

1792A
Shotgun Trails II
EA-06-04

May 31, 2006

Concerned Citizen,

The Upper Willamette Resource Area of the Eugene District Bureau of Land Management has completed the Environmental Assessment (EA) and Finding of No Significant (FONSI) for the proposed recreation management project in T. 15 S., Ranges 1 W. and 2 W., W.M. The project would encompass the Shotgun OHV (Off Highway Vehicle) Trail System.

You have expressed an interest in receiving copies of Environmental Assessments for district projects. Enclosed is a copy of the EA for your review and any comments. Public notice of this proposed action will be published in the Eugene Register Guard on May 31, 2006. The EA will be available on the internet at <http://www.edo.or.blm.gov/planning/nepa> if current internet access problems related to ongoing litigation are resolved. The public comment period will end on June 30, 2006. Please submit comments to me at the district office, by mail or by e-mail at OR090mb@or.blm.gov by close of business (4:15 p.m.) on or prior to June 30, 2006. If you have any questions concerning this proposal, feel free to call Christie Hardenbrook at 683-6110.

Comments, including names and street addresses of respondents, will be available for public review at the district office, 2890 Chad Drive, Eugene, Oregon during regular business hours (7:45 a.m. to 4:15 p.m.), Monday through Friday, except holidays, and may be published as part of the EA or other related documents. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

Sincerely,

Emily Rice, Field Manager
Upper Willamette Resource Area

Enclosure

Shotgun OHV Trail System Modifications

UPPER WILLAMETTE RESOURCE AREA
BLM EUGENE DISTRICT
ENVIRONMENTAL ASSESSMENT
OR090-EA-06-04

1.0 PURPOSE AND NEED FOR ACTION

The Bureau of Land Management (BLM) proposes to initiate a recreation management project in T. 15 S., Ranges 1 W. and 2 W. The project would encompass The *Shotgun OHV (Off Highway Vehicle) Trail System*, which consists of 24 miles of signed and mapped trails connected by graveled and paved road segments. The managed trail system has the following limitations: (1) some trail segments are eroding and difficult to maintain due to location and use; (2) some trails are poorly linked; (3) one of the existing staging areas is poorly located; (4) trail maintenance standards have not been developed nor applied.

The purpose of this project is to improve the Shotgun OHV Trail System by: (1) relocating, redesigning, or decommissioning portions of trails that are difficult to maintain or are causing excessive erosion, (2) constructing and reconstructing trails to provide more miles of trails and better linkages between trails and the staging areas, (3) developing a new staging area, and (4) establishing maintenance and monitoring standards.

1.1 CONFORMANCE

This environmental assessment (EA) is tiered to the Northwest Forest Plan ROD and the Eugene District RMP, as amended by the Record of Decision (ROD) for Amendments to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (January 2001), and the Record of Decision to Clarify Provisions Relating to the Aquatic Conservation Strategy (March 2004). These documents are available for review at the BLM Eugene District Office or on the internet at <http://www.or.blm.gov/nwfp.htm>. The Shotgun OHV project file contains additional information compiled by the Interdisciplinary Team (ID Team) to analyze effects and is available for review at the Eugene District Office.

1.2 PROJECT SCOPING

Public scoping for this document began in June, 2005. A questionnaire was developed to seek input into the proposed management action. This questionnaire was distributed to local OHV groups, OHV enthusiasts and other interested citizens asking respondents to rank, in order of importance, the proposed management actions. The BLM received approximately 20 responses. Results indicated that the proposed actions to provide better linkages to managed trails and staging areas and relocating or reconstructing portions of trails difficult to maintain were most important, while proposed actions to open more trails to quad use were less important. Additionally, the BLM conducted a public meeting where local user groups, private landowners and other interested citizens were invited to participate and provide input regarding proposed management actions. During this process a concern over the lack of 4x4 trails within the OHV Trail System was brought forth by local 4x4 groups. Designing more trails for 4x4 use is outside the scope of this EA.

2.0 ALTERNATIVES

This section describes alternatives identified by the interdisciplinary team. For the purposes of analysis, trails involved in the proposed action were designated with letters and may not match common or officially designated numbering or naming. Please refer to Appendix B for a map of the project proposal.

2.1 ALTERNATIVE 1: NO ACTION

Under this alternative maintenance would continue, but without standards. No new construction or reconstruction of trails or staging areas would occur.

2.2 ALTERNATIVE 2: PROPOSED ACTION

2.2.1. CONSTRUCTION, RECONSTRUCTION, AND DECOMMISSIONING

1. Approximately 5 ½ miles of existing trail not in the current trail system would be reconstructed for use by Class I (quads) and Class III (motorcycles).
2. Approximately 4 ½ miles of trail would be constructed; including approximately 1 mile of trail classified as “easiest” adjacent to proposed staging area.
3. Approximately 1/3 mile of 2 managed trails (27 and 1) would be decommissioned.
4. A new staging area (about 1 acre) would be constructed at the junction of Dollar Road and BLM Road 15-2-26.1. The staging area would have gravel surfacing, a vault toilet, sign support structure(s), garbage/recycle cans, barriers as needed, tables and a loading ramp.

Table 1 list the miles proposed for construction and reconstruction. See the map in the Appendix for their approximate location.

Table 1: Proposed Trail Reconstruction and Construction			
<i>Trail Letter for Proposed Action in EA</i>	<i>Proposed Action</i>	<i>Proposed Class Usage</i>	<i>Approximate Distance (miles)</i>
A	Construction	I/III	1.5
B	Construction	I/III	0.7
C	Construction	I/III	1.2
D	Construction	I/III	1.0
F*	Reconstruction of a portion; decommission northern part.	I/III	0.5
G	Reconstruction	I/III	0.5
H	Reconstruction	I/III	1.8
I	Reconstruction	I/III	0.5
J	Reconstruction	I/III	0.2
K**	Reconstruction	I/III	1.2
L	Reconstruction	III	0.2
M	Reconstruction	III	0.2
N	Reconstruction	III	0.4
O	Construction	I/III	0.1
Approximate Construction Miles = 4.5 miles Approximate Reconstruction Miles = 5.5 miles Approximate Decommission Miles = 0.3 miles			
*F is currently designated in the Shotgun OHV system as Trail 27; the established trail would undergo the reconstruction. ** K is currently designated in the Shotgun OHV system as Trail 17.			

2.2.2 MAINTENANCE AND MONITORING

Maintenance

1. All trails within the Shotgun OHV trail system would receive an annual survey that would be used to develop annual trail maintenance needs. A report would be completed for each trail documenting the trail components (i.e. rolling dip, tread) requiring maintenance. As maintenance actions are taken the actions would be documented.
2. Routine maintenance would consist of the actions listed below. The triggers and standards for these actions are found in Appendix A.
 - a. Removal of brush, limbs, and logs encroaching or fallen on the trails.
 - b. Hardening of trail tread and/or replacement of eroded surface material by using soil, gravel, paving blocks, or other trail stability materials.
 - c. Installation of rolling dips, water bars, lead-off ditches.
 - d. Cleaning of culverts, water bars, leading off ditches, and rolling dips.
 - e. Replacement of culverts.
 - f. Placement of rip rap, native vegetation or other erosion control methods.
 - g. Replacement or repair of failing bridge decking, railing and support structures.
 - h. Modification of structures to restrict unauthorized vehicle use.
 - i. Installation of culverts in ditchlines where roads and trails intersect.
 - j. Realignment up to 50' in length at road/trail junction
 - k. Replacement and installation of signs and sign supports.
 - l. Closure of unauthorized trails by signing and physical barriers.
 - m. Tread grading as needed.
 - n. Surfacing of trail junctions with rock
 - o. Surfacing approaches to stream crossings
3. Emergency trail closure would occur if continued use would have adverse impacts to public safety or water quality.
4. Individual trail segments up to a total of 1000 feet/year would be relocated to an adjacent, more stable location if the existing trail segment could not be satisfactorily hardened and maintained. New trail locations and design would be approved by the appropriate BLM natural resource specialists. Abandoned trail segments would be physically blocked and/or revegetated.

