

Appendix E
Roads Analysis
For the Bear Knoll Planning Area
July 11, 2004

(Note: A table of all of the roads in the planning area is included in the analysis file.)

Ecosystem Functions and Processes (EF)

Question: What ecological attributes, particularly those unique to the region, would be affected by roading of currently unroaded areas? EF (1)

Response: *Not Applicable.*

Question: To what degree do the presence, type, and location of roads increase the introduction and spread of exotic plant and animal species, insects, diseases, and parasites? What are the potential effects of such introductions to plant and animal species and ecosystem function in the area? EF (2)

Response: *Tansy, ragwort, St. Johns thistle and knapweed are present along some roads in the planning area. Ground disturbing activities such as logging, road maintenance, grazing, camping, or hiking could introduce and spread unwanted vegetation seed.*

Question: To what degree do the presence, type, and location of roads contribute to the control of insects, diseases, and parasites? EF (3)

Response: *Gypsy moth is present on the west side. There is a potential to spread eggs if the egg-carrier comes to the east side and stays for a while.*

Question: How does the road system affect ecological disturbance regimes in the area? EF (4)

Response: *Increased miles of road and increase use of road, as well as increased recreational use could increase the frequency of human caused fires. There is a desire to retain main arterials and limit access via secondary roads. Existing closed roads still provide access to OHV's and increase lead to increased fire risk. This is a fire regime type IIIB, Mixed Severity (50 to 100 years), IIIC, Mixed Severity,(100 to 2000 Years) IVC, Stand Replacement(11 to 200 Years) and condition class 1.*

Question: What are the adverse effects of noise caused by developing, using, and maintaining roads? EF (5)

Response: *Southern 100 acres LSR gets noise from snowmobiles in the winter and Highway 26 year round. Deer and elk harassment is not an issue. Animals have adapted to noise. Management of the road network with in the Frog Creek Drainage, maintaining the road closures, and look at other road closure options.*

Aquatic, Riparian Zone and Water Quality (AQ)
Watershed and upper catchment processes

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Question: How and where does the road system modify the surface and subsurface hydrology of the area? AQ (1)

Response: *The road/stream intercepts are a problem, some subsurface flow from ditch, but it is not a problem. Check culvert survey to see if there are any undersized culverts.*

Question: How and where does the road system generate surface erosion? AQ (2)

Response: *The wet area up from FDR 4320 would need to be reconstructed, approx 300' long, road is built on a spring/boggy area. It is a through road. Any where you have road intercepts, such as FDR 4320, 4300017, 2640240 is higher up out of the riparian reserve, there is a potential for surface erosion. The native surface road along ditch may need to have armor adjacent to stream crossings. Road 4320014: goes down to the creek, native surface, look at obliterating portion in RR and end road outside the riparian reserves; may have a pit across the creek that needs to be rehabilitated before obliterating section in the riparian reserve. Road densities: 2.5 for summer range, 2.0 for winter range, would get to 2.8 miles/sq. mile given current proposed road closures. Have roads we need to obliterate, need to move forward with them. Roads that are closed year round, how do we get them into a state where they are stable so that if we come back in 20 years, we still have a foot print? FDR 2610 goes to Frog Lake Campground.*

Asphalt is the most expensive road surfacing to maintain. A Level III road does not have to be asphalt. There has to be other reasons why a road is asphalt, Level III roads can be managed back to gravel. To grind asphalt back to gravel is a Forest level question.

What roads are priorities to close? What roads need to be obliterated?

IF ditch maintenance road (4300017) is needed, then need to armor the road to minimize sedimentation.

4320 road – where it crosses the spring/wetland, is a snowmobile route and any treatment needs to incorporate the need for the snow mobile route.

Question: How and where does the road system affect mass wasting? AQ (3)

Response: *NA*

Question: How and where do road-stream crossings influence local stream channels and water quality? AQ (4)

Response: *Native surface roads associated with Frog Creek and its tributaries.*

Question: How and where does the road system create potential for pollutants, such as chemical spills, oils, de-icing salts, or herbicides to enter surface waters? AQ (5)

Response: *Highway 26 not affected by de icing chemicals. The culvert and little stream in snowmobile trail towards and across Highway 26 could contribute if a machine wrecked in this area. Barlow weeds EA does not treat any riparian area.*

Question: How and where is the road system 'hydrologically connected' to the stream system? How do the connections affect water quality and quantity (such as delivery of sediments, thermal increases, elevated peak flows)? AQ (6)

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Response: *Refer to AQ2, Flow routed into ditch, altered flow regime.*

