orders of magnitude over the 11 years. The average sediment yield was approximately 5.3 tons per square mile per year (Harris, et al, 2004).

Annual background erosion, including roads and wildfires, was estimated by the *Watershed Erosion Prediction Project: Fuel Management Erosion* (WEPP:FuME) model to be approximately 5.7 tons per square mile per year. Annual road erosion from all existing roads was estimated by WEPP to be approximately 1.3 tons per square mile per year, which would be included in the 5.7 tons per square mile per year figure. These rates may be used to compare to erosion from OHVs, but are not meant to be absolute predictions of future effects. These estimates do not include erosion from stream channels or mass wasting.

Road crossings of streams are often the places where eroded soil enters the water. Eroded soil is mobilized by rain and snow melt. "Most road problems during floods result from improper or

inadequate engineering and design, particularly at road-stream crossings..."(Gucinski, et al, 2001). There are 465 stream crossings by open and closed roads in this project area.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

When OHVs and full sized vehicles share open roads, the effects of the OHVs are not distinguishable from the effects of the full sized vehicles. Also, because full sized vehicles are heavier, their effects to a road surface tend to overwhelm the effects of OHVs. Therefore, in this analysis, the total miles of closed roads within the project area will be used for effects comparisons of Alternative 1 to account for all travel off of designated roads. The total miles of designated trails will be used for effects comparisons in Alternatives 2 thru 5.

The estimated rate of soil erosion attributable exclusively to OHVs on roads in this Alternative is approximately 0.62 tons per square mile of the project area per year (Table H-1). This is a portion of the background road erosion of approximately 1.3 tons per square mile of project area per year. The total amount of soil eroded from roads by OHVs is estimated to be 88 tons per year in Alternative 1.

Table H-1. Estimated soil erosion (detachment) attributable to OHVs.

	Alternatives				
	1 (closed roads)	2 (designated trails)	3 (designated trails)	4 (designated trails)	5 (designated trails)
Miles of designated trails or closed roads	222	83	0	86	26
tons/mi² of project area/yr	0.62	0.38	0.0	0.40	0.12
total tons/year	88	29	0	30	9

Most soil eroded or detached from roads is likely to be stored in the uplands rather than reaching streams. This is because most roads are outside of RHCAs, and thus are buffered from streams. Belt (1992) found that stream buffers were generally effective in controlling sediment.

OHV routes which are located in RHCAs are more likely to contribute sediment to streams, because there is not a complete buffer distance between the road and the stream. Soil eroded from OHV use on roads in RHCAs in the Project Area and delivered to streams was estimated with Watershed Erosion Prediction Project Model. The results are shown in Table H-2. The estimate is that 1.1 tons per year of sediment would enter streams under Alternative 1.

Table H-2. Estimated soil from OHV routes in RHCAs that is likely to enter streams.

	Alternatives				
	1 (closed roads)	2 (designated trails)	3 (designated trails)	4 (designated trails)	5 (designated trails)
Miles within RHCAs	52.4	14.6	0	14.7	4.4
tons/mi² of project area/yr	0.015	0.007	0.0	0.007	0.002
total tons/year	2.0	1.0	0	1.0	0.3

Road-stream crossings are the locations where the road system is in contact with the stream system. Crossings are often the places where eroded soil enters the water. There are 465 total stream crossings by closed roads within the project area which are available to OHVs under Alternative 1. See Table H-3.

Table H-3. Road-stream crossings available to OHVs by Alternative.

	Alternatives				
	1 (closed roads)	2 (designated trails)	3 (designated trails)	4 (designated trails)	5 (designated trails)
Number of road stream crossings	465	154	0	155	36

Specific data or route locations are not available on off-road use by OHVs in the project area. However, there appears to be considerably less off-road use than on-road. Possible effects from cross country OHV use include bank destabilization, sediment production, and damage to riparian vegetation. The effects of off-road use can be severe and long-lasting in a specific location though they do not appear to be widespread in the project area. Off road use of OHVs may have localized detrimental effects to water quality in streams, but is not likely to be measurable at the watershed scale.

Alternative 2, 3, 4, and 5

Direct and Indirect Effects

The Action Alternatives would prohibit off-road use of OHVs, except for accessing a camp or gathering firewood within 300' of designated roads. Closed road use would be allowed on designated trails only. It is expected that approximately the same amount of OHV use as the existing condition would occur on fewer miles of closed roads in the action alternatives. This would concentrate the effects in a smaller area.

Generally, the action alternatives would reduce the miles of routes used by OHVs compared to No Action. The miles of designated trails that would be used by OHVs in the action alternatives would range from none to 86. See Tables H-1, H-2, and H-3. It is expected that OHV related soil erosion and stream sedimentation would decrease in approximate proportion to the decrease in miles of routes available for OHV use.

Alternatives 2, 4, and 5 would construct new OHV routes. The miles of new routes are included in the figures shown in Tables 7, 8, and 9. None of the new routes would be constructed in RHCAs. There would be no new stream crossings. The new routes were designed to enhance the OHV riding experience, by creating looping routes and providing better access between the Umatilla National Forest and the Morrow/Grant County OHV Park.

Cumulative Effects

Road and (OHV route) effects including accelerated runoff, erosion, and mobilization and delivery of sediment to streams have been summarized in numerous publications and reports (Gucinski, 2001). Road (and trail) use activities include maintenance (blading, ditch cleaning) and increased traffic levels. Road (and trail) construction generally produces the highest levels of accelerated erosion especially during the initial construction phase, and in the first few years following (Megahan, 1987). Design and construction practices are critical to controlling erosion and accelerated runoff (Burroughs and King, 1989). Activities such as heavy maintenance (rolling dips, water bars) and decommissioning/obliteration generally disperse runoff, and decrease the erosion and sediment delivery potential of roads (Luce, 1997). Timing, duration, and location of road effects depend on preexisting conditions (roads, landscape stability, and connectivity to streams), activity intensity and distribution, and weather conditions, among other factors. Native surface roads tend to erode more than gravel or paved roads.

At the watershed (HUC 5) scale, little information on OHV use is available, except at the Morrow/Grant County OHV Park. Off-road use has been observed on private lands, for recreation and range management purposes. Off-trail use of OHVs is not allowed at the County Park. State law prohibits OHV use on 2-way public roads. The magnitude of the effects of off-road OHV use on private land is expected to be lower than the magnitude on National Forest System lands, because fewer people have access to private land. The extent and duration of effects is thought to be similar.

Sediment generating activities at the HUC 5 scale include roads, livestock grazing, and timber harvest on public and private land. These activities are introducing more sediment into streams than there would be without them. Three streams in the project area are listed by the State as water quality limited because of sediment. The up-coming TMDL (scheduled for 2009) will include a Water Quality Restoration Plan to address human caused sedimentation. Forest Plan grazing and harvest practices are allowing recovery of sediment sources on lands managed by the Forest Service. The Forest Service road system is gradually deteriorating, and funding for basic road maintenance is scarce. Some improvement in sedimentation has been provided by recent road obliteration projects in the Wall Creek Watershed.

Public roads off the National Forest with higher use generally receive annual maintenance. Lower use roads are deteriorating and returning to nature in some cases. Wheeler County is re-surfacing the Notch Road, which had received little attention in recent years. Private roads on inhabited private land tend to receive maintenance as needed, while abandoned roads tend to return to nature. Roads tend to have more erosion than undisturbed forest soil. Annual road maintenance

tends to reduce erosion and sedimentation of streams. Roads which return to nature eventually stop eroding from their surfaces, but when located along streams tend to cause erosion from unstable banks. Re-surfacing deteriorated roads restores the structures which transport water off of roads, which reduces erosion.

The effects of road use and maintenance and trail construction, use, and maintenance would be mitigated with Best Management Practices and Design Criteria. The effects are expected to be localized, with low magnitude and short duration, and are not expected to affect any beneficial uses.

In July, 2007, the Monument Complex Fires burned approximately 55,000 acres in the Wall Creek and Lower North Fork John Day River Watersheds, including approximately 1,000 acres in the Project Area. Approximately 35 miles of mechanical fire trails were constructed to link 25 miles of existing roads to contain the fire. The fire trails were rehabilitated on National Forest System land, but not on state protected private land. It is expected that there would have been an unknown amount of erosion and sedimentation from the un-rehabilitated fire trails on private lands during the runoff of 2008. The erosion potential would have greatly decreased during the growing season of 2008, and be approaching normal by 2009 (Neary and others, 2005).

Foreseeable future activities on public and private land include grazing, timber harvest, non-commercial thinning, prescribed burning, and road use. As stated, the Forest Plan practices involving grazing and timber harvest are allowing recovery of water quality. Timber harvest on National Forest System lands will include needed road maintenance, which is expected to improve water quality. The Oregon Forest Practices Act, which regulates harvest on private land, contains provisions for maintaining water quality. The Oregon Department of Agriculture regulates grazing on private land. It is expected that there will be some reduction in erosion and sedimentation on National Forest System lands, and that the situation is static on State regulated lands.

On-going hazard tree removal, road maintenance, recreation, personal firewood cutting, and harvest of minor forest products are not expected to affect stream sedimentation in the analysis area. Fire suppression tends to prevent sedimentation.

Aquatics and Fish Habitat

This section incorporates by reference the Aquatics Report contained in the Project Record located at the Heppner Ranger District. Methodologies, assumptions and limitations of analysis and other details are contained in the report. A summary of the affected environment and predicted effects of the alternatives are discussed here.

The analysis area includes streams within the project area boundary. There is approximately 16,000 acres of Riparian Habitat Conservation Areas, of which over 2,200 acres are riparian areas along fish bearing streams. There are nearly 37 miles of designated critical habitat within the planning area.

AQUATIC HABITAT

Habitat quality and the ability of the watershed and riparian areas to act as a buffer for stream systems are components of aquatic habitat considered in the analysis. The use of OHVs in Riparian Habitat Conservation Areas has the potential to affect sediment delivery, stream banks,

and riparian vegetation so the focus of the effects analysis is related to those habitat components. Effects of the alternatives on these components were measured as follows:

- sediment or fines in the system (as measured by embeddedness and percent fines)
- Impacts to riparian vegetation (as measured by reductions in stream side shade)
- Affects to stream banks (potential for change in stream bank stability)
- Response of fish populations to the proposed activities.

Affected Environment

The project area includes approximately 16,000 acres of Riparian Habitat Conservation Areas, of which over 2,200 acres are riparian areas along fish bearing streams. In addition, there are nearly 37 miles of designated critical habitat within the planning area that currently may be impacted by OHVs.

Environmental Effects

Table F-1. Alternative Comparison of Effects for Aquatic and Fish Habitat.

Indicator	Alternative				
	1	2	3	4	5
Riparian vegetation	Reduction	Increase	Increase	Increase	Increase
Stream banks	Destabilized	Stabilize	Stabilize	Stabilize	Stabilize
Designated Trail (closed roads) in RHCAs of fish bearing streams (miles)[4].	Cross Country	1.9	0	1.9	1.2

Alternative 1 – No Action

Direct and Indirect Effects

Impacts from OHVs when traveling in riparian areas off of existing roads include stream bank destabilization. Loss of riparian vegetation leads to a destabilization of stream banks. OHV crossings on streams also break down stream banks leading to an increase in width to depth ratios and concentrated crossing areas. OHV crossings on streams also break down stream banks leading to an increase in width to depth ratios in concentrated crossing areas. It is expected under this alternative that stream banks will continue to be destabilized at isolated OHV crossing areas.

[4] These miles do not include miles of OHV trails or cross country routes that are not on a designated trail (closed road).

Impacts from OHVs when traveling in riparian areas off of existing roads include riparian vegetation damage. Loss of riparian vegetation leads to a decrease in stream shade and may lead to an increase in stream temperatures if loss of vegetation is extensive. Under this alternative it is likely that riparian vegetation will continue to be reduced from OHV use in and across streams. This loss of vegetation may eventually lead to an increase in stream temperatures.

Associated with both loss of vegetation and breaking down of stream banks is isolated inputs of sediment into streams that can increase substrate embeddedness and impact spawning success of salmonids. It is expected under this alternative that OHV use near and across streams would continue to lead to an increase in sediment input and substrate embeddedness in these streams at isolated locations.

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Each of the action alternatives proposes varying miles of closed roads to be designated as OHV trails and varying miles of designated new connecting trails to be constructed.
The miles of closed roads to be used as trails will vary from 0 to 1.9 miles of designated trails within RHCAs of fish bearing creeks (see Table F1). These are all existing roads with existing crossing structures and will not lead to additional sediment entering creeks over the existing condition. In all action alternatives there will not be any cross country travel allowed. This will eliminate the use of riparian areas off of existing road beds allowing areas along streams to recover where there was concentrated OHV use previously.

Recovery of the concentrated use areas will lead to a reduction of sediment inputs, an increase in riparian vegetation and stream shade, and a reduction in stream bank disturbance from eliminating OHVs fording streams. No new trail construction will occur in Riparian Habitat Conservation Areas so this activity is not expected to affect sediment inputs into streams, substrate embeddedness, riparian vegetation or shade, or stream bank stability. All action alternatives are expected to improve riparian conditions and eliminate future impacts to fish habitat and riparian areas from OHV use across streams off of existing roadbeds.

Cumulative Effects

The activities contributing sediment to streams, if left as is, would continue to impact aquatic habitats. In the past streams were fenced to reduce cattle access and associated sedimentation. Today only grazing on small sections of stream, cross country use by OHVs, and existing roads are still contributing sediment to streams. Each of the action alternatives in this project will lead to a cumulative decrease in the amount of sediment entering streams with the elimination of cross country travel of OHVs.

Streams within the planning area could have experienced an increase in sediment load and substrate embeddedness due to past management activities including road construction, timber harvest, prescribed fire, grazing, and failure of instream fish structures. Road construction increased the drainage area with 465 stream crossings that allow sediment to be transported directly to the streams from roads. Grazing in the past caused bank destabilization, which contributed sediment to streams. Many in-stream structures were constructed in the 1980s and 1990s in planning area creeks. Several of these structures have been identified as needing work and some are causing bank erosion contributing sediment to the streams. Past activities that have

reduced sediment input into streams include aspen stand restoration, which tends to increase bank stability within these stands. Fencing of RHCAs in cattle allotments has allowed riparian vegetation to recover providing more structure for increased bank stability and less trampling of the bank. In addition, the construction of upland water sources for cattle has diverted cattle from streams reducing the impact to stream banks on unfenced stretches of stream. Impacts from OHVs when traveling in riparian areas off of existing roads and trails include sediment inputs into streams. OHV crossings on streams break down stream banks leading to sediment entering streams. Isolated inputs of sediment into streams can increase substrate embeddedness.