Monitoring

Formal monitoring would be conducted every 2-3 years on all trails in the Shotgun OHV trail system to monitor trends in overall trail conditions and effectiveness of maintenance activities. Surveys and analysis would be conducted using a methodology similar to the one used in a 2005 baseline inventory of trail conditions, in which all trails were systematically surveyed and features and trails were identified as red, yellow, green (see Table 2). Green is the desired condition and red is an unfavorable condition. The target condition would be to have most of the trails in a green or yellow condition.

Table 2: Trail Condition Assessments			
Trail Elements	Green	Yellow	Red
Waterbreaks (earthen, natural, log)	Functioning to divert water, may not have a sediment trap but waterbreak is not running sediment off the trail.	Waterbreak is not stopping runoff OR is not trapping sediment and trail is eroding as a result. Could be fixed with hand tools. Includes some log water bars.	Waterbreak is not stopping runoff. Sediment could reach a stream OR delivers a large amount of sediment off trail.
Rills (defined as ruts < 12 inches deep...or 0.3 meters deep)	Rill is eroding a little, but is shallow, and may be re-stabilizing.	Rill has potential to worsen, but would not deliver sediment to a stream. May have some braiding.	Rill delivers, or has potential to deliver runoff into a stream. May be severely braided and cover a wide area.
Gullies (defined as ruts > 12 inches deep...or 0.3 meters deep)	Due to lack of trail use, gully is re-stabilizing.	Gully has potential to worsen, but would not deliver sediment to a stream. May have some braiding. Can be repaired with hand tools.	Gully delivers, or has potential to deliver runoff into a stream. May be severely braided and cover a wide area. Cannot be repaired with hand tools.
Trail Endpoints	Trail endpoint is erosion resistant and does not supply sediment to ditchline of road.	Trail endpoint is the source of sediment to the road ditchline. Sediment does not enter a stream, but may have potential to do so in the future.	Trail endpoint is the source of sediment to the road ditchline. Sediment enters a stream.
Trail Junction	No rills or gullies and the junction is not being enlarged by traffic.	A rill or gully delivers surface runoff to the junction OR some signs of expansion by traffic.	Junction delivers, or has potential to deliver sediment to a stream.
Stream Crossing	Trail does not deliver sediment to the stream, and has low potential to do so.	Trail does not deliver sediment to the stream, but has potential to do so.	Trail delivers, or has very high potential to deliver sediment to the stream.
Side Trails	Side trail has no rills or gullies.	Side trail may have rills or gullies, but does not deliver sediment to a stream.	Side trail may have rills or gullies, and delivers, or has potential to deliver sediment to a stream.

2.1 ALTERNATIVES CONSIDERED BUT NOT ANALYZED

Two other alternatives were considered but not analyzed. The first alternative considered connecting the old Dollar Staging Area via a trail network to the existing Shotgun OHV trail system. Difficulties crossing private ownership and terrain made this alternative unfeasible. The other alternative considered construction of a beginning rider “play area” adjacent to the proposed new staging area. This area is currently managed for timber production. Changing the land use to recreation is beyond the scope of this EA and would require an amendment to the Eugene District Resource Management Plan, a multiyear process.

2.2 PROJECT DESIGN FEATURES

- a. For new construction and reconstruction, trails would be routed around down logs ≥ 15 inches diameter, standing snags ≥ 15 inches dbh that would be within falling distance of the trail, and existing stumps that are ≥ 15 inches diameter and ≥ 3 feet high where feasible. Any felled live trees or snags that are ≥ 15 inches dbh shall be retained on site as down logs or used to help block unauthorized trails or access.

b. Stream crossings

- Crossings would be designed to accommodate bank full width and fish passage.
- Approaches to stream crossings would receive geotextile fabric, crushed rock aggregate with 6 inch base course, and covered with 2 inches of fine gradation crushed rock for ease and long term durability. Both approaches would be rocked approximately 100 feet, depending on site conditions. The length of rocking would be determined in consultation with the fisheries biologist and/or hydrologist.
- Drain dips would be installed on approaches to stream crossings and reinforced with rock for longevity. Drain dips would be placed within 100 feet of a stream. Large wood would be placed on both sides of the tread to keep riders on the trail and to contain any sediment movement.
- Pressure treated wood in construction of bridges would be avoided.
- Oregon Department of Fish and Wildlife (ODFW) in-water guidelines would apply to all in-stream activities. This includes stream crossing replacements. Work would be completed between July 1 to October 15.
- Perennial stream crossings may require a temporary flow diversion structure, work area pumped of standing water, and mulching the disturbed area with native seed and vegetation. Rip rap may be necessary to protect stream banks from further erosion.
- Wetland areas in the vicinity of the trail would be protected with large wood placement to prevent vehicle access.

c. Trail segments and trail/road junctions

- Approaches would be constructed by installing geotextile fabric, a 6 inch base and 2 inches of surface rock.
- Where necessary, cross drain culverts would be installed to provide for adequate ditchline drainage of the road. Where necessary, drain dips or waterbars would be constructed (or improved) to enhance adequate drainage of surface runoff from the trail before reaching the junction of the road. These drainage features would be reinforced with crushed rock to provide longevity and reduce annual maintenance costs.
- If trail width is deemed excessive for designated use (such as old roads converted to trails) one side of the trail would be tilled, covered with brush, and seeded or planted.
- Tread grooming equipment and hardening materials would be used to repair rills and gullies.
- Waterbars, drain dips, and lead off ditches would be constructed or repaired as needed. These features may need rock reinforcement to promote longevity. Drain dips or lead-off features are the preferred design.
- Drain dips or lead off ditches would be constructed at regular/and or practical intervals (~100-150 ft apart) on steeper gradient trails and approaches to stream crossings.

d. Road decommissioning design features:

- Remove existing stream crossings and recycle old culverts or bridges.
- Fill or waste material would be positioned in a location that would avoid direct or indirect sediment discharges to streams or wetlands.
- Restored stream banks would be planted with native vegetation, straw mulched, and planted with western red cedar where appropriate.
- Where trail subgrade conditions warrant, compacted trail surfaces would be tilled. If tillage is not possible then waterbars and lead-off ditches would be constructed to reduce sedimentation to streams and wetlands.
- Brush would be placed along the full length of the closed trail.

- Earthen barricades with brush and slash additions would be constructed to block vehicle access. Barricade would be seeded, mulch, and trees planted if necessary.
- e. Equipment washing
- Equipment will be cleaned before it arrives on site. Because noxious weeds are present at the project area, equipment would also be washed prior to leaving this project area.

3.0 AFFECTED ENVIRONMENTS AND ENVIRONMENTAL CONSEQUENCES

3.1 RECREATION

3.1.1 AFFECTED ENVIRONMENT

The Shotgun OHV Trail System is comprised of 2 staging sites and 31 trails ranging in length from .20 – 1.72 miles. Riders access the trails via a network of paved and graveled roads. A combination of native surface trails and road-to-trail conversions comprise the 24-mile OHV System. A variety of surface improvements can be found throughout the OHV Trail System (e.g., culverts, turnpikes, bridges, curbing, rolling dips, outsloped areas, etc.). With the exception of road-to-trail conversions, the OHV System trails have a history of being user-developed or user-defined for casual and competitive motorized trail recreation. The OHV System represents the only managed, motorized trail network within the Eugene District, and is located within a checkerboard mix of public and private lands.

The OHV System receives its greatest visitation numbers from nearby rural residents and those of the Eugene/Springfield metropolitan area; although it is not uncommon for visitors to come from Corvallis or Salem for single-day rides. Declining disposable leisure time among those in the workforce fosters demand for recreational opportunities closer to home (SCORP 2003). Rising fuel costs also enhance the popularity of the OHV System among local and regional enthusiasts. Use of the OHV System is most concentrated during weekends and holidays. With the exception of trail closures linked to periods of public-use restriction in the summer/early fall, the trails are open year round and attract a mix of visitors seeking different challenge levels and overall experiences.

Of the 24 miles in the OHV Trail System, 9 miles are open to quad (class 1) riders. Outdoor recreation trends documented in the 2003-2007 Oregon Statewide Comprehensive Outdoor Recreation Plan (SCORP, January 2003) addressed changes in motorized activity participation across the State and within planning regions within the State. The Shotgun OHV System is located in SCORP Planning Region 3. In this region, quad riding increased 71.3%; while 4-wheel driving and motorcycling decreased 13.2% and 0.2%, respectively. Field observations of the OHV System are consistent with these findings.

The BLM encourages use of the managed OHV System through routine maintenance of its segments, site signing, mapping and visitor contacts. However, other user created trails exist in the area, some of which link existing OHV System trails and others expand the riding opportunities. When the current managed trails were signed and mapped, some of these were closed and not maintained. Some OHV riders have continued to use them however, as they provide some linkages between the signed trails, reduce the riding on pavement and allow for greater riding opportunities. For example, riders are currently directed to travel on the paved road #16-1-5 rather than use an existing trail (trail G) that is not in the OHV System.

The Crooked Creek Staging Area is regularly used by visitors because it accesses several trails and roads in the OHV System. Use of the Crooked Creek Staging Site is also encouraged through provision of amenities (e.g., tables, vault toilet, etc.). Use has exceeded capacity at this site, especially during weekends and holidays.

Use of the Dollar Staging Site is limited however due to private land closures and the lack of trails that start at the staging area. Some riders use the roads below the staging area as a beginning riding opportunity. Only one paved road (Dollar Road), that is open only to Class 1 riders, takes off from this staging area. Amenities at the Dollar Staging Site are minimal, a portable toilet and a trash can.

3.1.2 ENVIRONMENTAL CONSEQUENCES

No Action

This alternative would retain the current managed OHV System components within the project area.

Rider dependency upon paved and graveled road segments would continue at the current level as visitors seek access to non-contiguous System trails. Similarly, in an effort to avoid road usage and expand trail miles, some riders would continue to develop and/or re-open unauthorized trails. Some quad riders would attempt to use more trails that are currently closed to them. Private land timber harvest would also encourage development of unauthorized trails as these lands become more accessible to OHV riders.

The Crooked Creek Staging site would remain the predominant support facility linked to the Shotgun OHV Trail System. Visitation at the Crooked Creek Staging Site would continue to periodically exceed site capacity during weekends and holidays. The Dollar Staging Site, and the roads below it, would continue to be used by riders seeking a beginning riding opportunity. Public and private land located immediately above the Dollar Staging Site that was closed to non-administrative vehicular entry would continue to be breached by OHV enthusiasts.

Proposed Action

Rider dependency upon paved and graveled road segments would decrease as a result of newly constructed and/or reconstructed trails that would be added to the existing 24-mile System. The added miles and their locations would minimize rider need to construct unauthorized trails based upon a desire to avoid road use and enhance their trail riding enjoyment. Visitors would have increased trail riding opportunity of varying difficulty. Approximately 10 miles of trails designed for Class 1 and 3 riders would be added to the existing 24-mile network.

The newly constructed staging site would reduce visitation pressure upon the Crooked Creek Staging Site as it would offer comparable amenities, and would be constructed in a desirable location close to managed trails. Some beginning riders would shift their activities from the Dollar Staging Area to the new staging area.

3.2 VEGETATION

3.2.1 AFFECTED ENVIRONMENT

The forests in the project area range from 20 to 80 year-old stands that regenerated naturally after clearcut harvest and salvage logging following large human caused fires. Portions of these stands were pre-commercially thinned. The stands consist primarily of Douglas-fir, with scattered western hemlock, grand fir, western red-cedar, Pacific yew, madrone, chinquapin and red alder. The understory consists primarily of salal, bigleaf maple, vine maple, Oregon grape, and oceanspray.

The immediate riparian zone of many of the streams in the project area is dominated by deciduous trees, mostly red alder, bigleaf maple and scattered cottonwood trees. Because these stands are relatively young, large standing snags and large coarse woody debris are deficient throughout.

Special Status Species:

Surveys were done on the trail system as proposed in 1996; no special Status plants were found during those surveys. Surveys done as part of nearby timber sales found Tall bugbane and Virginia grape fern in the riparian areas.

Invasive species:

Noxious weeds and invasive species most likely to occur and be problematic in the project area are: non-native blackberries, knapweeds, false brome and scotch broom. All are known to occur somewhere in the project area, mostly along roads. These weeds occupy areas that receive a lot of sunlight and disturbance (i.e. roads and landings). They are spread by vehicles, equipment, and animals.

3.2.2 ENVIRONMENTAL CONSEQUENCES

No Action

User developed trails are not surveyed for plants prior to creation; therefore, there is the possibility of a special status plant populations being impacted. Direct impacts (where a special status plant are present) would range from a population being eradicated to a few plants damaged. As more trails are created by users, the probability of a plant population being impacted would increase.

Infestations of noxious weeds and invasive plants along the trails would not be identified and then treated, contributing to the spread of weeds by trail users. Sensitive habitats such as meadows would be potentially damaged by trails going through them. Disturbed meadows would potentially become weedy, losing diversity and habitat for uncommon species.

Proposed action

Special Status Plants: Surveys of habitat would be done prior to new construction to avoid impacts to populations.

Weeds: The proposed action would reduce the spread of noxious weeds and invasive plants through the trail system by identifying infestations of weeds as part of the trail monitoring weeds. Weeds found through surveys would be treated to reduce the

spread. Signs at the staging areas would also educate users how to minimize the spread of weeds.

Special Habitats: Establishing maintenance and monitoring standards would help to prevent further damage to special habitats (meadows, etc.). Annual surveys would record new unauthorized trails that lead to and/or go through special habitats. These trails would be closed as described in the maintenance actions.

3.3 HYDROLOGY

3.3.1 AFFECTED ENVIRONMENT

The Shotgun OHV area is located in the Mohawk River 5th Field Watershed. The Mohawk River and Shotgun Creek are on the Department of Environmental Quality 303(d) Water Quality Limited List for elevated summer temperatures. The Mohawk River is also on this list for low dissolved oxygen during the winter months.

Table 3: Existing Trail Features (as surveyed Nov. 2004 – February 2005).

Feature	Designated Shotgun Trail System*	Existing Trails Proposed To be Added to Trail System	New Trails to be Constructed
Number of Stream Crossings	25	4**	2
Number of water diversion features (e.g. waterbar, lead-off ditch)	540	23 *	Unknown until constructed
Number of rills and gullies but no interaction with streams.	298	68 *	Not Applicable
Number of rills and gullies with potential for interaction with streams	20	1 *	Not Applicable
* Based on Shotgun OHV Trail System Trail Condition Survey, January 2005.			
** Based on field review, March 2006.			

A trail condition survey was conducted November 2004 to February 2005 with an emphasis on identifying locations where erosion was impacting water quality. Table 3 lists the number of trail features such as stream crossings, water diversion structures (waterbars, drain dips, etc.), rills and gullies mapped on the existing trails at that time.

Many of the problem areas with high potential to deliver sediment to streams have since been repaired and put on a regular maintenance schedule.

As part of an on-going maintenance program, new drainage features have been constructed, many existing drainage features have been removed or repaired, lead-off ditches have been installed, and aggregate or other tread stabilization techniques have been utilized. Although these efforts have resulted in a reduction of trail related sediment delivery to nearby streams, improvements have not been a consistent solution to the sediment problem. Some trails are poorly located and new construction away from the stream may be a better solution.

Several existing trails that are not currently part of the system are proposed to be added. These trails have not received any maintenance by BLM. Trails G, J, L and M have

four stream crossings that currently have potential to route sediment to streams. The stream crossing on Trail M is an eroded log culvert with failing fills both at the inlet and outlet side. Water quality has been impacted there in the past, and could be degraded again if the log culvert fails entirely. At the other sites, the trails cross low gradient streams, often with no culvert or bridge. There are often few waterbreaks nearby to route surface runoff away from the streams. On Trail G, there is one rill/gully identified with potential to route sediment to a nearby stream.