Present activities that are contributing to an increase in sediment transport to streams include grazing and existing roads. There are still some unfenced areas of stream in cattle allotments that are impacted by grazing. Continued grazing is still causing bank destabilization at some of these locations. Several roads in riparian areas are chronic sediment sources for area streams. Other activities that are impacting sediment input into streams include aspen stand restoration. The restoration and fencing of aspen stands are helping to increase bank stability reducing the amount of sediment entering streams.

Future foreseeable activities are proposed for this planning area that would affect sediment load including grazing, riparian planting and caging, and aspen stand restoration. Grazing would continue in the analysis area and though minimized would continue to input sediment at isolated locations. Riparian planting and caging will help to stabilize stream banks and restore floodplain function so more sediment can be filtered out of streams during high flows. The restoration and fencing of aspen stands in the future will also help to increase bank stability reducing the amount of sediment entering streams.

THREATENED, ENDANGERED, PROPOSED, CANDIDATE, AND SENSITIVE SPECIES (MANAGEMENT INDICATOR SPECIES)

One threatened fish species and one sensitive fish species exist within the project area. Critical habitat and essential fish habitat have also been designated in the project area.

Affected Environment

Mid-Columbia Steelhead was listed as Threatened by the National Marine Fisheries Service under authority of the Endangered Species Act (ESA) in 1999. Interior redband trout had previously been listed as sensitive by the Forest Service in Region 6 and are on the state sensitive/critical list in Oregon. Steelhead and redband trout are also management indicator species under the Umatilla Land and Resource Management Plan. For practical purposes, juvenile resident redband trout cannot be distinguished from the anadromous form (steelhead) where the two occur together and so no distinction will be made here. This means that the more restrictive ESA “Threatened” classification would apply. Steelhead are known to be present throughout Big Wall, South Fork Big Wall, Indian, East Fork Indian, Wilson, Little Wilson, Colvin, Willow Springs, Henry Wheeler, and Alder creeks and Stahl and East Bologna canyons. Approximately 36 miles of steelhead designated critical habitat are included in the analysis area for this project including all of the streams listed above. All perennial streams below long-standing natural fish passage barriers in the John Day River system have been designated as essential fish habitat for spring Chinook salmon. This would include all perennial fish bearing streams within the project area. Chinook salmon are located downstream of the project area in the North Fork John Day River.

Environmental Effects

Table F-2. Federally ESA listed and Regional 6 Sensitive Aquatic Species with a potential to occur in the project area.

Species	Listing	Effects of No Action	Effects of Alternatives 2, 3, 4, and 5
Mid-Columbia Steelhead *Oncorhynchus mykiss gairdneri*	Threatened	NLAA[5]	NLAA (Beneficial)
Designated Critical Habitat for Steelhead	Threatened	NLAA	NLAA (Beneficial)
Essential Fish Habitat for Chinook Salmon	Threatened	NLAA	NLAA (Beneficial)
Interior Redband Trout *Oncorhynchus mykiss gairdneri*	Sensitive	MI[6]	MI (Beneficial)

Alternative 1 – No Action

Direct and Indirect Effects

This alternative would directly affect fish species (redband trout and steelhead) in the analysis area. OHVs may continue to ford streams and drive through Riparian Habitat Conservation Areas off of existing roadbeds or trails. Impacts from OHVs when traveling in riparian areas off of existing roads and trails include riparian vegetation damage, stream bank destabilization, and sediment inputs into streams. Loss of riparian vegetation leads to a decrease in stream shade and can lead to destabilization of stream banks. OHV crossings on streams also break down stream banks leading to an increase in width to depth ratios and concentrated crossing areas. Associated with both loss of vegetation and breaking down of stream banks is isolated inputs of sediment into streams that can increase substrate embeddedness and impact spawning success of salmonids.

Determination: Continuing with cross country travel by OHVs may affect but is not likely to adversely affect Mid-Columbia steelhead, its designated critical habitat or essential fish habitat for Chinook salmon. This alternative also may impact individuals or habitat for redband trout, but

[5] Not Likely to adversely affect

[6] May impact individuals or habitat but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species**.**

Alternatives 2, 3, 4, and 5

Direct and Indirect Effects

Because the miles of closed roads to be designated as a trail in all cases will be less than the existing condition and there will not be any cross country travel allowed there will be no additional impact to aquatic habitat and the fish populations these habitats support under any action alternative. This will eliminate the use of riparian areas off of existing road beds allowing areas along streams to recover where there was concentrated OHV use previously. In addition no new trails will be constructed within riparian habitat conservation areas so these will not affect fish populations. All closed roads to be used within RHCAs of fish bearing creeks have existing crossing structures and no additional effects to fish populations will occur with the use of these roads. All action alternatives are expected to improve riparian conditions and eliminate future impacts from OHV use along streams off of existing roadbeds. Recovery of the concentrated use areas by OHVs will lead to a reduction of sediment inputs and increase in riparian vegetation. This will in turn improve fish habitat at these locations.

Determination: This alternative may affect but is not likely to adversely affect Mid-Columbia steelhead, its designated critical habitat or essential fish habitat for Chinook salmon. This alternative also may impact individuals or habitat for redband trout, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Cumulative Effects

Threatened and Endangered species in the analysis area include Mid-Columbia steelhead and management indicator species include redband trout and steelhead. Most activities discussed under cumulative effects for aquatic habitat have affected fish populations in these streams. Increases in temperature can lead to increased stress to fish and reduction in spawning and rearing success. An increase in sediment yields could potentially add to degradation of aquatic habitat and fish populations by:

- increasing suspended sediment, which can have detrimental effects on fish health;
- filling interstitial spaces, which reduces escape and hiding cover for fish;
- increasing width/depth ratios, which can increase solar heating of water and also decrease fish hiding and escape cover and fish mobility;
- decreasing the quality of spawning substrate, which reduces reproductive success;
- reducing pool volumes, which decreases the amount of hiding, escape and resting habitat available and makes fish more vulnerable to predators.

Increases in sediment can increase stress on fish reducing spawning success, although whether the changes would be biologically significant would depend on many factors, including the amount and particle size of sediment produced, the size of the stream, amount of available refuge, including side channels and tributaries, and the conditions in the stream before the introduction of additional sediment. Fish in streams in good condition could tolerate more such changes than fish already stressed by poor habitat conditions. The contribution to cumulative effects of all action

alternatives would be a reduction of stress to redband trout and steelhead due to the elimination of cross country travel by OHVs and the eliminations of the impacts from these OHVs in riparian areas and where they ford streams or travel within Riparian Habitat Conservation Areas.

Botanical

This section incorporates by reference the Botanical Biological Evaluation contained in the Project Record located at the Heppner Ranger District. Methodologies, assumptions and limitations of analysis and other details are contained in the report. A summary of and the affected environment and predicted effects of the alternatives are discussed here.

THREATENED, ENDANGERED, PROPOSED, CANDIDATE, AND SENSITIVE SPECIES

Two sensitive plant species from the Regional Forester's Sensitive Species List occur in the OHV project area. One threatened plant species is known to occur on the Umatilla National Forest.

Table B-01. Federally ESA listed and Regional 6 Sensitive Botanical Species with a potential to occur in the project area.

Species	Listing	Effects of No Action	Effects of Alternatives 2, 3, 4, and 5
Arrow-leaved thelypody *Thelypodium eucosmum* (THEU)	Sensitive	May impact individuals or habitat	No Impact
Bolander's spikerush *Eleocharis bolanderi* (ELBO)	Sensitive	May impact individuals or habitat	No Impact
Silene spaldingii (SISP)	Threatened	No Effect	No Effect

Bolander's spikerush - Sensitive

Affected Environment

Three surveys in 2006 and 2007 revealed three occurrences of the species within the project area.

Environmental Effects

Alternative 1 – No Action

All three occurrences of Bolander's spikerush could be directly physically damaged by OHV traffic. The risk of damage to these populations of spikerush would be especially high during the seasonally moist time of year when the ground is soft and the tires of OHVs would dig deeper into the root zone.

Determination: The no action alternative may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Alternative 2, 3, 4, and 5

Direct and Indirect Effects

Risk of direct physical damage from OHV traffic to these plant populations is removed under Alternatives 2, 3, 4 and 5. Overland use of OHVs would no longer be allowed and the closed roads proximal to two occurrences of Bolander's spikerush (2140-061 and 2200-072) would be closed to OHV use under Alternatives 2, 3, 4 and 5.

Determination: There will be 'no impact' to Bolander's spikerush from the proposed project activities. In fact, there will be reduced risk of direct physical disturbance to the plant populations with the proposed restrictions of OHV traffic.

Cumulative Effects

See Arrowleaf thelypody cumulative effects section below.

Arrowleaf thelypody

Affected Environment

Plant surveys occurred within the project area from 1988 thru 2002. These surveys documented one occurrence of arrowleaf thelypody within the OHV project area. This plant population is located in Bologna Canyon near the southern edge of the project area with no proximal roads/trails.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

The one known population of arrowleaf thelypody would continue to be at risk of direct physical disturbance from OHVs if overland travel were to occur in the vicinity of the plants. Direct physical disturbance to this biennial plant before or during flowering, would likely prevent seed set, thus reducing the reproductive potential of the plant population.

Determination: The no action alternative may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Alternative 2, 3, 4, and 5

Direct and Indirect Effects

The risk of direct physical disturbance to arrowleaf thelypody from OHV traffic would be removed. There are no OHV routes or roads nor any proposed new trails in the vicinity of the one known population of arrowleaf thelypody in the project area.

Determination: There would be 'no impact' to arrowleaf thelypody from the proposed OHV project under Alternatives 2, 3, 4 and 5.

Cumulative Effects

All ground disturbing activities (mining, grazing, logging, road building, activities associated with fire suppression, construction of campgrounds) in the past, starting with Euro-American settlement in the 1880s, have possibly contributed to a reduction/degradation in potential habitat for arrowleaf thelypody and Bolander's spikerush. This is speculative and difficult to evaluate since inventory and mapping of PETS plant species did not really begin until the 1900s.

Implementation of the proposed OHV project prohibiting overland use of OHVs and not opening closed roads to OHV use proximal to Bolander's spikerush would likely be beneficial to the arrowleaf thelypody and the spikerush populations located in the project area.

The ground disturbing activities listed in the paragraph above have undoubtedly contributed to and will continue to contribute to the introduction and spread of invasive plant species. The present patterns of recreational use with dispersed campsites and OHV use contribute to the continued spread of invasive plant infestations.

The spread of invasive plant species is second only to habitat destruction for endangering imperiled species (Flather et. al. 1994). Implementation of the proposed OHV project with its associated prohibition of overland use of OHVs would reduce the risk of introducing invasive plant infestations in off road areas.

Silene spaldingii - Threatened

Silene spaldingii is federally listed as threatened and known to occur on the Umatilla and Wallowa-Whitman National Forests. This project will have No Effect on *Silene spaldingii. Silene spaldingii* occurs primarily in open grasslands with deep Palousian soils which do not occur within the project area.

Non-vascular plant species (bryophytes and lichens)

There is no known habitat within the project area units for any non-vascular plant species that is currently on the Region 6 Regional Forester's Sensitive species list. Therefore the determination is 'no impact' (NI) to listed non-vascular plant species.

Noxious Weeds

This section incorporates by reference the Noxious Weeds Report contained in the Project Record located at the Heppner Ranger District. Methodologies, assumptions and limitations of analysis and other details are contained in the report. A summary of and the affected environment and predicted effects of the alternatives are discussed here.

POTENTIAL ESTABLISHMENT AND SPREAD

Affected Environment

There are approximately 214 active noxious weed sites (3,061 acres) within the project area. Known noxious weed species in the area include diffuse knapweed, spotted knapweed, dalmation toadflax, yellow toadflax, hound's tongue, St. John's wort, Canada thistle, and scotch thistle. Diffuse knapweed, spotted knapweed, scotch thistle, hound's tongue, dalmation toadflax and yellow toadflax are high priority weeds of concern.

Most of the noxious weed sites are found along road corridors. From these points of initial infestation, weed species become opportunistic in invading suitable microhabitats adjacent to the initial infestation site. Most of the noxious weed species of the Umatilla National Forest thrive in open full sunlight in disturbed soils in which native species have been diminished or displaced (conditions commonly associated with roads). Most of the noxious weed species found in the analysis area are spread by vehicle traffic making road corridor weed sites of high concern.

Spotted knapweed, diffuse knapweed, can be spread by vehicles. Dalmation toadflax, yellow toadflax, scotch thistle, hound's tongue are primarily spread by other means. These weeds are extremely competitive, and are generally found along roads and right of ways. However, inventory has shown the spread of these species to be relatively slow. As an example, there are approximately 2,589 acres of inventoried diffuse knapweed within the analysis area. Densities of weed populations are between 1-100 plants per acre. Due to the low population of diffuse knapweed within the analysis area, current threat of spread is low.

Low priority weed species, such as Canada thistle and bull thistle, also readily establish where soil and plant associations have been disturbed. These species, however, are not highly persistent and populations usually decline as the tree canopy closes and/or with competition from seeded/native species.

Environmental Effects

Alternative 1 – No Action

Direct and Indirect Effects

The effects of the project on noxious weed introduction, establishment, and spread is indicated by the area of potential disturbance as measured in miles of designated roads and trails to be used for OHV routes within the project area. The table below indicates miles of potential disturbance by alternative and a description of effects in the sections following.

The potential of noxious weed spread by OHVs where cross country travel occurs would result in difficulty in locating newly established sites due to the undefined area of travel. Currently roads are inspected and treated annually but this would not account for cross country travel areas by OHVs. Therefore, the probability of increase in establishment and spread of noxious weeds would be the highest in Alternative 1.

Table N-01. Disturbance and Noxious Weed Potential Spread by Alternative

	Alternative				
	1	**2**	**3**	**4**	**5**
Designated open roads	189	189	189	189	189
Designated open roads - seasonal	18	18	18	18	18
Designated open trails -	222[1]	46	0	53	13
Designated open trails - seasonal	0	31	0	25	8
Designated new trail	0	5.5	0	8	5

Designated new trail - seasonal	0	.5	0	0	0
Total Miles Available for OHV Travel	430[1]	290	207	293	233
Unmanaged cross country travel - Designated riding area	Yes	No	No	No	No
[1] Total miles of closed roads was used to demonstrate the potential effects of cross country travel.					