Proposed new construction of trails would cross 2 streams. Trail C would cross a tributary to Cash Creek, and Trail O would cross a tributary to Shotgun Creek.

Other sources of sediment to streams in the project area include naturally caused soil movement and landslides, and sediment routed to streams via the road network. Several portions of trail are located near wetlands and flood plains and are within the stream influence zone. Regular maintenance efforts on trails in those areas have improved water quality in adjacent streams by reducing sediment-laden runoff.

3.3.2 ENVIRONMENTAL CONSEQUENCES

No Action

No new trails would be developed and therefore two new stream crossings would not be constructed. No managed trails in the existing system would be decommissioned. The junction of Trail 1 to Road 15-2-25.1 would continue to deliver sediment directly to the ditchline of the road which drains into Cash Creek.

No additional non-managed existing trails would be added to the system and 4 stream crossings on managed existing trails could continue to be impacted by sediment delivery from those trails during storm events. If the trails continue to be used by OHV enthusiasts, tread conditions could degrade further since no maintenance is performed on those routes.

Cumulative Effects: The designated trail system would continue to be managed and maintained at current levels. Water diversion features such as waterbars, driveable drain-dips, lead-off ditches would be repaired as needed. Maintenance adjacent to the 25 stream crossings along the trail system would be conducted to maintain or improve water quality. This could include adding water diversion features and tread hardening. Monitoring and upgrading road/trail junctions would continue to also minimize sediment delivery to road ditchlines or adjacent streams.

Restricting unauthorized use in the project area would continue to be a challenge and new user-defined routes might increase sediment delivery to streams. The history of timber harvest in the project area has left legacy roads that have since grown over, but are easily explored by OHV users. Many of those roads have stream crossings, some of which are unstable and prone to erosion and mass wasting. Vehicle use at such sites increases the potential for sediment inputs to streams.

Proposed Action

Construction of approximately 5.5 miles of new trails would impact two stream crossings and create 5 new junctions with existing roads. In the short term, there may be small amounts of sediment entering the streams during construction and until disturbed soils on the banks are stabilized with vegetation. Use of tread hardening materials near the stream crossings would reduce soil erosion and indirectly protect water quality. The installation of drainage features along all trails would promote

proper surface run-off drainage, reduce erosion, and provide for routine maintenance. By constructing drain dips and waterbars with aggregate, the longevity of the feature would be enhanced and less maintenance would be required in the long term.

Closure of segments of Trail 1 and Trail F would eliminate 3 road junctions, one of which has been a chronic source of sediment to Cash Creek. Reclamation of these segments by tilling, removal of tread hardening materials, and revegetation would restore soil infiltration and significantly reduce sediment transport to streams or road ditchlines that route drainage to streams.

Reconstruction of existing trails currently not in the system would have the direct effect of reducing sediment delivery at 4 stream locations and also improve drainage at about a dozen road/trail junctions from a long-term perspective. During reconstruction work, small amounts of sediment may enter the streams when the crossings are being installed and until vegetation is established on exposed soils. The installation of drainage features along these alignments would reduce erosion and promote tread stability. Use of aggregate in the construction of drain dips and waterbars would result in a longer lasting feature that would protect water quality. Construction of bridges or the installation of culverts at stream crossings would provide vehicle access with little or no sediment delivery. Use of aggregate on approaches to stream crossings in conjunction with drain dips or waterbars would result in diversion of surface run-off before it could reach the stream, hence indirectly protecting water quality.

Cumulative Effects: Implementation of Maintenance Actions and Design Features described in this document would improve water quality in the project area. Trail segments near stream crossings and junctions with roads are particularly prone to delivering sediment to nearby waterways. Implementation of the Proposed Action would result in an aggressive effort to stabilize these areas on the existing trail system and also to conduct new trail construction using these same standards. The reduction of fine sediment reaching streams would improve water quality in the Shotgun Creek area, but would not lead to any measurable changes at the 5th Field Watershed scale.

Regular monitoring, either formal or informal would identify annual and/or immediate maintenance needs. Such monitoring would also evaluate the effectiveness of the Design Features and any changes necessary to meet water quality standards.

3.4 FISHERIES

3.4.1 AFFECTED ENVIRONMENT

This project proposal is located in the Cash and Shotgun Creek 7th Field Watersheds which are located in the mid-portion of the Mohawk River 5th Field Watershed. The proposal is to expand the current Shotgun OHV trail system to include 5 ½ miles of new construction (5 trails), 4 ½ miles of existing user created trails (9 trails), create a staging area, and decommission trail segments within the current authorized trail system. Table 4 provides detailed information regarding the proposed new and reconstructed trails in relation to fish bearing habitat and/or ESA Listed Fish Habitat (LFH) (spring Chinook salmon).

Fish species within the project area include native cutthroat and rainbow trout; potentially spring-run Chinook salmon and steelhead; and non-salmonid species such as sculpin, dace, redbreast shiners, lamprey, and other species. Portions of Shotgun, Cash, and Seeley Creek are considered potential habitat for the migration and rearing of juvenile spring

Chinook which is currently listed as Threatened under the Endangered Species Act (ESA). Spring Chinook spawning habitat is primarily located in the mainstem Mohawk River. Descriptions of fisheries habitat conditions, historical and current status of spring Chinook salmon, and other species found in the Mohawk River and these drainages are contained within the “*Mohawk/McGowan Watershed Analysis*” (1995) and “*A Supplemental Assessment of the Mohawk Watershed*” (Huntington 2000).

In the Cash Creek drainage, the proposal is to construct three new OHV trails (Trail A, B, and C), and decommission 2 segments of existing Trail 1. Trail C crosses a non-fish bearing tributary of Cash Creek, and is within 350 feet of the fish bearing portion of Cash Creek. Trail A and B have no stream crossings and are not hydrologically connected to any streams. The southern portion of Trail 1, which is proposed for decommissioning, is relatively close to the mainstem and is a chronic source of fine sediment delivery to cutthroat trout habitat. Listed fish habitat for spring Chinook is over 1.7 miles from any new trail construction or decommissioning within this drainage.

Of the eleven proposed OHV trails within the Shotgun Creek drainage, five of the proposed trails cross four non-fish bearing tributaries and one fish bearing tributary. The proximity of trail-stream crossings to fish bearing habitat and/or LFH (Shotgun and Seeley Creek) is documented in Table 4.

The north portion of Trail 27 would be decommissioned which has potential for direct sediment delivery to Shotgun Creek.

Existing non-managed trails G, J, L, and M currently have unimproved stream crossings that are negatively impacting downstream fish habitat. The stream crossing on Trail M is located on a large fish bearing tributary. The site is currently a fish passage barrier, partially blocking upstream migration to approximately 0.6 miles of suitable cutthroat habitat. Streams located on Trail G and J are small non-fish bearing tributaries in the Shotgun and Seeley Creek drainages.

Some existing trailheads have hydrologic connection to fish bearing habitat. Table 4 describes each trails potential for sediment delivery in relation to fish bearing habitat. Most of the current sediment delivery is a result of sediment laden-runoff from steep and eroded trails to road ditchline which have either direct or indirect delivery potential to nearby stream channels.

3.4.2 ENVIRONMENTAL CONSEQUENCES

No Action

This alternative would result in no new trail construction, and therefore no new stream crossings or ground disturbance within the stream influence zone. These sites would remain in their current natural condition; therefore, there would be no impacts to downstream fish habitat.

Existing trails that are not included in the current trail system would not be improved (Trail G-M). These trails would remain closed and in their current state. Depending on site conditions and the effectiveness of trail closure, some the disturbed trail segments would vegetate and recover over time. Other trail segments, such as steep gradient, highly rutted and hydrologically connected trail segments would continue to erode and cause sedimentation concerns to nearby stream channels. These sites have the potential to be chronic sources of sediment to fish bearing habitat over the long-term.

Stream crossings on Trail G, J, L, and M would not be improved. The stream crossing on Trail M (Figure 1) would continue to be a fish passage barrier until the road-fill material over the log culvert eroded away and the stream reestablished its natural channel. In addition, this site would continue to be a chronic source of fine sediment delivery to nearby cutthroat spawning habitat. Stream crossings on Trail G, J and L would also continue to be sedimentation problems to downstream fish habitat until these areas recovered naturally, with Trail G having the highest risk to fisheries.

Trailheads identified in Table 4 would continue to be chronic sources of sediment delivery to fish bearing habitat. Most low gradient trailhead-road junctions have a tendency to re-vegetate fairly quickly and would have only short-term and minimal impact on fisheries resources, however, trail junctions with long steep gradients, highly rutted tread surface, and having direct connection to the stream network would have the largest impact fish bearing habitat. These sites may be a concern for an extended period of time due to their inability to recover with management actions. In addition, trail junctions on Trail 1 and 27 would not be decommissioned. These trail segments would continue to negatively impact Cash and Shotgun Creek with direct sediment delivery.



Figure 1: Failed stream crossing on Trail M

Proposed Trail Segment	Drainage	Number of Stream Crossings / Active Channel Width (feet)	Distance to Fish Bearing Habitat (feet)	Distance to Spring Chinook (LFH) (feet)	Potential delivery distance to fish bearing habitat (feet) / Origin: Trailhead (TH)* Stream crossing (SC) *	Proposed Stream Crossing Structure (Culvert/ Bridge)	Proposed Trail Segment
A	Cash	0			None		A
B	Cash	0	N/A		None		B
C	Cash	1 / 8 ft	350	9,000	350 / (SC)	Bridge	C
D	Crooked	0	100		100 / (TH)		D
F	Shotgun						F
G	Shotgun	1 / 2 ft	300	300	300 / (SC)	Culvert	G
H	Shotgun	0			100 / (TH)		H
I	Shotgun	0		200	200 / (TH)		I
J	Seeley	1 / 2 ft	2,500	6,600		Culvert	J
K	Seeley	0			500 / (TH)		K
L	Crooked	1 / 4 ft	1,320	17,160	1,320 / (SC), 50 / (TH)	Culvert	L
M	Crooked	1 / 9 ft	Fish bearing	15,800	Fish bearing	Bridge	M
N	Crooked	0					N
O	Shotgun	1 / 2 ft	1300	1,300	1,300 / (SC)	Culvert	O
P	Shotgun	0					P

- Potential sediment delivery and distance to fish bearing habitat either from stream crossing (SC) and/or trailhead (TH)

Proposed Action

New trail construction on Trail C and O would involve the crossing of two stream crossings. Both sites have the potential for sediment delivery to fish bearing habitat, however, based on design features impacts would be kept to a minimum. Trail C would be designed for a bridge structure which would greatly reduce any disturbance within the stream influence zone. Bridge abutments would be located upslope, outside of the floodplain and the bridge would span above the stream channel allowing for large woody debris transport during high flow events. Due to the site conditions, the stream crossing on Trail O would be designed with an oversized culvert. Localized streambank and channel disturbance would occur which may result in a small amount of sediment transport. It is estimated that approximately ¼ yard of sediment could be mobilized downstream. Implementing design features would minimize impacts for downstream LFH, and most likely resulting in an insignificant effect.

On the reconstructed trails, four stream crossings would be improved thus reducing the erosion and chronic sedimentation occurring at each site. Improvements on Trail L and M would have the most benefit to resident fish due to their location to fish bearing habitat. The removal of a failing log culvert and trail-fill on Trail M (Figure 1) would not only eliminate downstream sedimentation problems, but would also restore fish passage to approximately 0.6 miles of suitable cutthroat habitat. The largest impact to fish bearing habitat (sedimentation and turbidity) would occur during the construction phase of the culvert and bridge. Design features would help reduce these impacts during and after construction. Impacts may exist for up to a year until the area becomes re-vegetated and stabilized.

No or minimal tree removal would occur under the new construction or reconstruction within the effective shade zone of streams, therefore, no changes in stream temperatures are likely to occur.

The rock placement and drain dip construction at all stream crossing approaches would reduce most trail erosion and potential degradation to downstream fish habitat, however, this is dependent on the long-term maintenance of base rock and integrity of the site. Large woody debris placement adjacent to the trail-stream crossings would keep trail riders on the rock surface, thus maintaining the integrity of the streambanks and floodplain area. With the trail surface being maintained and the adjacent stream influence zone being protected adverse impacts to fish habitat would be avoided.

Numerous trailheads have the potential for direct and indirect sediment delivery (via road ditchline) to stream channels (Table 4). Hardening these sites for a distance of 100 feet and construction of drain dips or leadoffs within 100 feet of road junction would reduce the delivery potential. Over the long-term, regular maintenance would be the key factor to reducing sediment delivery.

The decommissioning of two of the trail segments would eliminate direct and indirect sediment delivery to fish bearing habitat (Cash and Shotgun Creek). Design features utilized would provide a long-term benefit to adjacent fish bearing habitat.

3.5 WILDLIFE

3.5.1 Affected Environment

T&E Wildlife

Spotted Owl (Threatened): Suitable nesting habitat for this species is mature forest (generally greater than 80 years old) with high canopy cover, an open understory, large down logs and large snags. There is no suitable nesting habitat within the proposed project. Dispersal habitat for spotted owls is generally defined as stands ranging from 40 to 79 years of age. Juvenile spotted owls use dispersal habitat to roost and forage in as they disperse from their natal areas. Adults forage in dispersal habitat to support themselves and their young. The proposed project would include new construction through approximately 4 miles of dispersal habitat and reconstruction of existing trails through another approximately 4 miles of dispersal habitat.

There are no known owl sites within or directly adjacent to the proposed project area. The closest Unmapped Late Successional Reserve is approximately 0.8 mile from the proposed new construction, although this area has not been used by nesting spotted owls in many years. This owl pair has moved over a mile south of their former activity site. None of the newly constructed or reconstructed trails in the proposed action is within the 1.2 mile Provincial Home Range (PHR) of any known active spotted owl activity center.

Bald eagle (Threatened): Suitable nesting habitat for bald eagles is typically mature conifer forest within one to one and a half miles of a lake, river, major tributary or other water body that is large enough to support nesting eagles. There is currently no suitable nesting habitat for bald eagles within the project area and this species will not be analyzed in this document.

Survey and Manage Wildlife

Red tree vole: Suitable habitat for this species is described in the Survey Protocol for the Red Tree Vole, Version 2.1. While stands within the proposed project area are within the range of the red tree vole, these stands do not have the size or structure that provides habitat that would “trigger” protocol surveys. No surveys are required for this species and this species will not be analyzed in this document.

Crater Lake Tightcoil: Habitat for this species is forest and riparian areas within 10 meters of perennial wet areas that are above 2000 feet in elevation (Survey Protocol for Survey and Manage Terrestrial Mollusk Species from the Northwest Forest Plan, Version 3.0). This proposed project does not include actions within suitable habitat for this species. No surveys are required for this species and this species will not be analyzed in this document.

Great gray owl: Suitable habitat for great gray owls is described in the Survey and Manage Survey Protocol- Great Gray Owl, Version 3.0. Habitat for this species consists of mature forest that is within 200 meters of openings that are greater than 10 acres. There is no suitable habitat within or adjacent to the proposed project area. No surveys are required for this species and this species will not be analyzed in this document.

Special Status Species Wildlife

Several Special Status Species (SSS) have habitat within and adjacent to the proposed project area. Pre-project surveys are not required for these species and none were conducted. Existing BLM data shows no known sites of these species within or adjacent to the project area.

Goshawks typically nest in stands with high basal area, high canopy closure, open understory with a component of snags, down logs, and larger trees (≥ 18 ” dbh). The vast majority of documented goshawk nests in western conifer stands are in mature stands, although all four nest sites that have been documented on the Eugene District have been in mid-seral conifer forests similar to the proposed project area. Goshawks forage in suitable nesting habitat, although they will also readily forage in stands with smaller trees, less canopy closure and less basal area than is found in typical nest stands. The presence of mature stands adjacent to this project increases the likelihood of goshawks utilizing this habitat as foraging habitat because these mature stands provide higher quality nest habitat than that found within the project area.