Alternative 2, 3, 4, and 5

Direct and Indirect Effects

From 1990-2004 sales of class I and class III OHVs in Oregon have increased 400%. There are more than 138,000 active ATV operation permits in Oregon (Oregon State Parks, 2008). The increased use of OHVs within the planning area could potentially increase the spread of noxious weeds. Confining the use of OHVs to areas along open roads, closed roads and trails would increase the likelihood that weed population could be detected early while the populations are small and limit the chance that weeds would be able spread away from roads and trails to take over adjacent lands. Not allowing cross country travel would significantly reduce the chances of weeds becoming established off designated travel routes.

Many methods would be used to reduce the potential of noxious weed establishment and spread. Education programs that inform OHV users about the important of maintaining native vegetation is important to reduce the spread of noxious weeds. All known noxious weed sites that are cleared for treatment would be monitored and treated within the project area. This would eliminate existing known weed sources, which would effectively reduce the spread of noxious weeds. Designated trails that are part of proposed use areas would be inventoried and will remain open unless weed species are inventoried on the access areas. These areas could be closed to motorized access until the weed population has been treated. Information about noxious weeds will increase awareness of noxious weeds for early detection of unknown sites in the area.

Mitigation measures in Appendix B of the Noxious Weeds Report and Chapter 2 of this EA would help avoid conditions that favor the invasion and establishment of noxious weeds. Early treatment of noxious weed sites would be limited to manual treatment methods (as defined in the 1995 Forest EA) until other direction is implemented. Corrective and maintenance strategies (as defined in the 1995 Forest EA and the R6 Guide to Vegetation Management Projects) would be generally employed in established infestations (as defined in the 1995 Forest EA). As a result, all the action alternatives would be consistent with the Forest Plan, Regional FEIS for Managing Competing and Unwanted Vegetation, the associated Mediated Agreement, the Guide for Conducting Vegetation Management Projects in the Pacific Northwest Region (R6 Guide to Vegetation Management Projects), the Land and Resource Management Plan for the Umatilla National Forest (Forest Plan), and the Umatilla National Forest Environmental Assessment for the Management of Noxious Weeds (1995 Forest EA).

Cumulative Effects

Cumulative effects are the same under all alternatives with only the variance in the direct and indirect effects.

Past road construction and maintenance, grazing, timber harvest and other soil disturbance have provided:

- environments for noxious weed species establishment,
- vectors for noxious weed dispersal,
- and infestations of noxious weeds for seed sources.

The potential for noxious weed establishment and spread from vehicles not associated with the project along open road corridors (including seasonally open roads) would continue. The potential for vehicles, people, wind, or animals to transport noxious weed seed from within or from outside the analysis area would continue. This would include transportation between the OHV Park and the National Forest. The Morrow/Grant County OHV Park is very proactive in weed preventions and treatment. Weed preventive measures at the park include: OHV vehicle wash-down station, public information boards, annual weed inspection by the county weed inspector, and treatment of sites (personal communications, O'Brien, 2008). Because of the measures taken by the park it would be expected that transportation of weed sources from the OHV park users to the National Forest would be minimal.

The cumulative effects of all action alternatives on the establishment and spread of high priority noxious weeds would be low to moderate. Past activities within the analysis area have resulted in extremely low densities of high priority noxious weeds. Known sites would be treated before seed is produced and before additional disturbance occurs to reduce the potential spread by OHVs associated with this project and other vectors (such as livestock, recreationists, and wildlife).

The cumulative effects of all action alternatives on the establishment and spread of low priority noxious weeds is greater than that of high priority noxious weeds, due to the lack of treatment on those species. Low priority noxious weeds are those species that are considered widespread throughout the forest and generally are less competitive. Low priority noxious weeds within the analysis area (bull thistle, Canada thistle, and St. John's wort) are generally less persistent than high priority weeds and are out competed by forest canopy and competing understory vegetation, resulting in a reduction of these weed species in higher seral stage plant associations.

Summary

As shown in Table 4, Alternative 2 could potentially disturb less ground vegetation than Alternative 1. All action alternatives are the same in relation to treatment method and designated roads. The probability of establishment and spread of noxious weeds under the proposed action would be higher than alternatives 3 and 5 and lower than alternatives 1 and 4. The area of potential disturbance is based on miles of designated roads and trails.

As shown in Table 4, Alternative 3 would result in the least miles of access resulting in the least amount of potential noxious weed disturbance. In addition this alternative does not permit OHVs access off of roads open to vehicle traffic. Therefore, the probability of establishment of new populations and spread of noxious weeds would be the lowest in Alternative 3.

Alternative 4 could potentially disturb 3 more miles of designated trail than Alternative 2. This alternative does provide one additional access route into the Morrow/Grant County OHV Park than Alternative 2, thus increasing the possibility of transporting weeds between land ownerships.

Alternative 5 would result in fewer miles of potential weed disturbance than alternative 1, 2, and 4 and more than Alternative 3.

COST OF WEED TREATMENT

Weeds are treated annually along roads and within current activity areas. Based on the miles of designated roads and trails the expected cost for noxious weed treatment in the project area vary from the high of $13,000+ under Alternative 1 to no added cost under Alternative 3. The 207 miles of open roads would receive weed treatment with or without OHV designated routes and are not included in the cost of treatment by alternative, thus resulting in no added cost to treat noxious weeds under alternative 3. This is equivalent to Alternative 3.

Table N-2. Disturbance and Noxious Weed Potential Spread by Alternative[7]

Alternative 1 (No Action)	Alternative 2 (Proposed)	Alternative 3	Alternative 4	Alternative 5
$13,000+	$6,059	$0	$6,278	$1,889

Undeveloped Areas

This section incorporates by reference the Undeveloped Area Report contained in the Project Record located at the Heppner Ranger District. Methodologies, assumptions and limitations of analysis and other details are contained in the report. A summary of the affected environment and predicted effects of the alternatives are discussed here.

Oregon Wild submitted a map, as a response to scoping, identifying eleven areas they would like considered in this analysis. These eleven areas were mapped by Oregon Wild following procedures developed by Oregon Wild. This report considers the impacts of designating roads, trails and areas on the eleven areas submitted by Oregon Wild. This report does not consider whether these areas are consistent with Forest Service mapping and inventory procedures for areas with wilderness potential at FSH 1909.12, Chapter 70. This determination is appropriately assessed as part of revising the Umatilla Land and Resource Management Plan.

For this analysis, the following criteria will be used to describe potential effects to the eleven areas Oregon Wild identified in their scoping comments within the project area:

Apparent Naturalness: The degree to which an area appears natural to a forest visitor as evidenced by the presence or absence of developed features such as past and current management activities and facilities.

[7] Cost of weed treatment is based on current implementation. Future costs for treatment may vary but will be relative between alternatives.

Solitude: The degree to which a forest visitor experiences isolation from the sights, sounds, presence of others, and developed features such as past and current management activities and facilities. The size and shape of the area and juxtaposition to outside developments are relevant to the degree of solitude.

Special Features: Unique geological, biological, ecological, cultural, or scientific features.

Resources and Existing Uses: Any high quality or undisturbed soil, water, air; diversity of plant and animals; habitat for T&E species, as well as, proposed, candidate and sensitive species and for those species dependant on large, undisturbed areas of land, natural appearing landscapes, cultural significant areas, dispersed recreation.

Affected Environment

There are no Forest Service inventoried roadless areas, no wilderness areas, and no wild and scenic rivers within, or adjacent to the project area. None of the eleven areas mapped by Oregon Wild are adjacent to, or contiguous with, a designated wilderness area or an inventoried roadless area. Seven of the eleven areas share a boundary with private or BLM land.

Only the Happy Jack, Keith Canyon, and Willow Spring's undeveloped areas have new trail designation proposed. All other areas identified by Oregon Wild will not have any construction proposed.

Apparent Naturalness: All eleven areas display one or more management practices of past and current grazing including fences and stock ponds, dispersed camping and off-highway vehicle use. All eleven areas are bordered by past timber harvest or forest system roads (open and closed) and some degree of past timber harvest and associated roads are evident within all areas except Happy Jack and Indian Creek. The project file contains maps of the eleven areas identified by Oregon Wild, existing forest roads, trails, and past timber harvest.

Solitude: Because all eleven areas are open to OHV use, there is an expectation of seeing or interacting with others. In addition, system roads and trails bordering and intersecting these areas hinder the opportunity for primitive recreation and preclude the feelings of solitude. These areas generally are not recognized as areas that the public uses for solitude, or the feeling of remoteness.

Special features (as defined in FSH 1909.12, Chapter 70, section 74 (2d)). A proposed Research Natural Area is located in Oregon Wild's mapped Keith Canyon area. No OHV use is allowed, therefore, no further discussion is necessary.

Resources and Existing Uses: The soils within the eleven areas are described in the soils report and summarized in Chapter 3 of this EA. There are no unique or special soil characteristics within any of the eleven areas.

Water resource within the eleven areas are described in the hydrology report and summarized in Chapter 3 of this EA. There are no unique or special hydrological characteristics within any of the eleven areas.

Sensitive plants are described in the botanical report and summarized in Chapter 3. One occurrence of Arrowleaf thelypody was found in the southern portion of the Oregon Wild's Tamarack Creek. One occurrence of Bolander spikerush was found in the northern portion of Oregon Wild's Turner Mountain.

Habitat for T&E species, as well as, proposed, candidate and sensitive species are described in the wildlife report and summarized in Chapter 3 of this EA. The Columbia Spotted Frog, Bald Eagle, white-headed woodpecker and the Lewis' woodpecker, Mid-Columbia steelhead, redband trout, all sensitive species, and their habitat are found within Oregon Wild's mapped areas.

Environmental Effects

None of the effects resulting from the OHV route and area designations will preclude any of the eleven areas from consideration as areas with wilderness potential during forest plan revision because the effects are not among the criteria listed in FSH 1909.12, chapter 70 that would exclude lands from consideration.

However, OHV trails designated on top of existing forest service roads (open or closed) would not be included in the inventory of areas with wilderness potential because areas with wilderness potential do not contain forest service roads (FSH 1909.12, chapter 70).

Alternative 1 – No Action

Direct and Indirect Effects

Apparent Naturalness: There would be continued existing evidence of human activity. The current escalation in OHV use would likely result in new routes, causing a decrease in the natural appearance of the area. See Appendix A for Alternative 1 map.

Solitude: Continued or increased OHV cross country travel would be expected to decrease the sense of solitude.

Resources and Existing Uses: Sensitive plants and T&E wildlife species and suitable habitat would be affected under this alternative. The analysis for each species can be found in their respective sections in the EA.

Cumulative Effects

Apparent Naturalness: OHV activity would continue to be evident. Future foreseeable activities that would affect natural characteristics include an increase in OHV activity, grazing, vegetative management, riparian planting and caging, and aspen stand restoration. Increased use from the county's OHV park would increase use on federal lands near the park.

Solitude: Increased use from the County's OHV park would increase use on federal lands near the park and reduce the degree of solitude of those not wanting to hear and smell motorized recreation activities.

Resources and Existing Uses: No additional foreseeable future actions are expected to impact the resources or existing uses.

Effects Common to All Action Alternatives (2, 3, 4 and 5)

Direct and Indirect Effects

None of the effects resulting from the OHV route and area designations will preclude any of the eleven areas from consideration as areas with wilderness potential during forest plan revision because the effects are not among the criteria listed in FSH 1909.12, chapter 70 that would

exclude lands from consideration. This is the case because Oregon Wild's areas appear to exclude forest service roads.

Apparent Naturalness: Eight areas (Mahogany Butte, Dry Creek, Thorn Spring, Turner Mountain, Bologna Basin, Tamarack Creek, Indian Creek and Wildhorse Springs) will not be impacted by new trail designation. Restricting OHV use to existing roads and trails would increase the naturalness of the area by reducing the impacts to wildlife, noxious weed spread, soil disturbance, and impacts to riparian vegetation. Also user-created trails would be eliminated. See Appendix A for Alternative 2, 3, 4, and 5 maps.

Solitude: Concentrating OHV use on designated trails and roads would further reduce the feeling of solitude immediately adjacent to roads and trails. However, a higher feeling of solitude within all eleven areas closed to OHV use would occur due to the elimination of cross-country travel.

Resources and Existing Uses: Sensitive plants and T&E wildlife species and suitable habitat would have a positive impact to the suitable habitat under this alternative. The analysis for each species can be found in their respective sections in the EA.

Effects common to Alternative 2 and 4

Direct and Indirect Effects

Apparent Naturalness: The new trail designation in Oregon Wild's Willow Springs and Happy Jack areas would be located on or near existing user created trails. Designating user created trails for OHV use would not further reduce the degree of apparent naturalness in the area. In Oregon Wild's Keith Canyon area the new trail near Forest Road 24 would be a new location for OHV riding and would reduce the naturalness of the area adjacent to the trail proposed to be designated.

Solitude: Keith Canyon: this area is within the sights and sounds of Forest Road 24. The area between the new trail and FR 24 would present a reduced feeling of solitude because of the sights and sounds of motorized OHVs. See Table U-1.

Happy Jack: this new trail is approximately ¾ of a mile and is directly on the western boundary. A reduced feeling of solitude in a very small percentage (estimated to be less than one percent) of the area would be effected.

Willow Springs: this new is trail is approximately ½ mile long and is near the north-east boundary. Past timber harvest activity surrounds it. A reduced feeling of solitude in a very small percentage (estimated to be less than one percent) of the area would be effected.

Outside the influence of the sights and sounds of OHVs on roads and trails, the sense of solitude would increase for non-OHV users (foot travel, horse riders) experiencing cross-country travel.

Table U-1: Miles of new trail designation within the Oregon Wild's Mapped Areas of Concern

	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Oregon Wild's Happy Jack	0.8	0	.8	0
Oregon Wild's Keith Canyon	2.7	0	2.7	2.7
Oregon Wild's Willow Springs	0.4 Seasonal	0	0.4	0

Alternative 3

Direct and Indirect Effects

Apparent Naturalness: In Oregon Wild's three areas (Happy Jack, Keith Canyon and Willow Springs) restricting OHV use to existing roads only would have the highest degree of naturalness by reducing the impacts to wildlife, noxious weed spread, soil disturbance, and impacts to riparian vegetation.