Slender salamanders are a terrestrial species. Their habitat includes forest stands that have high numbers of larger down logs, snags and/or moist talus. There are some snags and down logs that provide habitat for this species within the project area.

Fringed myotis roost in large live trees, snags, tall stumps and rock crevices. The proposed project area does have live trees, snags and stumps that are suitable for roosting bats.

The streams within and adjacent to the project area provide suitable habitat for the following aquatic Special Status Species (SSS): Northwestern pond turtles, foothill yellow-legged frogs, Cascade torrent salamanders and Haddock’s rhyacophilan caddisfly.

3.5.2 ENVIRONMENTAL CONSEQUENCES

No Action

Northern spotted owl: Disturbance levels due to OHVs would remain at current levels in the short term in areas proposed for new construction under the action alternative. Since OHVs currently use the trails proposed for reconstruction, disturbance levels on these trails would likely remain similar to current levels in the foreseeable future under this alternative.

Northern goshawk: Disturbance levels due to OHVs would remain at current levels in the short term in areas proposed for new construction under the action alternative. Since OHVs currently use the trails proposed for reconstruction, disturbance levels on these trails would likely remain similar to current levels in the foreseeable future under this alternative.

Slender Salamander and Fringed Myotis: Habitat would continue on the current trajectory for these species. Habitat features such as large snags and down logs would continue to provide habitat for these species.

Aquatic SSS Wildlife Species: Water quality and habitat for aquatic species would continue to be negatively affected by sedimentation from existing trails. The amount of aquatic habitat available would remain at current levels.

Proposed Action

Northern Spotted Owl: There could be increased use on reconstructed trails once they are in the Shotgun trail system. Any increased disturbance on these trails would occur within dispersal habitat and outside any known Provincial Home Range (PHR) for owls, and would be unlikely to adversely affect spotted owls.

In areas of new trail construction noise levels would increase above current levels, which could disturb foraging spotted owls. Since these areas are currently dispersal habitat and outside of any known Provincial Home Range for owls, this increase would be unlikely to cause adverse effects to spotted owls.

New construction, reconstruction and future maintenance activities would occur within dispersal habitat and would entail the removal of the occasional tree or snag, so there would be no adverse effects to owls due to habitat modification.

Northern goshawk: The proposed project area is similar to habitat where the Eugene District has documented goshawk nesting in the past. Any goshawks attempting to nest in the stands with new trail construction could be disturbed by new construction activities, subsequent OHV use and future maintenance activities. If goshawks are utilizing this habitat, this project has the potential to preclude or disturb nesting behavior.

Since OHVs currently use the trails proposed for reconstruction, disturbance levels on these trails would likely remain similar to current levels in the foreseeable future under this alternative.

Slender Salamander and Fringed Myotis: New trail construction would be routed around large down logs and snags wherever possible, thus these important habitat components would typically be retained for these two species. There may be instances during new construction, reconstruction and future maintenance activities where large

snags and down logs are removed, altered or destroyed. This would have negative effects to individuals that might be using those habitat features.

Aquatic SSS Wildlife Species: Although project activities would result in a short-term pulse of sediment into aquatic habitat for SSS species, negative effects to individuals is unlikely due to the limited area of instream work. Over the long-term, project activities would stabilize and improve habitat for these species by reducing current sedimentation levels.

Cumulative Effects for Wildlife: Reasonably foreseeable actions that could occur on BLM lands in this watershed would likely be timber harvest and OHV management. Timber harvest would be expected to consist of thinning harvests and, ultimately, regeneration harvest. Thinnings would be expected to result in relatively low level effects to these wildlife species, where regeneration harvests would remove habitat for these species for several decades. OHV management would continue to minimize unauthorized trail use that could encroach on habitat and disturb wildlife species. Private lands would be expected to provide limited habitat for these species, although private timber companies in this area strongly limit OHV use on their lands.

3.6 SOILS

3.6.1 AFFECTED ENVIRONMENT

Soils in the project area tend to be clay size, very prone to displacement, and sometimes contain rock inclusions. Areas with natural rock inclusions don't tend to erode as readily as trail segments with no rock. Sediment transport is due to water movement during storm events, gravity, or mechanical disturbance by vehicles. Trails with steeper gradients tend to erode to rills or gullies and require more frequent maintenance. In some areas where such erosion is a chronic problem, the use of tread stability materials such as gravel and paving blocks has been used. Trails with gentle gradients sometimes hold water during winter storm events because of the sticky clay composition of the soils and lack of permeability. As a result, drainage features such as drivable drain dips, lead-off ditches, and waterbars are an important component of trail design in the Shotgun OHV Area. They reduce ponding and also promote drainage without depositing sediment into streams. These drainage features require regular maintenance, especially on trails with heavy use. In some cases, the drainage features are reinforced with rock to enhance durability and reduce maintenance costs.

Three sites are analyzed for possible closure because of the risk of direct sediment delivery to streams. The south end of Trail 1 has been reinforced with concrete blocks to retard erosion, however this hasn't been fully successful since sediment continues to reach the roadside ditch and nearby Cash Creek.

3.6.2 ENVIRONMENTAL CONSEQUENCES

No Action Alternative

No new trail or staging site construction would occur, and therefore approximately 3.7 acres would not be impacted by new excavation, compaction and development.

No designated trails would be decommissioned. The south end of Trail 1 would continue to erode due to the steep incline and sediment would be delivered to the ditchline of Road No. 15-2-25.1 near Cash Creek. The north end of Trail F would continue to route sediment to shotgun creek during storm events.

Non-managed existing trails that are currently not part of the Shotgun Trail System would not be added. Numerous rills and gullies on those trails would continue to erode, impacting nearby roads and streams.

Cumulative Effects: The existing designated trail system would be managed at current levels. This would include periodic trail maintenance to reduce erosion such as gullies and rills. This could include trail grooming and/or tread hardening techniques. Minor trail alignment adjustments may occur to avoid problem areas that evolve with continued and escalating use by motorcycles and quads. Such realignments within 50 feet of the existing route would result in some negligible soil disturbance and the bypassed areas would be closed to further vehicle use.

The challenge of restricting use of unauthorized trails would continue. Gentle topography in the area and old roads from past logging present opportunities for trespass and unauthorized OHV use on the public lands. Current management is to close such routes as they are discovered and this would continue under this alternative.

Proposed Action:

Construction of approximately 4.5 miles of new trail, and the new Dollar Road Staging Area with 1 mile of beginner trail would result in displacement and compaction of approximately 3.7 acres.

The northern and southern ends of Trail 1 would be decommissioned because new trail construction would eliminate the need for those segments. The northern end of Trail F would also be closed for similar reasons. The closure of these trail segments would involve blocking, tillage, brush additions and revegetation. Where tread hardening measures were utilized, such materials would be removed in order to reclaim and restore to the extent possible natural soil conditions.

Reconstruction of existing trails that currently are not in the designated system would also have an impact on current soil conditions. Based on the 2005 Trail Survey, those trails have nearly 70 defined rills and gullies, and maybe more now since no maintenance has been performed since the time of the survey. Reconstruction efforts would include trail grooming, tread hardening where necessary, and installation of drainage features such as waterbars, drain-dips, and lead-off ditches. These efforts would greatly enhance surface water drainage and minimize erosion. Special emphasis would be placed on stabilizing those sections of trail near stream crossings, the 4 stream crossings impacted by these trails, and at junctions with the road system in the area.

Cumulative Effects: The addition of new trails and a staging area might reduce unauthorized use. Regardless, these improvements will provide more riding opportunities for an increasingly popular sport near the Eugene/Springfield urban area.

Implementation of the Maintenance Actions and Design Features included in this document would promote long term erosion control in the Shotgun Trail System. Construction of new trails using these techniques would result in proper drainage of surface runoff during storm events and reduce maintenance costs over time.

Formal monitoring of the trail system every two years would serve two purposes: (1) to identify areas in need of immediate or regular maintenance work, and (2) provide the information necessary to develop the annual maintenance plan. Informal monitoring would also be conducted by staff overseeing the management of the trail system and this would

identify areas with urgent needs for maintenance. Monitoring not only would link directly to maintenance work, but also would result in evaluations of the effectiveness of the Design Features in reducing erosion along the trail system.

3.7 UNAFFECTED RESOURCES

The following are either not present or would not be affected by any of the alternatives: Areas of Critical Environmental Concern, cultural resources, prime or unique farm lands, solid or hazardous wastes, Wild and Scenic Rivers, or Wilderness.

3.8 ENVIRONMENTAL JUSTICE

To comply with Executive Order 12898 of February 11, 1994, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, the Bureau of Land Management, Eugene District, will ensure that the public, including minority communities and low income communities, have adequate access to public information relating to human health or environmental planning, regulations, and enforcement as required by law. The District has not identified any environmental effects, including human health, economic and social effects of Federal actions, including effects on minority populations, low-income populations, and Native American tribes, in this analysis.

4.0 LIST OF AGENCIES AND PERSONS CONSULTED

John Bianco	Roseburg Forest Products Co.
Oregon DEQ	Peter Saraceno
Jim Goodpasture	Sierra Club - Many Rivers Group
Pam Hewitt	Swanson Group
Charles & Reida Kimmel	Craig Tupper
Lane County Land Management	Jan Wroncy
Carol Logan, Kalapooya Sacred Circle Alliance	Kris and John Ward
Oregon Dept of Fish & Wildlife	Robert P Davison
Oregon Dept of Forestry	Tom Stave, U of O Library
Oregon Natural Resources Council	John Muir Project
The Pacific Rivers Council	James Johnston
John Poynter	Molly Widmer
Leroy Pruitt	David Simone
Neal Miller	Bart Pratt
Cascade Offroaders	Rich Wright
Junction City Jeeps	Emerald Trail Riders

5.0 CONSULTATION

Consultation for terrestrial Threatened and Endangered species is included in the "Programmatic Biological Assessment for Projects with the Potential to Modify the Habitats of Northern Spotted Owls and/or Bald Eagles or Modify Critical Habitat of the Northern Spotted Owl, Willamette Province- FY2005-2006" and "Biological Assessment of Activities with the Potential to Disturb Northern Spotted Owls or Bald Eagles, Willamette Planning Province- FY2006-2007".

BLM will consult with the National Oceanic and Atmospheric Administration (NOAA) fisheries on the effect of the proposed action on listed fish species (i.e. spring Chinook).

6.0 LIST OF PREPARERS

Name	Title	Resource/Discipline
Paula Larson	Wildlife Biologist	Wildlife
Cheshire Mayrsohn	Botanist	Botany
Greg Bashor	Engineer	Engineering
Chuck Vostal	Fisheries Biologist	Fisheries
Kris Ward	Hydrologist	Hydrology/Soils
Liz Aleman	Recreation Planner	Recreation
Christie Hardenbrook	Environmental Specialist	Team Lead/NEPA

APPENDIX A: MAINTENANCE STANDARDS AND FORMS

1. Trail Clearing

- Trigger for Maintenance Action:
 - Vegetation clearing should be conducted when it encroaches on trail or obstructs safe visual distance.
- Maintenance Actions:
 - Brush, limbs and logs encroaching or fallen on trail should be removed.
 - Live standing trees greater than 10 inches DBH will not be cut unless identified as a hazard or danger tree.
 - Down wood ≥ 15 that is removed from trails will be left on site. This shall be left in the longest lengths possible.
- Standard:

	Trail Width		
	Easiest	More Difficult	Most Difficult
Class I	50 inches	50 inches	N/A
Class III	Min. 18 inches/ Max. 30 inches	Min. 18 inches/ Max. 24 inches	Min. 12 inches/ Max. 24 inches

2. Tread Maintenance

- Trigger for Maintenance action:
 - Trails are beginning to show evidence of gullies, ruts or ponded water.
 - Sediment is being delivered to streams, impacting water quality and/or fish-bearing habitat.
- Maintenance Actions:
 - Replace eroded surface material by hand or mechanical means
 - Harden trail surface using paving blocks, gravel or other tread stability materials. Source material will be weed free. Equipment will be washed prior to working on the trails.
 - Construct rolling dips, waterbars, or lead-off ditches to divert water from trail. Rolling dip construction preferred over waterbar construction to encourage water sheeting versus water channeling.
 - Rock approaches to stream crossings.
- Standard:
 - Trails would show use but not exhibit continuous deep rutting.
 - Waterbar dips, and lead-off ditches will divert surface run-off to stable ground adjacent to trail where sediment can be contained.
 - Drain dips and water bars are armored with rock to maintain integrity and reduce the amount of future maintenance needed.
 - Drain dips are installed within 100 feet of a stream crossing. Large would be placed on both sides of the tread to keep riders on the trail and contain any sediment movement.
 - Approaches are rocked for approximately 100 feet on either side of a stream crossing with 6 inches of base course and 2 inches of fine gradation crushed rock
 - Trail difficulty doesn't increase under ideal riding conditions, water quality is not impaired, and user-created side trails are not created to avoid deep ruts or puddles.

3. Trail Structures (e.g. culverts, puncheons, turnpikes and bridges)

- Trigger for Maintenance Action:
 - Partially or completely plugged failing culverts.
 - Bridge piers, decking or railing showing signs of imminent failure require immediate attention.
 - Incursion of unauthorized vehicles is evident.
 - Approaches to crossings are delivering sediment to the stream channel.

- Maintenance Action:
 - Plugged culverts would be unplugged immediately.
 - Culvert may be removed or the trail may be closed until corrective action is taken.
 - Failed or failing culverts would be replaced.
 - Riprap and/or planting native vegetation may be placed at culvert inlets/outlets to reduce erosion.
 - Failing bridge decking, railing and support structures will be replaced or repaired. Bridge and/or trail may require closure until repair is completed.
 - Structure or structure endpoints would be modified to restrict unauthorized vehicles.
 - Water diversion features, such as waterbars, dips, may be needed on approaches depending on site conditions.
 - Rock approaches.

- Standard:
 - Water is flowing freely through structurally sound culverts.
 - Erosion is not evident around the inlet/outlet of culverts.
 - Bridges do not have broken rails, missing or rotted decking, or failing support structure.
 - Bridge approaches have surface hardening on trail tread for traction and to minimize erosion.
 - Structure design would be commensurate with authorized use.
 - Runoff from the trail is not entering the stream channel.

4. Road/Trail Junctions

- Trigger for Maintenance Action:
 - Sediment delivered to road or ditchline of road.
 - Multiple trail entry points.
 - Unsafe line of sight or alignment and grade of trail (*Modify to account for trail difficulty level*).
 - Inadequate road ditchline drainage (e.g. puddle).

- Maintenance Action:
 - Replace eroded surface material by hand or mechanical means.
 - Harden trail surface using paving blocks, gravel or other trail hardening materials.
 - Relocate to an adjacent, more stable location that portion of a trail that cannot be satisfactorily hardened to allow continued vehicular traffic. Abandoned trail segment will be physically blocked and/or revegetated.
 - Construct waterbars, rolling dips, or lead-off ditches to divert water from trail.
 - Route trails around down logs ≥ 15 inches diameter, standing snags ≥ 15 inches dbh that would be within falling distance of the trail, and existing stumps that are ≥ 15 inches diameter and ≥ 3 feet high. Any felled live trees or snags that are ≥ 15 inches dbh shall be left at their full length (not bucked) and retained on site as down logs or used to help block unauthorized trails or access.

- Standard:
 - Sediment delivery to road is minimized
 - Free flowing road ditchlines
 - Trail rider and road driver safety is enhanced
 - Sediment does not drain into stream channels.