Solitude: In Oregon Wild's three areas (Happy Jack, Keith Canyon and Willow Springs) OHV use is restricted to roads and no new trails are designated, this alternative would have the highest sense of solitude than the other alternatives since this is the most restrictive alternative for OHV users. See Table 1.

Alternative 5

Direct and Indirect Effects

Apparent Naturalness: In Oregon Wild's three areas (Happy Jack, Keith Canyon and Willow Springs) the effects would be the same as the effects common to all alternatives except in the Keith Canyon area. The trail proposed in Keith Canyon would reduce the naturalness of the area between the trail and FR 24.

Solitude: Keith Canyon: The sense of solitude is the same as Alternative 2 and 4.

Happy Jack and Willow Springs: No trail is proposed, therefore, the degree of solitude would be the same as Alternative 3.

Cumulative Effects

Past activities that have occurred include timber harvest, grazing, pre-commercial thinning, prescribed fire, road building and dispersed recreation such as hunting, camping and hiking.

Apparent Naturalness: Future foreseeable activities that would affect natural characteristics include grazing, vegetative management, riparian planting and caging, and aspen stand restoration.

Solitude: Other than what's listed above, no additional foreseeable future actions are expected to further impact the feeling of solitude.

Resources and Existing Uses: No additional foreseeable future actions are expected to impact the resources or existing uses.

Compliance and Enforcement

The current situation with regard to OHV travel management relies on the issuance of Forest Special Orders under the authority granted in 36 CFR 261 (2007) to restrict motorized travel. This approach often results in an array of Forest Special Orders created over time that can be inconsistent and difficult to display in a comprehensive fashion to forest users. This can compromise motorized enthusiast compliance in that restrictions are not always apparent and can

reduce enforcement effectiveness due to the public notification burden not being fully satisfied by the agency.

A Motor Vehicle Use Map (MVUM) will be produced following the decision of this project. This map will identify a designated system for OHV use and other motorized travel. This will replace the Forest Special Orders. All areas and roads not included on this map would be closed to OHV use. Changes to the system would be identified annually and updated maps would be made available.

The analysis area for considering the effects of the alternatives on compliance and enforcement include the entire project area within the National Forest boundary.

The current Access Travel Management Plan allows OHV cross country travel in the general forest area. This equates to approximately 61,000 acres of the 91,000 acre planning area. Although cross country travel is allowed on only certain management areas, the on-the-ground delineation of these areas is not well defined. Boundaries are often associated with an elevation band, vegetation type change, or land feature (such as riparian areas). It is difficult for users to know and understand where changes in use restrictions occur and often results in enforcement challenges. Cross country travel has occurred in areas inconsistent with that decision.

Alternative 1 would continue the current situation and rely on the new national Motor Vehicle Use Map (NVUM) replacing the Forest Special Orders across the planning area to achieve motorized travel restriction compliance and enforcement.

OHV use would be restricted to designated roads in specific management areas and cross country travel would be allowed only in management area E1. The cross country area is currently not defined on the ground and would require posting or fencing to define the boundaries. For this reason compliance is expected to be low. Enforcement is expected to be difficult and require extensive enforcement presence.

Alternative 2 would restrict cross country travel and public motorized travel to designated routes only, across the planning area. It would provide for the use of the Travel Rule (36 CFR §261.13, 2007) through the creation of the new Motor Vehicle Use Map. Motorized opportunities and restrictions would be more effectively and comprehensively communicated to both motorized and non-motorized recreation enthusiasts alike. Compliance and enforcement effectiveness would be expected to be higher than the current situation or Alternative 1.

In Alternative 3 the expected effects in the area of compliance and enforcement would be the same under this alternative as Alternative 2. Compliance would be expected to be lower due to less riding opportunities and less connections. Understanding of OHV routes in the area may improve as it will be similar as the rest of the District where OHV use is limited to only roads open to highway legal vehicles.

The expected effects in the area of compliance and enforcement would be the same under Alternative 4 as Alternative 2. Compliance may be better with the additional loops and connections for OHVs. Enforcement would be the same as Alternative 2.

Alternative 5 expected effects in the area of compliance and enforcement would be the same under this alternative as Alternative 2. Compliance and enforcement effectiveness may be lower due to the more limited opportunities for OHV travel.

Maintenance and Administration

As part of the route designation process, the Travel Management Rule (36 CFR Part 212, 2007) requires consideration of the availability of resources for the maintenance and administration of the designated routes (36 CFR §212.55, 2007). To satisfy that requirement, the proposed action was developed by reviewing the closed roads in the planning area for suitability as a motorized trail. Roads were removed from consideration after reviewing where important resource concerns existed. Resources of concern included riparian habitat, wildlife habitat, sensitive botanical areas, cultural resources, and conflicts with adjacent land uses. Maintenance costs would be greatly reduced by eliminating specific areas as designated trails for OHV use and avoiding potential resource damage.

A comparison and cost estimate of maintaining the remaining miles by alternatives is displayed below. Due to the cross country travel allowed in the existing condition trails are not designated or maintained by the district. Users perform some maintenance such as logout on designated trails as needed or ride around obstacles.

Table M-1: Annual Maintenance Cost for Designated OHV Trails

Alternatives					
	1	2	3	4	5
Miles	-	83	0	86	26
Cost/Mile		$275	$275	$275	$275
Total Cost	-	$22,825	$0	$23,650	$7,150

All of the action alternatives would result in no change in the total miles of NFS road. Since closed roads are seldom maintained this would essentially not affect the agency's ability to maintain and administer the total road system. The designated trails (closed roads) that were included in the proposed action or any of the action alternatives allow the maintenance to be low standard primitive trails and require no substantive improvements. The new trails proposed would not be located in any riparian areas and avoid any resource issues. All of the trails considered for designation were determined to be sustainable in their current location and condition, and to require little maintenance to accommodate expected use. Expected annual maintenance would include logout and drainage maintenance.

Work is expected to be accomplished in a variety of ways and with various funding sources such as: volunteers, appropriated dollars, and grants (The Umatilla National Forest has competed successfully for grants from the Oregon Parks and Recreation District for maintenance dollars).

Compliance with Other Laws, Regulations, and Policies

This section describes how the action alternatives comply with applicable State and Federal laws, regulations, and policies.

National Historic Preservation Act

Before project implementation, State Historic Preservation Office consultation would be completed under the Programmatic Agreement among the United States Department of Agriculture, Forest Service, Pacific Northwest Region (Region 6), The Advisory Council on Historic Preservation, and the Oregon State Historic Preservation Officer regarding Cultural Resource Management on National Forests in the State of Oregon, dated March 10, 1995.

Identified sites will be protected from all project activities associated with the West-End OHV Project. Should additional sites be found during project implementation the area or designated route would be closed and the Forest Archaeologist would be immediately notified.

Endangered Species Act and Regional Forester's Sensitive Species

The Endangered Species Act requires protection of all species listed as threatened or endangered by federal regulating agencies (Fish and Wildlife Service and National Marine Fisheries Service). Biological Evaluations for Endangered, Threatened, and Sensitive plant, wildlife, and fish species have been completed. Determinations were made that none of the proposed alternatives would adversely affect, contribute to a trend toward Federal listing, nor cause a loss of viability to the listed plant and animal populations or species.

Details regarding the actual species found within the West End OHV project area and the potential effects of proposed activities on those species and their habitat are contained under the Terrestrial Wildlife, Aquatic Habitat and Fish, and Botanical Species: Proposed, Endangered, Threatened, and Sensitive species sections of this EA.

Inventoried Roadless Areas, Wilderness, and Wild and Scenic Rivers

There are no inventoried roadless areas, wilderness areas, or wild and scenic rivers within the project area.

Clean Water Act

The Clean Water Act of 1972 (CWA) and amendments require the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. All of the activities proposed in this project were designed to comply with the Clean Water Act.

The guidance in the Forest Plan is to "meet or exceed state requirements in accordance with the Clean Water Act for protection of waters of the State of Oregon (OAR Chapter 340-341) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act, regulations, and Federal guidance" (Forest Plan, p. 4-77).

The West End OHV Project uses planning and application BMPs and design elements to maintain existing water quality. Implementation and effectiveness of BMPs and design elements would be monitored to allow managers to adapt to watershed conditions. Monitoring would show whether BMPs and design elements were being implemented and whether they were effective at maintaining water quality.

In addition to actions which maintain water quality, the West End OHV Project proposes to restore water quality by eliminating cross-country OHV traffic and reducing the miles of roads and stream crossings which are open to OHV use.

Because of the use of Best Management Practices and Standard Operating Procedures to maintain existing water quality, and the elimination of cross-country OHV traffic and reduction of miles of roads and stream crossings used by OHVs, all the alternatives of the West End OHV Project comply with the Clean Water Act and the Forest Plan.

303(d) Listed Streams

Section 303 of the Clean Water Act requires the states to list the streams whose use is impaired because they do not meet water quality standards. The water quality standards which may be affected by OHV use off of roads, on designated roads and trails, and OHV trail construction are stream temperature from shade reductions in riparian areas and sedimentation and turbidity from roads, trails, and altered stream banks.

Table C-1. 303 (d) List for West End OHV streams in Lower John Day Basin (Oregon DEQ, 2006).

Stream	River Mile	Parameter	Criteria
Brown Creek	0 to 9.5	Temperature	Rearing, migration, 18 C
Henry Creek	0 to 7.1	Temperature	Rearing: 17.8 C
Stahl Canyon	0 to 5.7	Temperature	Rearing: 17.8 C

Table C-2. 303 (d) List for West End OHV streams in North Fork John Day Basin (Oregon DEQ, 2006).

Stream	River Mile	Parameter	Criteria
Big Wall Creek	0 to 21.3	Sediment/Temperature	Rearing, spawning, aquatic life, migration, 18 C
Indian Creek	0 to 5.4	Temperature	Rearing, migration, 18 C
Porter Creek	0 to 7.4	Sediment	Rearing, spawning, aquatic life
Wilson Creek	0 to 10.7	Sediment/Temperature	Rearing, spawning, aquatic life, 17.8 C

The water quality standards which may be affected by the West End OHV Project are stream temperatures and sedimentation. Steam temperatures may be affected when cross country OHV use in RHCAs damages shade producing vegetation. Stream sedimentation may be affected by cross country OHV use in RHCAs, by OHV use on designated roads and trails, and by OHV trail construction.

OHV use under the 1992 Access and Travel Management Plan has the potential to reduce stream shade and increase stream sedimentation. Observations in the area indicate that shade reductions have resulted primarily from timber harvest, road construction, and cattle grazing before 1990. They also indicate that sedimentation has resulted primarily from road construction and cattle grazing prior to 1990, and current road use. Shade reductions and sedimentation related to OHVs has not been extensive, but has been documented.

Prohibiting cross country OHV traffic would greatly reduce the potential effects to water quality from OHVs. However, because the shade reductions and sedimentation related to OHV use do not appear to be extensive, it is not expected that any of the 5 Alternatives would affect 303 (d) listing status.

Executive Order 11988 and 11990: Floodplains and Wetlands

Executive Order (EO) 11988 requires the Forest Service to avoid "to the extent possible the long and short term adverse impacts associated with the ... occupation ... or modification of floodplains..." The West End OHV Project does not propose to occupy or modify any floodplain. For this reason, the West End OHV Project is consistent with this EO.

Executive Order (EO) 11990 requires the Forest Service to "avoid to the extent possible the long and short term adverse impacts associated with the ... destruction or modification of wetlands." The West End OHV Project does not propose to destroy or modify any wetlands. For this reason, the West End OHV Project is consistent with this EO.

Executive Order 11990 and 11989

The Forest Plan in line with national direction for travel management is provided by Executive Order (E.O.) 11644 (February 8, 1972) as amended by E.O. 11989 (May 24, 1977). These executive orders direct federal agencies to "ensure that the use of off-road vehicles on public lands will be controlled … to protect the resources … promote safety … and minimize conflicts …" Forest Service rules at 36 CFR Part 295 (2007) codify the requirements in E.O. 11644 and E.O. 11989. The West End OHV project analyses the effects of OHVs on individual resources, considered effects to other users, and identifies a designated system for OHV use within the project area. For this reason the selection of any alternative in the West End OHV project would meet these regulations.

Executive Order 12898: Environmental Justice

Executive Order 12898 requires that federal agencies adopt strategies to address environmental justice concerns within the context of agency operations. With implementation of the Proposed Action or any of its alternatives there would be no disproportionately high and adverse human health or environmental effects on minority or low-income populations. The actions would occur in a remote area and nearby communities would mainly be affected by economic impacts as related to recreational use of OHVs.

Executive Order 13186: Neotropical Migratory Birds

This section incorporates by reference the West-End OHV Terrestrial Wildlife Report and Biological Evaluation contained in the project analysis file located at the Heppner Ranger District.

The *Partners in Flight Bird Conservation Plan* is used to address the requirements contained in Executive Order (EO) 13186 (January 10, 2001), Responsibilities of Federal Agencies to Protect Migratory Birds. Under Section 3(E) (6), through the National Environmental Policy Act, the Executive Order requires that agencies evaluate the effects of proposed actions on migratory birds, especially species of concern. *Partners in Flight Conservation Planning* allows the analysis of effects of proposed projects on neotropical migratory birds through the use of guidelines for priority habitats and bird species of concern for each planning unit. The conservation strategy does not directly address all landbirds species of concern, but instead uses "focal" species as indicators to

describe the conservation objectives, and measures project effects in different "priority" habitats for the avian communities found in the planning unit. The Umatilla National Forest occurs in the Northern Rocky Mountain Landbird Conservation Planning Region, which includes the Blue Mountains sub-region and the Blue Mountains sub-province. Conservation planning for the Blue Mountains, Ochoco Mountains, and Wallowa Mountains sub-provinces is addressed in the Conservation Strategy for Landbirds in the Northern Rocky Mountains of Eastern Oregon and Washington (Altman 2000).

Activities under all alternatives would be designed using the above strategy, and therefore would be consistent with Executive Order 13186. See the Neotropical Migratory Birds section in this EA or the wildlife specialist report for further discussion of effects on neotropical migratory birds.

National Forest Management Act

The West End OHV project is consistent with the National Forest Management Act (NFMA) (36 CFR 219.8(e)).

Forest Plan Consistency

There are eight Forest Plan management area designations within the project area. OHV use is either restricted or limited in five of these management areas. Alternative 1, or the implementation of the 1992 *Motorized Access and Travel Management Decision*, would comply with the prohibition of OHVs in management area D2 and the restriction of OHV travel on designated routes in the C1 and C5 management areas and the winter closures of the C3 management area. Alternative 1 does restrict OHVs to specific roads within the developed recreation site but may not fully consider conflict between users in this area. Cross country travel within the E1 management area is consistent with the Forest Plan standard, permitting OHV use within the management area.

Alternatives 2, 3, 4, and 5 comply with all Forest Plan standards in all 8 management areas. All routes are designated and cross country travel would not be allowed (see Chapter 1 for Forest Plan standards and guidelines; goals and desired future conditions; relevant to OHV route designation).

This project addresses moving toward the desired future conditions of recreational activities including OHV recreation while protecting other resources including fisheries, terrestrial wildlife, soils, water, cultural resources, visual resources and other social resources valued today and in the future. Specifically the analysis identifies areas for loops, closed system roads to be used as OHV trails, and address areas where conflicts between OHV use and big game could occur. Most roads and trails would be closed to OHV use in the big game winter range (C3). OHV use in designated old growth (C1) would be limited to designated routes. Recreational opportunities would be road oriented with several designated roads and trails located within the A4 Viewshed area along State Highway 207.

Wildlife

Vegetative treatment aimed at altering forest structure and composition would not occur under any of the alternatives. The Forest Plan has no specific standards and guidelines for late and old structure habitat and connectivity in relation to motorized recreation.

No vegetative treatment or dead wood removal (fuels treatment/ reduction) with a potential to impact dead wood would occur under any of the action alternatives.

Analysis of management indicator species and biological evaluations of threatened, endangered and sensitive species can be found in the wildlife section. This project would not contribute towards federal listing for any threatened, endangered or sensitive terrestrial wildlife species.

Under the action alternatives, HEI would increase in both the E1 and C3 management areas in response to the elimination of cross country travel. HEI in the E1 management area would meet standards and would be consistent with the Forest Plan. While HEI in the winter range (Kahler and Monument) would continue to be below Forest Plan standards, it would improve under these alternatives, and would therefore be consistent with the Forest Plan.

Hydrology

All alternatives comply with the Forest Plan standard to meet the Clean Water Act and comply with existing State laws for beneficial water use.

Fish and Aquatic Habitat

All action alternatives are consistent with Forest Plan direction regarding fish and riparian areas for permitted activities and allowable affects for both C5 and general forest standards and guides. None of the potential combined effects are expected to adversely affect PacFish Riparian Management Objectives or steelhead/redband trout population viability. All designated trails will be operated in a manner to be consistent with Pacfish RMOs or trails will no longer be used. Application of PacFish direction would maintain or improve fish habitat conditions in the analysis area. OHVs in all alternatives are only allowed on designated trails in riparian areas.

Riparian management objectives include maintaining and improving pool frequency, complying with state water quality standards, maintaining or increasing large wood to greater than 20 pieces per mile, and maintaining width to depth ratios of less than 10. In non-forested systems (meadows) these also include maintaining bank stability greater than 80 percent and maintaining stream bank lower bank angles of greater than 75 percent.

These alternatives are also consistent with the Basinwide Salmon Recovery Strategy (All-H Strategy) as it requires following existing management direction in the short-term and following ICBEMP science in the long-term. These alternatives are also consistent with Wy-Kan-Ush-Mi Wy-Kish-Wit --- The Columbia River Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs and Yakama Tribes. This restoration plan recommends that federal agencies follow existing land use and water quality laws and regulations – this would include PacFish.

Botany

The 1990 Land and Resource Management Plan for the Umatilla National Forest requires that all project areas be inventoried for endangered, threatened and sensitive plant species and that if endangered, threatened and sensitive plant species are present, a biological evaluation (BE) must be prepared. A Biological Evaluations was completed for this project. The proposed action and any action alternatives would not contribute towards federal listing for any sensitive plant species. The only Alternative that may impact sensitive plants in the project area, is the 'no action' alternative. The proposed West End OHV project is in compliance with the Land and Resource Management Plan for the Umatilla National Forest.

Other Jurisdictions

There are a number of other agencies responsible for management of resources within the West End OHV project area. The Oregon Department of Fish and Wildlife is responsible for management of fish and wildlife populations, whereas the Forest Service manages the habitat for these animals. The Oregon Department of Fish and Wildlife has been contacted regarding this analysis.

The Environmental Protection Agency is responsible for enforcement of environmental quality standards, such as those established for water resources, while the Oregon Department of Environmental Quality sets standards, identifies non-point sources of water pollution, and determines which waters do not meet the goals of the Clean Water Act. The Forest Service and Oregon Department of Environmental Quality have signed a Memorandum of Understanding to meet state and federal water quality rules and regulations (2002).

Before project implementation, State Historic Preservation Office consultation would be completed under the Programmatic Agreement dated March 10, 1995.

Consumers, Minority Groups and Women

This project does not propose to provide a quantitative output, lack of output, or timing of output that would affect the civil rights, privileges, or status quo of consumers, minority groups, and women.

Unavoidable Adverse Effects

Implementation of any of the alternatives would inevitably result in some adverse environmental effects. The severity of the effects would be minimized by adhering to the direction in the management prescriptions and Standards and Guidelines in Chapter IV of the Forest Plan and additional design elements proposed in Chapter 2 of this document. These adverse environmental effects are discussed at length under each resource section.

Short-term Use and Long-term Productivity

Short-term uses are generally those that determine the present quality of life for the public. In the Pacific Northwest, this typically includes: timber harvest, livestock grazing, recreation, transportation, utility corridors, and wildlife habitat. Long-term productivity refers to the land's capability to support sound ecosystems producing a continuous supply of resources and values for future generations.

The short term uses affected by this project would include recreation, transportation and wildlife habitat. All uses would remain similar between alternatives with a primary emphasis on one or more of these uses.

The long-term productivity affected by this project is limited to the immediate areas where OHV use would occur. Cross country travel by OHV is eliminated and replaced by designated trails located on closed roads or existing but undocumented OHV trials.

Irreversible and Irretrievable Effects

An irreversible commitment of resources refers to a loss of future options with nonrenewable resources. An irretrievable commitment of resources refers to loss of opportunity due to a particular choice of resource uses.

The soil and water protection measures, included designated trail locations, are designed to avoid or minimize the potential for irreversible losses from the proposed designated OHV system.

The designation of closed roads to be used as OHV trails does not eliminate these roads from the travel system.

Concerning threatened and endangered plant, wildlife, and fish species, a determination has been made that the proposed actions would not result in irreversible or irretrievable commitment of these resources.

Chapter 4

Supporting Information

Consultation and Coordination

Scoping and 30-day Comment Period

Scoping letters were sent to the mail list of interested parties maintained at the Umatilla National Forest Supervisor's Office. This included the Confederated Tribes of the Warm Springs Reservation of Oregon, The Confederated Tribes of the Umatilla Indian Reservation, and Oregon Department of Fish and Wildlife.

Tribes

Confederated Tribes of the Umatilla Indian Reservation

Antone Minthorn – Chairman

Armand Minthorn, Cultural Resources Committee Chairman

Teara Farrow, Cultural Resources Protection Program, Acting Program Manager

Carey Miller, Cultural Resources Protection Program, THPO

Eric Quaempts, Department of Natural Resources, Director

Michael Ray Johnson, General Council Chair

Rick George, Environmental Planning, Rights Protection Dept.

Carl Scheeler, Wildlife Program Director

Gary James, Fisheries Program Director

Confederated Tribes of the Warm Springs Indian Reservation

Ron Suppah, Tribal Chairman

Delvis Heath, Sr., Warm Springs Chief

Nelson Wallulatum, Wasco Chief

Joseph Moses, Paiute Chief

Bobby Brunoe, Natural Resources Program General Manager/ THPO

Sally Bird, Cultural Resources Program Manager

Scott Turo, Off-Reservation Habitat Biologist

Nimiipuu Tribe

Samuel N. Penny, Chairman

Keith Lawrence, Wildlife Management

Loren Kronemann, Nez Perce Tribe

Ira Jones, Watershed Management

Ryan Sudbury, Office of Legal Council

Dave Johnson, Fisheries Division

Aaron Miles, Natural Resources Division

Brooklyn Babtiste, Chairman, Natural Resources Subcommittee

Gary E. Green, Vice Chairman, Natural Resources Subcommittee

Vera Sonneck, Cultural Resources Program Director

Emmit E. Taylor Jr., Watershed Division

Paul Kraynak, Fisheries/Watershed Division

John Degroot, Director, NPT Forestry

Government

Bureau of Land Management

Berry Phelps

Grant County

Commissioner Boyd Britton

Commissioner Scott Meyers

Judge Mark Webb

Morrow County

Commissioner John Wenholz

Commissioner Ken Grieb

Judge Terry Tallman

Public Works Department, Burke O'Brien

Wheeler County

Commissioner John Asher

Commissioner Bill Wyatt

Judge Jeanne Burch

Road Department – Dewayne Simmons

District Attorney – Tom Cutsforth

State of Oregon

Congressman Greg Walden

Senator Ron Wyden

Senator Gordon Smith

Oregon Department of Fish & Wildlife

Steve Cherry

John Day Office

Kevin Blakely – John Day Watershed

Craig Ely – NE Regional Supervisor

Oregon Department of Forestry

John Day Office

Dustin Justavesion, Fossil Office

David King, Pendleton Unit

Organizations

American Hiking Society – Randy Rasmussen

Blue Mountains Biodiversity Project – Karen Coulter

Center for Biological Diversity – Andrew Orahoske

Keystone RV – Franklin or Loren

Oregon Natural Desert Association – Dave Becker and Brent Fenty

Oregon Wild – Tim Lillebo, Chandra LeGue, Doug Heinkin

Pendleton Record

Sierra Club Oregon Chapter – Asante Riverwind

Washington Wilderness Coalition – Tom Uniack

Western Environmental Law Center – David Bahr

Wilderness Society – Joshua Hicks

Individuals

John Aaron
Wayne Albright
Bob and Sylvia Allen
John Aveggio
James Bailey
Terry Baker
Bob Baker
Bob and Sue Ballenger
Ted Baumgardner
Damon Beck
RW Bergstrom
Craig Bierman
David Booth
Marshall Bowen
Jeremy Boyer
Jerry Boyer
Gerald Breazeale
Dan Bronsnan
Marshall Brown
Howard Bryant
Loyal Burns
Daren Burt
Curtis Christopherson
Jim Clark
Loren Clark
Marty Clough
Daniel Cobb
Doug Conner
David Davis
Gary Dobish
John Edmundson
Mike Egger
Fred Fitzgerald
John Flynn
Kit George
Mort Gordon
Betty Gray
Cliff Green
Gary Gump
Gene Hall
Marvin Haney
Dave Hannibal
Donald Hanset
Pat Harris
Gay and Patty Harshman
Bret Harting
Ron Hight
Bud Hillman
Jim Hogan
Chuck Holt
Dennis Holte
Andy and Kathy Huff
Merlin and Claudia Hughes
Eric Hunt
Roy Jeffs
Dan Kitts
Jesse Knight

Roger Kuchinka
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Jeff McMorran
Franklin Meaks
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Rick Porter
Dave Pranger
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Raymond Putnam
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Ron Rice
Mark and Tami Rietmann
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Heather Riggs
Creston Robinson
Dean Robinson
Gary Rodgers
Bill Rose
Ed Rose
John Rothlishberger
Shirley Rugg
Robert Schecter
Randy Sharp
Sue Sebring
Tom Severns
Clavin Sherman
Patrick Simning
Ann and Dan Slead
Pat Southworth
Ivan Spencer
Joseph Steinbruck
Sandra Sternod
Don Strober
Jack Sweek
Andrew Sykes
Mark Symonds
Ed Tarnasky
Don Tryon
Roberta Vandehey
Richard Vinviguerra
Glen Ward
Lyle Warden
Rick Warrington
John Weidman
Dennis Whitmore
John Wight
Pam and Mark Wunderlick
Simon Winters
Tom and Karen Wolff
Brian and Carmen Woodell
Danny Young

Interdisciplinary Team

The following Forest Service personnel served on the Interdisciplinary Team (IDT) that prepared this environmental assessment:

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Randy Scarlett	Wildlife
Kristy Groves	Fisheries
Janet Plocharsky	Writer/Editor

Interdisciplinary Team Consultants:

Tom Mafera	District Ranger
Craig Busskohl	Soils
Ed Farren	Water Quality
Allen Madril	Cultural and Historical Properties
Gary Popek	Geographic Information Services
Lori Seitz	Roads Analysis
Janel McCurdy	Undeveloped Areas
Joan Frazee	Botany
Tim Collins	Noxious Weeds
Brian Spivey	Forest Protection Officer
Scott Wryn	Forest Protection Officer
Mike Burns	Forest Protection Officer
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Bibliography and

Appendix

Bibliography

Altman, Bob in Marshall, D.B., M.G. Hunter, and A.L. Contreras, Eds. 2003. Birds of Oregon: A general Reference. Oregon State University Press, Corvallis, OR. Olive-sided Flycatcher: p374-376.

Altman, Bob. 2000. Conservation strategy for landbirds in the northern Rocky Mountains of eastern Oregon and Washington. Oregon-Washington Partners in Flight. 86pp.

Anthony, R.G., and F.B. Isaacs. 1981. Characteristics of bald eagle nest sites in Oregon. U. S. Dept. of Interior, Fish and Wildlife Service. Portland Oregon, for Crown Zellerbach Corp.

Belt, George H, Jay O'Laughlin, and Troy Merrill, Design of Forest Riparian Buffer Strips for the Protection of Water Quality: Analysis of Scientific Literature, Idaho Forest, Wildlife and Range Policy Analysis Group Report No. 8, June 1992.

Breibart, Andrew; The WEPP Road Batch Model: A Tool for Reducing Erosion from Trails; in Stream Notes, Stream Systems Technology Center, USDA Forest Service, Rocky Mountain Research Station, 2150 Centre Ave, Bldg A, Suite 368, Fort Collins, CO, 80526-1891, July, 2007.