5. Signage

- Trigger for Maintenance Action:
 - Missing or heavily damaged signs
 - Accidents or reported near misses.
 - Increased potential for roadway-trail rider conflict.
 - New hazards.

Maintenance Action:

- Replace missing or damaged signs/sign supports
- Add signs where needed to promote visitor safety and resource protection.

Standard:

- Trails linked to moderately-heavily traveled roads will include caution signing.
- Use of international symbols upon availability.
- Use of fiberglass markers for trails
- Use of metal or fiberglass signs for roadways
- Include lettering/symbology suitable for posted road travel speeds.
- Use of plastic signs is acceptable for informational signing needs.
-

6. Trail Relocations

- Trigger for Maintenance Action:
 - Trail relocations would be considered when trail segments are showing signs of ruts and/or gullies, which are having a detrimental impact to water quality, fish-bearing habitat, and/or cannot be sufficiently hardened to provide safe riding surface consistent with assigned difficulty level.
- Maintenance Actions:
 - Replace eroded surface material by hand or mechanical means.
 - Harden trail surface using paving blocks, gravel or other trail hardening materials.
 - Relocate to an adjacent, more stable location that portion of a trail that cannot be satisfactorily hardened to allow continued vehicular traffic. Abandoned trail segment will be physically blocked and/or revegetated.
 - Construct waterbars, rolling dips, or lead-off ditches to divert water from trail.
 - Route trails around down logs ≥ 15 inches diameter, standing snags ≥ 15 inches dbh that would be within falling distance of the trail, and existing stumps that are ≥ 15 inches diameter and ≥ 3 feet high. Any felled live trees or snags that are ≥ 15 inches dbh shall be left at their full length (not bucked) and retained on site as down logs or used to help block unauthorized trails or access.
- Standard:
 - It is expected that trails will show use but not exhibit continuous deep rutting on trails rated easiest to more difficult.
 - Waterbars dips, and lead-off ditches will divert surface run-off to stable ground adjacent to trail where sediment can be contained.

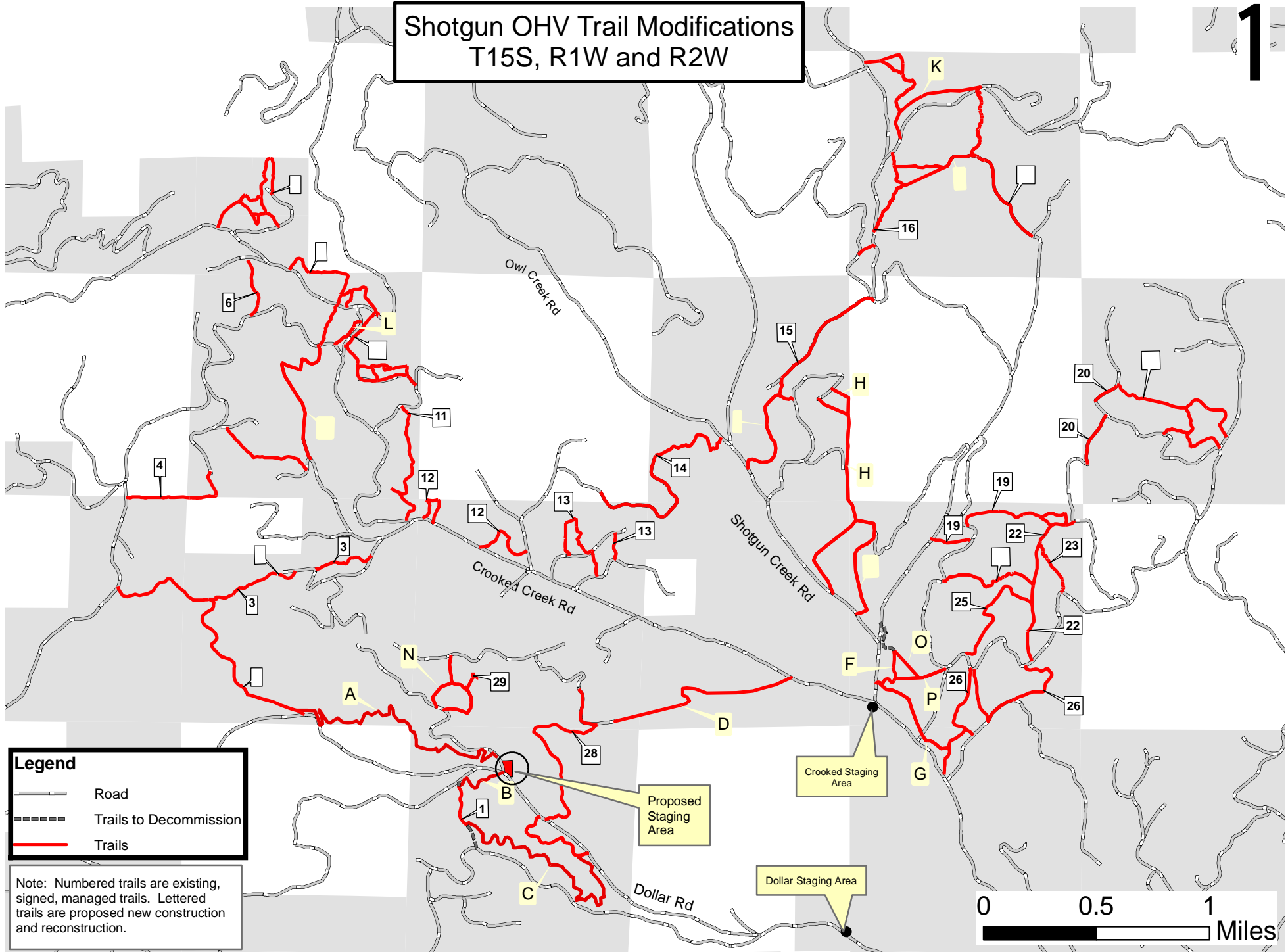
- Trail surfacing will be maintained so that trail difficulty doesn't increase under ideal riding conditions, water quality is not impaired, and user-created side trails (re-routes) are not created to avoid deep ruts or puddles.
- Drain dips and water bars should be armored with rock to maintain integrity and reduce the amount of future maintenance needed.
- Rolling dip construction preferred over waterbar construction to encourage water sheeting versus water channeling.

7. Unauthorized Trails

- Trigger for Maintenance Action:
 - Unauthorized OHV trails will be identified through monitoring. Such trails will be prioritized for closure and evaluated for reclamation that may include tillage, draining of ponded water, re-vegetation, or other remedies
- Maintenance Action:
 - Unauthorized trails will be closed by signing and physical barriers such as boulders, berms, brush and logs.
- Standard:
 - Minimize unauthorized trails in the Shotgun OHV planning area.

APPENDIX B: MAP

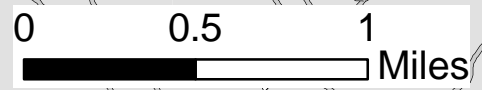
Shotgun OHV Trail Modifications T15S, R1W and R2W



Legend

- Road
- - - Trails to Decommission
- Trails

Note: Numbered trails are existing, signed, managed trails. Lettered trails are proposed new construction and reconstruction.



**UNITED STATES DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT
EUGENE DISTRICT OFFICE
Finding of No Significant Impact
For Shotgun OHV Trail System Modifications
Environmental Assessment No. OR-090-06-04**

Determination:

On the basis of the information contained in the Environmental Assessment (OR-090-EA-06-04), and all other information available to me, it is my determination that implementation of the proposed action or alternatives will not have significant environmental impacts not already addressed in the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (April 1994) and the Eugene District Record of Decision and Resource Management Plan (June 1995), as amended by the Record of Decision for Amendments to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, January 2001, and the Record of Decision to Clarify Provisions Relating to the Aquatic Conservation Strategy (March 2004), with which this EA is in conformance, and does not, in and of itself, constitute a major federal action having a significant effect on the human environment. Therefore, an environmental impact statement or a supplement to the existing environmental impact statement is not necessary and will not be prepared.

Field Manager, Upper Willamette Resource Area

Date