Brown, Robert. 2007. Current Vegetative Survey: Forest Inventory and Monitoring. USDA Forest Service, Pacific Northwest Region and Pacific Northwest Research Station; Portland, Oregon. http://www.fs.fed.us/r6/survey

Bull, E.L., A.A. Clark, and J.F. Shepherd. 2005. Short term effects of fuel reduction on pileated woodpeckers in northeastern Oregon – A pilot study. Research Paper PNW-RP-564. Portland, Oregon: US Department of Agriculture, Forest Service, Pacific Northwest Research Station. 17p.

Bull, E.L. and T.W. Heater. 2001. Survival, causes of mortality, and reproduction in the American marten in northeastern Oregon. Northwestern Naturalist 82:1-6.

Bull, E.L. and A.K. Blumton. 1999. Effects of fuels reduction of American martens and their prey. Research Note PNW-RN-539. March 1999. 12pp.

Bull, E.L. and R.S. Holthausen. 1993. Habitat use and management of pileated woodpeckers in northeastern Oregon. Journal of Wildlife Management. 57(2): 335-345.

Bull, E.L. 1987. Ecology of the pileated woodpecker in northeastern Oregon. Journal of Wildlife Management 51: 472–481.

Clifton, Caty, Re: photo points; email of 3/5/2008.

Cody, M.J. 1999.The Wolf Called B-45. Oregon wildlife 55(2): 4-10.

Cook, J.G., B.K. Johnson, R.C. Cook, R.A. Riggs, T. DelCurto, L.D. Bryant, and L.L. Irwin. 2004. Effects of summer-autumn nutrition and parturition date on reproduction and survival of elk. Wildlife Monographs 155:1-61.

Corkran, Charlotte C. and C. R. Thoms. 1996. Amphibians of Oregon, Washington, and British Columbia. Lone Pine Publishing, Redmond WA.

Csuti, Blair, A. J. Kimerling, T. A. O'Neil, M. M. Shaughnessy, E. P. Gaines, and M. M. Hus. 1997. Atlas of Oregon Wildlife: distribution, habitat, and natural history. Oregon State University Press, Corvallis, OR 492p.

Daw, S.K. and S. DeStefano. 2001. Forest characteristics of northern goshawk nest stands and post-fledging areas in Oregon. Journal of Wildlife Management 65(1): 59-65.

Elliot, WJ, Hall, DE, and DL Scheele, 1999. WEPP:Road (Draft 12/1999) WEPP interface for predicting forest road runoff, erosion and sediment delivery. Technical documentation, Rocky Mountain Research Station and San Dimas Technology and Development Center: http://forest.moscowfsl.wsu.edu/fswepp/docs/wepproaddoc.html

Elliot, WJ, 2004. WEPP internet interfaces for forest erosion prediction. Journal of the American Water Resources Association, Vol. 40 No. 2, pp. 299-310

Fire Effects Information System (FEIS) [Online]. 2007. The Status, Distribution, Occurrence, Biology, Habitat Requirements, and Fire Effects and Use for Wildlife and Plant Species. U.S. Dept of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis.

Greenwald, D.N., D. Coleman-Crocker Bedford, L. Broberg, K.F. Suckling, and T. Tibbitts. 2005. A review of northern goshawk habitat selection in the home range and implications for forest management in the western United States. Wildlife Society Bulletin 33(1):120-129.

Gucinski, Hermann, Michael J. Furness, Robert R. Ziement, and Martha H. Brookes, editors, Forest Roads: A Synthesis of Scientific Information, General Technical Report PNW-GTR-509, Portland, OR; US Department of Agriculture, Forest Service, Pacific Northwest Research Station, 2001, 103 p.

Hargis, C.D. and D.R. McCullough. 1984. Winter diet and habitat selection of marten in Yosemite National Park. Journal of Wildlife Management 48(1):140-146.

Harris, Robin M, Catherine F. Clifton, and Steven M. Wondzell; Hillslope Erosion Rates in Areas With Volcanic Parent Materials and the Effects of Prescribed Fires in the Blue Mountains of Eastern Oregon and Washington, USA; 2004; in Furniss, MJ, Clifton, CF, Ronnenberg, KL, eds, 2007, Advancing the fundamental sciences; proceedings of the forest service national earth sciences conference, San Diego, CA, 18-22 October, 2004. PNW-GTR-689. Portland, OR: US Department of Agriculture, Forest Service, Pacific Northwest Research Station.

Marcum, H.A. 2005. The effects of human disturbance on birds in Bastrop State Park. Doctoral Dissertation, Texas A&M University. 139pp.

Marshall, D.B., M.G. Hunter, and A.L. Contreras, Eds. 2003. Birds of Oregon: A general Reference. Oregon State University Press, Corvallis, OR. 768p

McKinney, S. P., O'Connor, J., Overton, C. K., MacDonald, K., Tu, Ken, and Whitwell, S. 1996. A characterization of Inventoried streamsin the Columbia River Basin. AquaTalk no. 11(R-6 Fish Habitat Relationship Technical Bulletin). USDA Forest Service, Pacific Northwest Region.

Mellen, Kim, Bruce G. Marcot, Janet L. Ohmann, Karen Waddell, Susan A. Livingston, Elizabeth A. Willhite, Bruce B. Hostetler, Catherine Ogden, and Tina Dreisbach. 2006. DecAID, the decayed wood advisor for managing snags, partially dead trees, and downed wood for biodiversity in forests of Washington and Oregon. Version 2.0. USDA Forest Service, Pacific Northwest Region and Pacific Northwest Research Station; USDI Fish and Wildlife Service, Oregon State Office; Portland, Oregon. http://wwwnotes.fs.fed.us:81/pnw/DecAID/DecAID.nsf

Megahan, WF and GJ Ketcheson, 1996. Predicting downslope travel of granitic sediments from forest roads in Idaho. Water Resources Bulletin, Vol. 32 No. 2, American Water Resources Association, pp. 371-382

Napper, Carolyn; Effects of All Terrain Vehicles on National Forest Lands and Grasslands; San Dimas Technology and Development Center, 2008 (draft).

NatureServe Explorer: An online encyclopedia of life [Online]. 2007. Version 6.2. Arlington, VA, USA: NatureServe. Available: http://www.natureserve.org/explorer/.

Neary, Daniel G; Ryan, Kevin C; DeBano, Leonard F, eds. 2005. Wildland fire in ecosystems; effects of fire on soils and water. Gen Tech Rep. RMRS-GTR-42-vol 4. Ogden, UT: US Department of Agriculture, Forest Service, Rocky Mountain Research Station. 250 p.

Ortega, Y.K. and D.E. Capen. 2002. Roads as edges: Effects on birds in forested landscapes. Forest Science 48(2):381-390.

Oregon Department of Environmental Quality, 303 (d) list: http://www.deq.state.or.us/wq/assessment/rpt0406/search.asp#db>, 2008. Beneficial uses: <http://www.deq.state.or.us/wq/standards/uses.htm>, 2008

Water Quality Standards: <http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_041.html>, 2008.

Oregon State Parks, 2006, The Official Handbook of OHV Oregon Laws and Rules.

Powell, David C. 2005. Tree density protocol for mid-scale assessments. Unpublished Report. Pendleton, OR: U.S. Department of Agriculture, Forest service, Pacific Northwest Region,

Umatilla National Forest. 34 p. On file with: Umatilla National Forest, 2517 SW Hailey Avenue, Pendleton, OR 97801.

Rich, A.C., D.S. Dobkin, and L.J. Niles. 1994. Defining forest fragmentation by corridor width: The influence of narrow forest-dividing corridors on forest-nesting birds in southern New Jersey. Conservation Biology 8:1109-1121.

Robertson, B.A., and R.L. Hutto. 2007. Is selectively harvested forest an ecological trap for olive-sided flycatchers? The Condor 109:109-121.

Rowland, M. M., M. J. Wisdom, B. K. Johnson, and M. A. Penninger. 2004. Effects of roads on elk: Implications for management in forested ecosystems. Transactions of the North American Wildlife and Natural Resource Conference 69: 491-508.

Rowland, M. M., M. J. Wisdom, B. K. Johnson, and J.G. Kie. 2000. Elk distribution and modeling in relation to roads. Journal of Wildlife Management 64(3):672-684.

Ruediger, Bill, J. Claar, S. Mighton, B. Naney, T. Rinaldi, F. Wahl, N. Warren, D. Wenger, A. Williamson, L. Lewis, B. Holt, G. Patton, J. Trick, A. Vandehey, and S.Gniadek. 2000. Canada Lynx Conservation Assessment and Strategy. USDA, Forest Service. January 103p

Ruggiero, Leonard F., K. B. Aubry, S. W. Buskirk, G. M. Koehler, C. J. Krebs, K. S. McKelvey, and J. R. Squires. 2000. Ecology and Conservation of Lynx in the United States. Univ. Press of Colorado. Bolder, CO and USDA, Forest Service, Rocky Mountain Research Station. General Technical Report, RMRS-GTR-30WWW, October. 480p.

Ruggiero, L. F.; Aubry, K. B.; Buskirk, S. W.; Lyon, L. J.; Zielinski, W. J. 1994. The scientific basis for conserving forest carnivores: American marten, fisher, lynx and wolverine in the Western United States. Gen. Tech. Rep. RM-254. Fort Collins, CO: Rocky Mountain Forest and Range Experiment Station, Forest Service, U.S. Department of Agriculture; 183 p.

St. John, Alan. 2002. Reptiles of the Northwest: California to Alaska – Rockies to the Coast. Lone Pine Publishing. Renton, WA. 272p.

Spencer, W.D., R.H. Barrett, and W.J. Zielinski. 1983. Marten habitat preferences in the northern Sierra Nevada. Journal of Wildlife Management 47(4):1181-1187.

Thomas, J. W. editor. 1979. Wildlife Habitats in Managed Forests, the Blue Mountains of Oregon and Washington. USDA, Forest Service, Agri. Hdbk #553. Sept.

USDI, Fish and Wildlife Service (FWS). 1986. Recovery Plan for the Pacific Bald Eagle. U.S. Department of the Interior, Fish and Wildlife Service. Portland, Oregon. 160pp.

USDI, Fish and Wildlife Service (FWS). 1999. Endangered and Threatened Wildlife and Plants. 50 CFR Part 17. Federal Register Vol. 62, No. 182 pages 49398 to 49411. Dept. of Interior, Fish and Wildlife Service. Washington D.C. December 31.

USDI, Fish and Wildlife Service (FWS). 2001. Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Species that are Candidates or Proposed for Listing as Endangered or Threatened: Annual notice of findings on recycled petitions. 50 CFR Part 17. Federal Register Vol. 66, No. 210 pages 54808 to 54832. U.S. Dept. of Interior, Fish and Wildlife Service. Washington D.C. October 30.

USDI, Fish and Wildlife Service. 2002. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp. [Online version available at <http://migratorybirds.fws.gov/reports/bcc2002.pdf>

USDA, Forest Service (FS). 1990. Land and Resource Management Plan, Umatilla National Forest ("Forest Plan"). Pendleton, OR: USDA, Forest Service, Pacific Northwest Region (6), Umatilla National Forest. Sept.

USDA, Forest Service. 1993. Memo; Subj: Interim Snag Guidance for Salvage Operations. USDA, Forest Service, Pacific Northwest Region (6), Umatilla National Forest.

USDA, Forest Service, 1995. Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales, (``Eastside Screens''), Regional Forester's Forest Plan Amendment #2 . Appendix B Revised Interim Direction. U.S. Department of Agriculture, Forest Service. Pacific Northwest Region (6), Portland, Oregon. June. 14p.

U.S. Forest Service, 1995b. Wall Ecosystem Analysis. Umatilla National Forest, Pendleton Oregon.

USDA Forest Service. 2004. Updated Regional Forester's Sensitive Animal List. 2670/1950 Memo (to Forest Supervisors). U.S. Dept. of Agriculture (USDA), Forest Service-Pacific Northwest Region (6). Portland, OR. July 2004.

USDA Forest Service. 2008. Updated Regional Forester's Sensitive Animal List. 2670/1950 Memo (to Forest Supervisors). U.S. Dept. of Agriculture (USDA), Forest Service-Pacific Northwest Region (6). Portland, OR. January 2008.

USDA, Agriculture Research Service-National Soil Erosion Research Lab, Watershed Erosion Prediction Project v.2006.5, adapted by USDA Forest Service, Rocky Mountain Research Station-Forest Sciences Laboratory, Moscow, Idaho, 2006.

USDA, Forest Service. General Water Quality Best Management Practices guide,. Pacific Northwest Region, Portland, OR. 1988, 86 p.

USDA Forest Service, Rocky Mountain Research Station-Forest Sciences Laboratory, Moscow, Idaho, 2006), (http://forest.moscowfsl.wsu.edu/fswepp/).

USDA Forest Service, Water Quality Management for Nonpoint Sourve Pollution, Best Management Practices, May, 2005 (draft handbook).

U.S. Department of Agriculture, Forest Service, Pacific Northwest Region; FEIS for Managing Competing and Unwanted Vegetation, and the associated Mediated Agreement, Nov 1988.

U.S. Department of Agriculture, Forest Service. The Guide for Conducting Vegetation Management Projects in the Pacific Northwest Region (R6 Guide to Vegetation Management Projects)

U.S. Department of Agriculture, Forest Service, Pacific Northwest Region; Land and Resource Management Plan for the Umatilla National Forest (FEIS), 1990.

U.S. Department of Agriculture, Forest Service, Pacific Northwest Region; Umatilla National Forest Environmental Assessment for the Management of Noxious Weeds (1995 Forest EA) April 1995.

U.S. Department of Agriculture, Forest Service, Pacific Northwest Region; Heppner Ranger District Noxious Weed Monitoring Data, Heppner RD, 2001-2007.

U.S. Department of Agriculture, Forest Service, Portland, OR., 2006, Pacific Northwest Region Invasive Plant Program Final Environmental Impact Statement, Record of Decision.

USFWS. 1999. A Framework to Assist in Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Bull Trout Subpopulation Watershed Scale prepared by the United States Fish and Wildlife Service.

Verts, B.J. and L.N. Carraway. 1998. Land Mammals of Oregon. University of California Pres. Berkeley, California. 668p

Whitaker, J.O., Jr.; Maser, C.; Cross, S.P. 1981. Food habits of eastern Oregon bats, based on stomach and scat analyses. Northwest Science. 55(4): 281-292.

Whitson Tom D, Burrill Larry C, Dewey Steven A, Cudney David W, Nelson B.E., Lee Richard D., Parker Robert. Weeds of the West. The Western Society of Weed Science, Revised 1992.

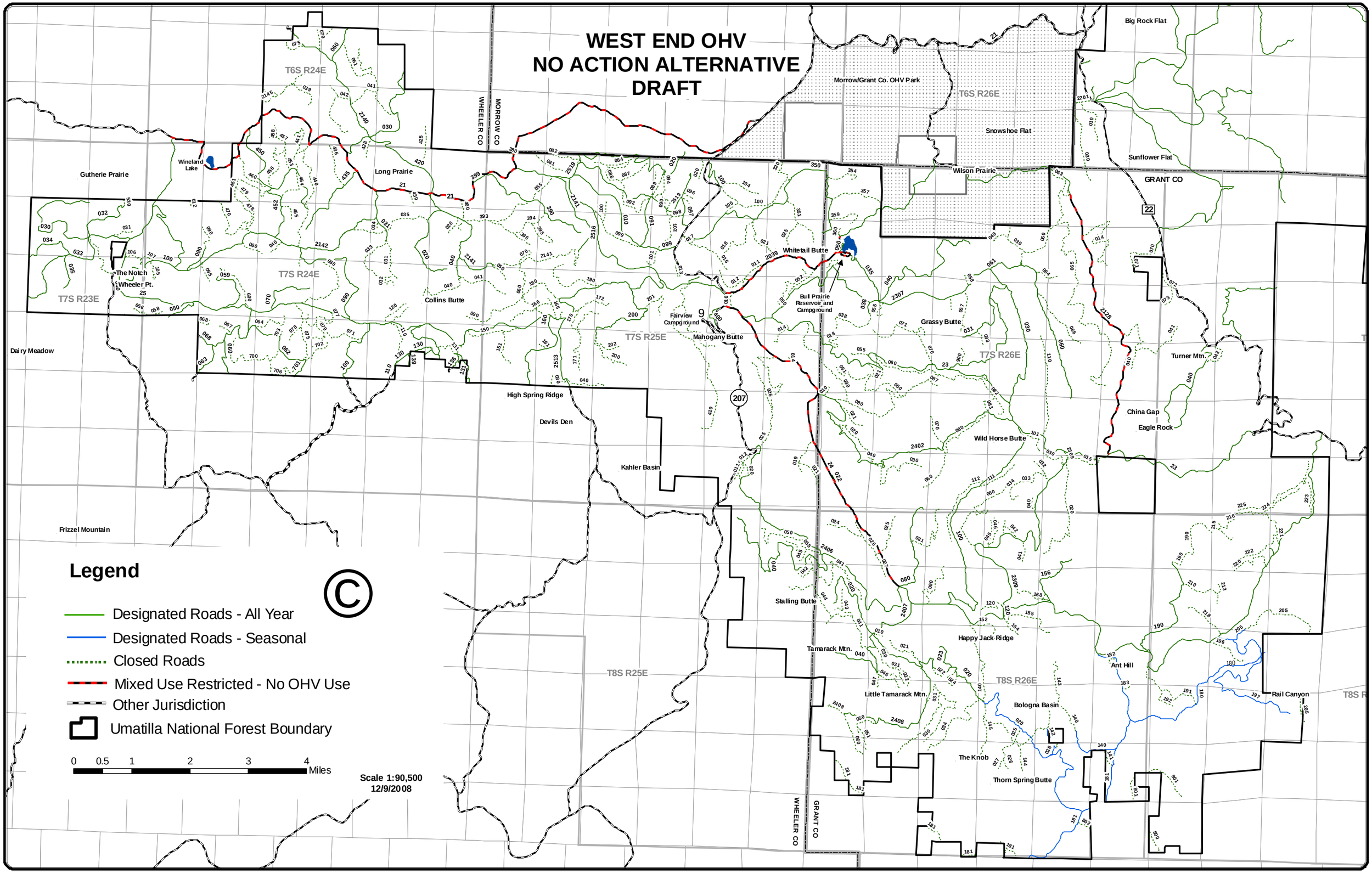
Wiens, J.D., B.R. Noon, and R.T. Reynolds. 2006. Post-fledging survival of northern goshawks: the importance of prey abundance, weather, and dispersal. Ecological Applications 16(1): 406-418.

Wisdom, M.J., A.A. Ager, H.K. Preisler, N.J. Cimon, and B.K. Johnson. 2004. Effects of off-road recreation on mule deer and elk. Transactions of the 69th North American Wildlife and Natural Resources Conference: 531-550.

Wisdom, M. J.; R.S. Holthausen, B.C. Wales, C.D. Hargis, V.A. Saab, D.C. Lee, W.J. Wendel, T.D. Rich, M.M. Rowland, W.J. Murphy, M.R. Eames. 2000. Source habitat for terrestrial vertebrates of focus in the interior Columbia basin: broad scale trends and management implications. Volume 1-3. Gen. Tech. Rep. PNW-GTR-485. Portland, OR. USDA, Forest Service, Pacific Northwest Research Station. (Quigley, T.M., tech. ed.; Interior Columbia Basin Ecosystem Management Project: scientific assessment).

Wolverine Foundation Inc., The (TWF): Wolverine life history, ecology, and management [Online]. 2007. Kuna, Idaho, USA. Available: http://www.wolverinefoundation.org

WEST END OHV
NO ACTION ALTERNATIVE
DRAFT



Legend

- Designated Roads - All Year
- Designated Roads - Seasonal
- Closed Roads
- Mixed Use Restricted - No OHV Use
- Other Jurisdiction
- Umatilla National Forest Boundary

0 0.5 1 2 3 4 Miles

Scale 1:90,500
12/9/2008

WEST END OHV ALTERNATIVE 2 DRAFT

Legend

- Designated Roads - All Year
- Designated Roads - Seasonal
- Designated Trails - All Year
- Designated Trails - Seasonal
- Designated New Trails - All Year
- Designated New Trails - Seasonal
- Mixed Use Restricted - No OHV Use
- Other Jurisdiction
- Umatilla National Forest Boundary

0 0.5 1 2 3 4 Miles

Scale 1:90,500
7/17/2008

T6S R24E
T6S R26E
T7S R23E
T7S R24E
T7S R25E
T7S R26E
T8S R25E
T8S R26E
WHEELER CO
MORROW CO
GRANT CO
Morrow/Grant Co. OHV Park
Big Rock Flat
Snowshoe Flat
Sunflower Flat
Wilson Prairie
Wineland Lake
Gutherie Prairie
Long Prairie
The Notch
Wheeler Pt.
Collins Butte
Whitetail Butte
Bull Prairie Reservoir and Campground
Fairview Campground
Mahogany Butte
Grassy Butte
Dairy Meadow
High Spring Ridge
Devils Den
Kahler Basin
Turner Mtn.
China Gap
Eagle Rock
Wild Horse Butte
Stalling Butte
Tamarack Mtn.
Little Tamarack Mtn.
Happy Jack Ridge
Ant Hill
Rail Canyon
Bologna Basin
The Knob
Thorn Spring Butte

WEST END OHV ALTERNATIVE 3 DRAFT

T6S R24E
T6S R26E
T7S R23E
T7S R24E
T7S R25E
T7S R26E
T8S R25E
T8S R26E
T8S R

WHEELER CO
MORROW CO
GRANT CO

Morrow/Grant Co. OHV Park
Big Rock Flat
Snowshoe Flat
Sunflower Flat
Wilson Prairie
Gutherie Prairie
Wineland Lake
Long Prairie
Whitetail Butte
Bull Prairie Reservoir and Campground
The Notch
Wheeler Pt.
Collins Butte
Fairview Campground
Mahogany Butte
Grassy Butte
Dairy Meadow
Turner Mtn.
China Gap
Eagle Rock
High Spring Ridge
Devils Den
Kahler Basin
Wild Horse Butte
Frizzel Mountain
Stalling Butte
Happy Jack Ridge
Tamarack Mtn.
Ant Hill
Little Tamarack Mtn.
Bologna Basin
Rail Canyon
The Knob
Thorn Spring Butte

22
207

Legend

- Designated Roads - All Year
- Designated Roads - Seasonal
- Mixed Use Restricted - No OHV Use
- Other Jurisdiction
- Umatilla National Forest Boundary

0 0.5 1 2 3 4 Miles

Scale 1:90,500
7/17/2008

WEST END OHV ALTERNATIVE 4 DRAFT

Legend

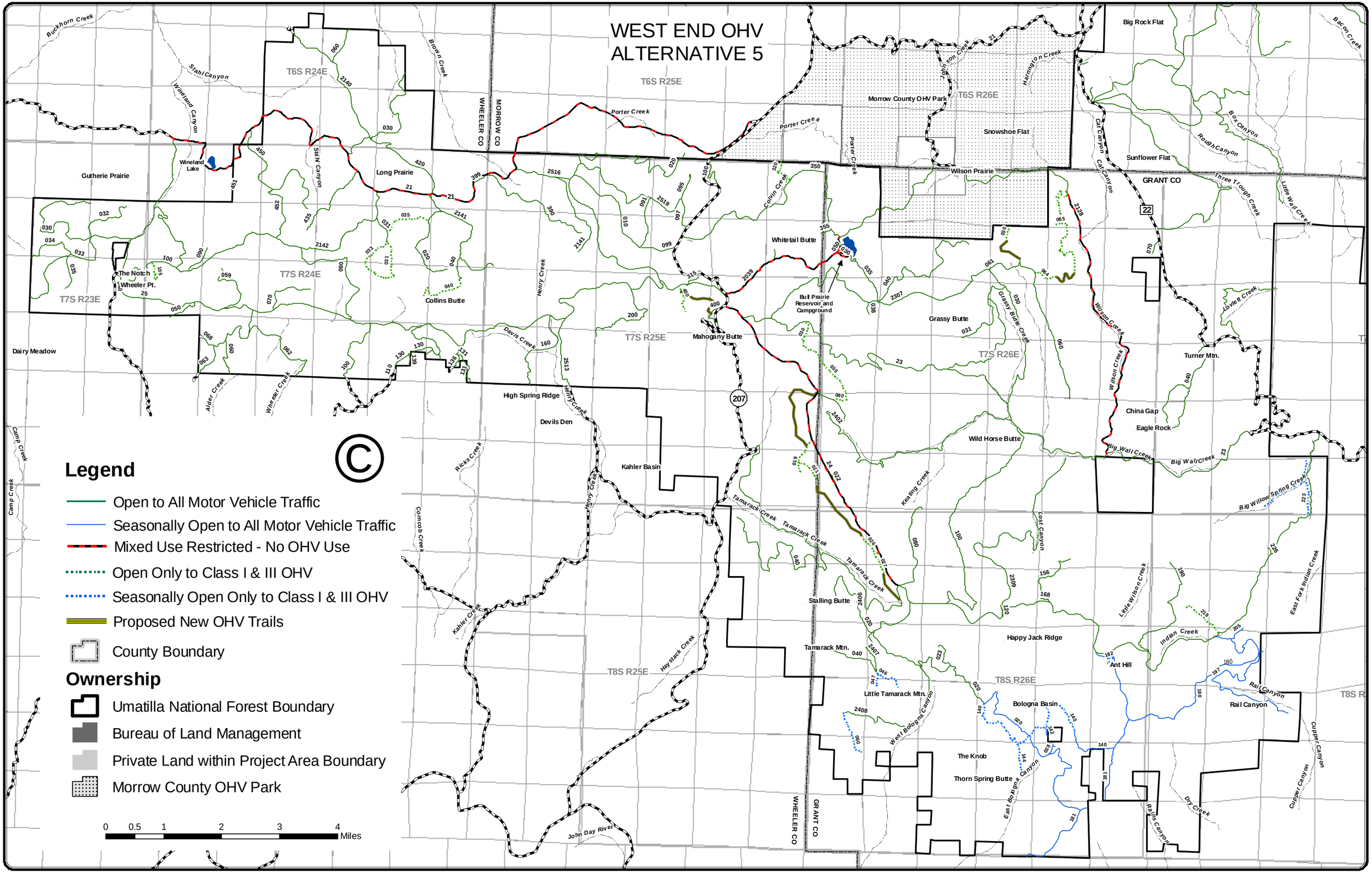
- Designated Roads - All Year
- Designated Roads - Seasonal
- Designated Trails - All Year
- Designated Trails - Seasonal
- Designated New Trails - All Year
- Mixed Use Restricted - No OHV Use
- Other Jurisdiction
- Umatilla National Forest Boundary

0 0.5 1 2 3 4 Miles

Scale 1:90,500
7/17/2008

T6S R24E
T6S R26E
T7S R23E
T7S R24E
T7S R25E
T7S R26E
T8S R25E
T8S R26E
WHEELER CO
MORROW CO
GRANT CO
Morrow/Grant Co. OHV Park
Big Rock Flat
Snowshoe Flat
Sunflower Flat
Wilson Prairie
Wineland Lake
Gutherie Prairie
Long Prairie
The Notch
Wheeler Pt.
Dairy Meadow
Collins Butte
Fairview Campground
Mahogany Butte
Whitetail Butte
Bull Prairie Reservoir and Campground
Grassy Butte
Turner Mtn.
China Gap
Eagle Rock
Wild Horse Butte
High Spring Ridge
Devils Den
Kahler Basin
Frizzel Mountain
Stalling Butte
Tamarack Mtn.
Little Tamarack Mtn.
Happy Jack Ridge
Ant Hill
Rail Canyon
Bologna Basin
The Knob
Thorn Spring Butte
22
207
23
24

WEST END OHV ALTERNATIVE 5



Legend

- Open to All Motor Vehicle Traffic
- Seasonally Open to All Motor Vehicle Traffic
- Mixed Use Restricted - No OHV Use
- Open Only to Class I & III OHV
- Seasonally Open Only to Class I & III OHV
- Proposed New OHV Trails
- County Boundary

Ownership

- Umatilla National Forest Boundary
- Bureau of Land Management
- Private Land within Project Area Boundary
- Morrow County OHV Park

0 0.5 1 2 3 4 Miles

WEST END OHV MANAGEMENT AREAS

T6S R24E
T6S R26E
T7S R23E
T7S R24E
T7S R25E
T7S R26E
T8S R25E
T8S R26E
T8S R

WHEELER CO
MORROW CO
GRANT CO

Gutherie Prairie
Wineland Lake
Long Prairie
Collins Butte
The Notch
Wheeler Pt.
Dairy Meadow
High Spring Ridge
Devils Den
Frizzel Mountain
Kahler Basin
Morrow/Grant Co. OHV Park
Snowshoe Flat
Wilson Prairie
Big Rock Flat
Sunflower Flat
Whitetail Butte
Bull Prairie Reservoir and Campground
Fairview Campground
Mahogany Butte
Grassy Butte
Turner Mtn.
China Gap
Eagle Rock
Wild Horse Butte
Stalling Butte
Tamarack Mtn.
Little Tamarack Mtn.
Happy Jack Ridge
Ant Hill
Rail Canyon
Bologna Basin
The Knob
Thorn Spring Butte

22
207

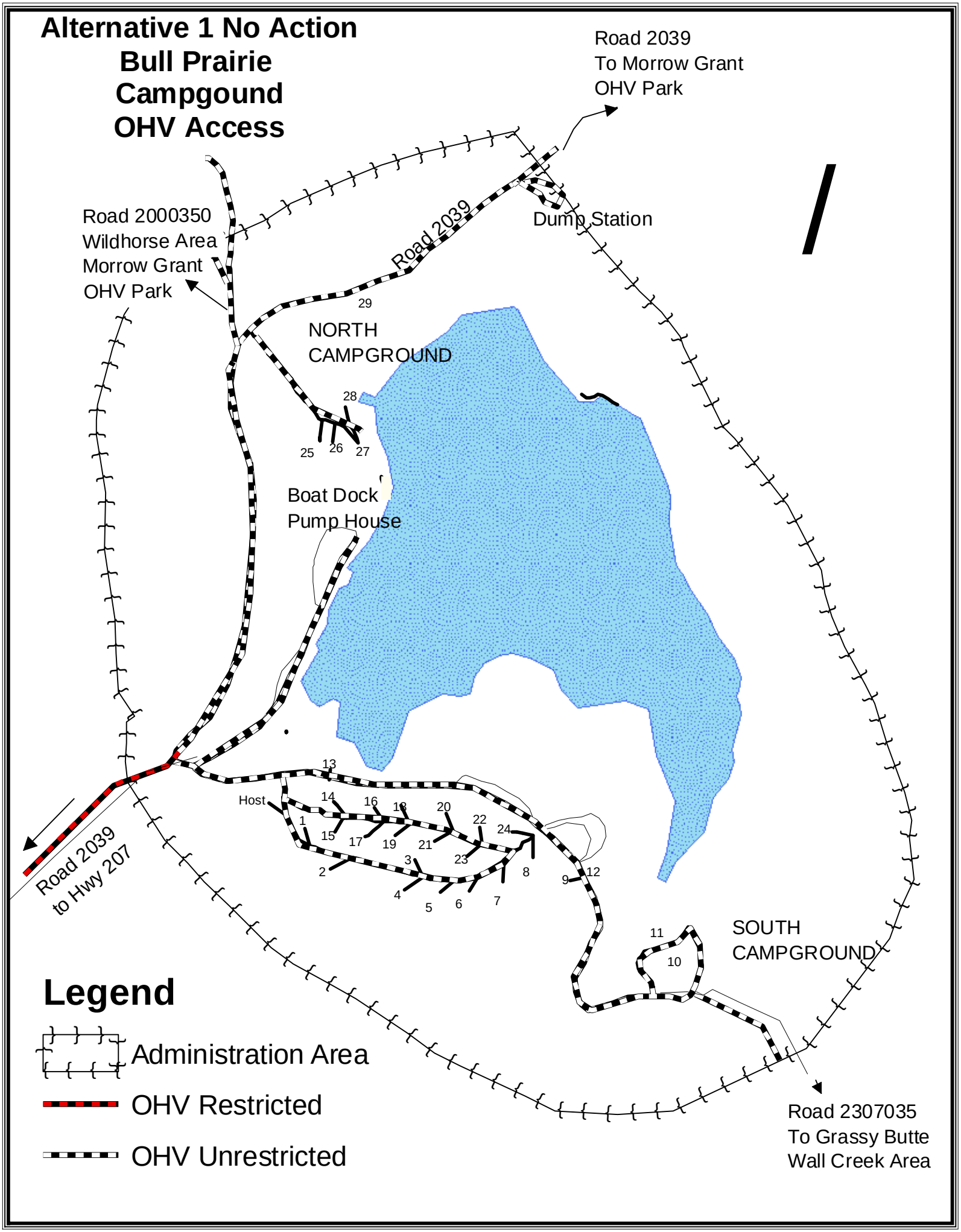
Legend

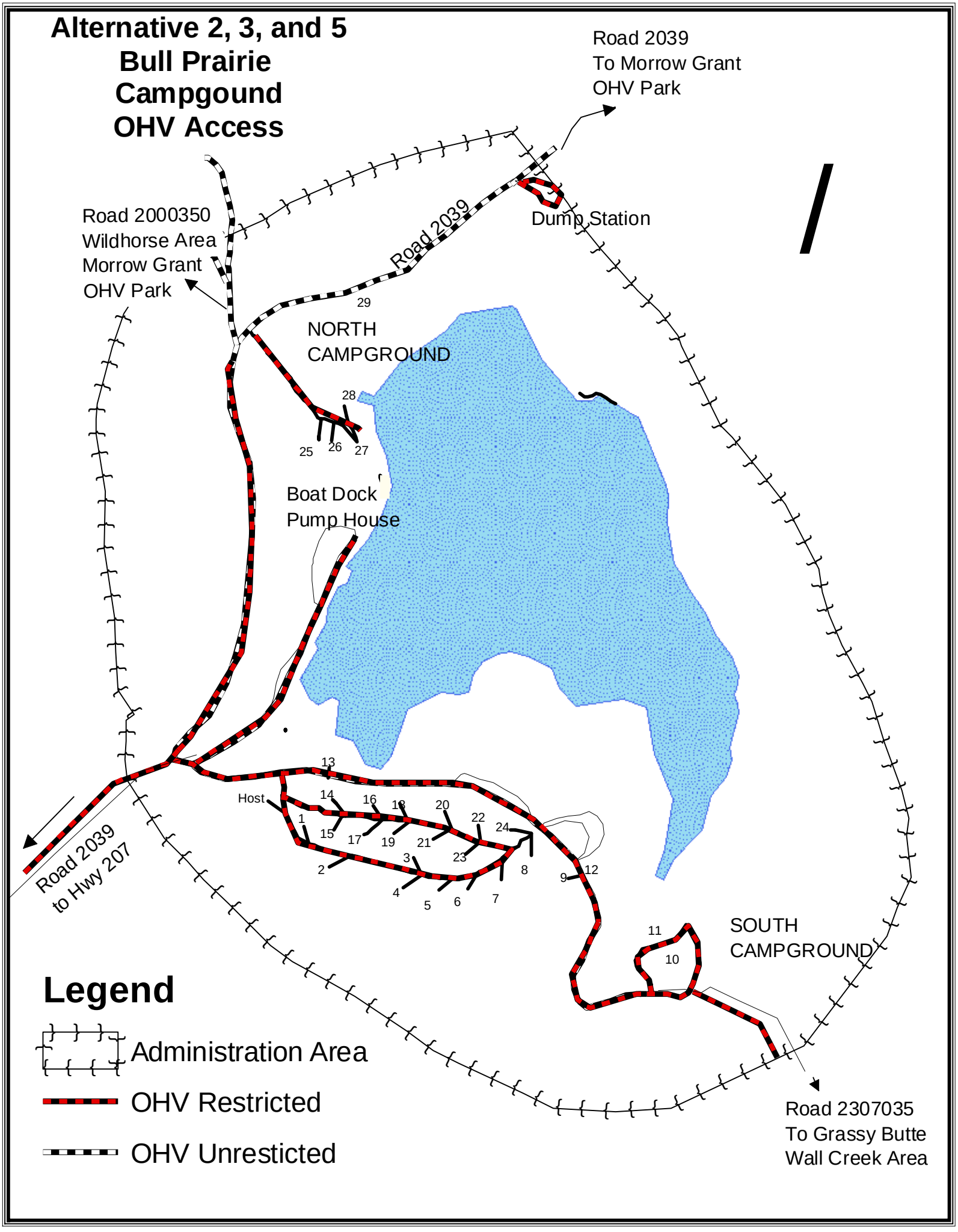
Management Area Strategy

- A3 - Viewshed 1
- A4 - Viewshed 2
- A6 - Developed Recreation
- C1 - Dedicated Old Growth
- C3 - Big Game Winter Range
- C5 - Riparian
- D2 - Research Natural Area
- E1 - Timber and Forage
- Private Land

0 0.5 1 2 3 4 Miles

Scale 1:90,500
12/17/2008


Alternative 1 No Action
Bull Prairie
Campgound
OHV Access
Road 2039
To Morrow Grant
OHV Park
Road 2000350
Wildhorse Area
Morrow Grant
OHV Park
Road 2039
Dump Station
29
NORTH
CAMPGROUND
28
25
26
27
Boat Dock
Pump House
13
Host
14
16
18
20
22
24
1
15
17
19
21
23
2
3
8
9
12
4
5
6
7
Road 2039
to Hwy 207
11
10
SOUTH
CAMPGROUND
Legend
Administration Area
OHV Restricted
OHV Unrestricted
Road 2307035
To Grassy Butte
Wall Creek Area


Alternative 2, 3, and 5
Bull Prairie
Campgound
OHV Access
Road 2039
To Morrow Grant
OHV Park
Road 2000350
Wildhorse Area
Morrow Grant
OHV Park
Road 2039
Dump Station
29
NORTH
CAMPGROUND
28
25
26
27
Boat Dock
Pump House
13
Host
14
16
18
20
22
24
1
15
17
19
21
23
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2
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12
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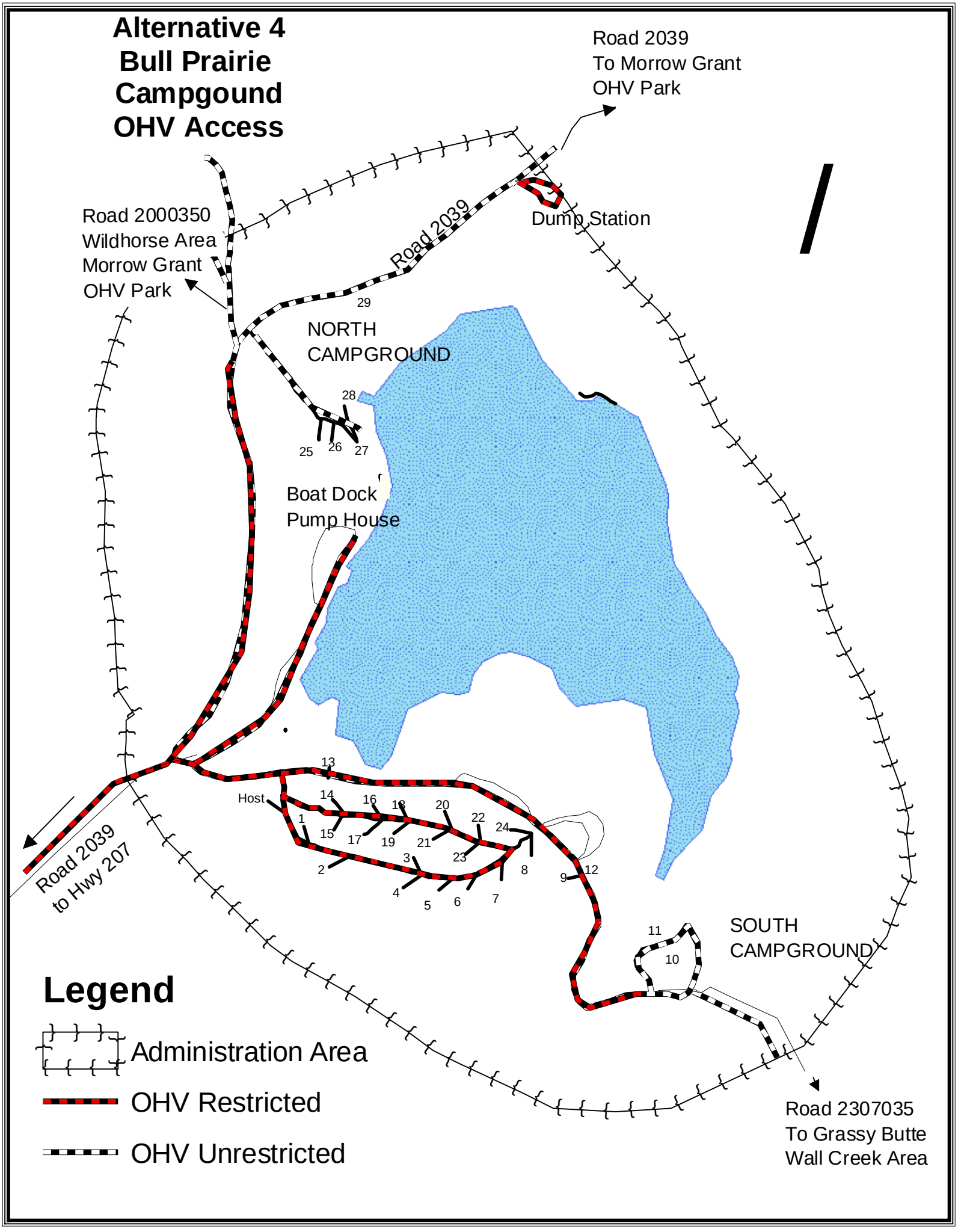
6
7
Road 2039
to Hwy 207
11
10
SOUTH
CAMPGROUND
Legend
Administration Area
OHV Restricted
OHV Unresticted
Road 2307035
To Grassy Butte
Wall Creek Area


Alternative 4
Bull Prairie
Campgound
OHV Access
Road 2039
To Morrow Grant
OHV Park
Road 2000350
Wildhorse Area
Morrow Grant
OHV Park
Road 2039
Dump Station
29
NORTH
CAMPGROUND
28
25
26
27
Boat Dock
Pump House
13
Host
14
16
18
20
22
24
1
15
17
19
21
23
3
2
8
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12
4
5
6
7
Road 2039
to Hwy 207
11
10
SOUTH
CAMPGROUND
Legend
Administration Area
OHV Restricted
OHV Unrestricted
Road 2307035
To Grassy Butte
Wall Creek Area