Affected values and lower catchments processes and influences

Question: What downstream beneficial uses of water exist in the area? What changes in uses and demand are expected over time? How are they affected or put at risk by road-derived pollutants? AQ (7)

Response: *There is agriculture use on Juniper flat, and secondary water rights for fisheries, it is unknown if water is used for domestic purposes downstream.*

Question: How and where does the road system affect wetlands? AQ (8)

Response: *Adjacent to 2640, 4310 areas, roads, minimally dissect flow, 4320 has a wet area on road.*

Question: How does the road system alter physical channel dynamics, including isolation of floodplains; constraints on channel migration; and the movement of large wood, fine organic matter, and sediment? AQ (9)

Response: *Frog Creek Ditch is an altered system.*

Question: How and where does the road system restrict the migration and movement of aquatic organisms? What aquatic species are affected and to what extent? AQ (10).

Response: *Same as AQ9, Check culvert surveys. There are resident redband in Frog Creek and Frog Creek Ditch. Which aquatic mollusks are associated with Frog Creek?*

Question: How does the road system affect shading, litter fall, and riparian plant communities? AQ (11)

Response: *Road 4300017 goes along ditch. No other roads parallel stream, they just have 90 degree crossings.*

Question: How and where does the road system contribute to fishing, poaching, or direct habitat loss for at-risk aquatic species? AQ (12)

Response: *There is no T & E species in planning area, the fewer open and/or through roads the better to reduce poaching risks.*

Question: How and where does the road system facilitate the introduction of non-native aquatic species? AQ (13)

Response: *This has not been an issue,*

Question: To what extent does the road system overlap with areas of exceptionally high aquatic diversity or productivity, or areas containing rare or unique aquatic species or species of interest? AQ (14)

Response: *NA*

Terrestrial Wildlife (TW)

Question: What are the direct effects of the road system on terrestrial species habitat? TW (1)

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Response: *High open road density (3.32 miles/sq. mile) are a concern for deer and elk. FDR 4320 closed with heavy gates has been an effective closure for big game. There is still a noise issue from snow mobiles and vehicle traffic on open roads. There is a need to monitor OHV use.*

Question: How does the road system facilitate human activities that affect habitat?
TW (2)

Response: *Roads give access for management of vegetation, gathering of special forest products like firewood. Ditch maintenance is a minimal impact.*

Question: How does the road system affect legal and illegal human activities (including trapping, hunting, poaching, harassment, road kill, or illegal kill levels)? What are the effects on wildlife species? TW (3)

Response: *Deer and elk are in residence all summer. Peak period of use by hunters is August thru October. The fewer open and/or through roads the better to reduce poaching risks. Poaching is not a big issue, as this area is away from centers of populations.*

Question: How does the road system directly affect unique communities or special features in the area? TW (4)

Response: *Consider closing roads going into LSR's, FDR 2610021,*

Economics (EC)

Question: How does the road system affect the agency's direct costs and revenues? What, if any, changes in the road system will increase net revenue to the agency by reducing cost, increasing revenue, or both? EC (1)

Response: *Forest/Regional Scale*

Question: How does the road system affect priced and non-priced consequences included in economic efficiency analysis used to assess net benefits to society? EC (2)

Response: *Forest/Regional Scale,*

Question: How does the road system affect the distribution of benefits and costs among affected people? EC (3)

Response: *Forest/Regional Scale, Managing for long term road system, by keeping roads on landscape in self maintaining status, minimizes costs associated with road construction/reconstruction for future projects as opposed to obliterating road in the short term.*

Commodity Production

Timber management (TM)

Question: How does road spacing and location affect logging system feasibility? TM (1).

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Response: *With existing road spacing, the road system is adequate to meet the needs of this project. This project will need to construct temporary roads. FDR 2640233: need to extend this road into stand 232, and convert it to a system road.*

Question: How does the road system affect managing the suitable timber base and other lands? TM (2)

Response: *Roads are adequate for timber base on this project. Current road density and native surface roads interaction with water could have negative impacts.*

Question: How does the road system affect access to timber stands needing silvicultural treatment? TM (3) Lump TM2 and TM3

Response: *If the foot print is in place, and we will be going back into the same area make it a system road. Access into stands 174 & 186 & 175, and temporary road that accesses stand 139, snowmobile road into 23. Consider designating them as level 1 system roads. If going in for a single entry, make it a temporary road.*

Minerals management (MM)

Question: How does the road system affect access to locatable, leasable, and salable minerals? MM (1)

Response: *There are no high value minerals (gold, flagstone) in the area other than rock quarries. There are no working rock quarries in the planning area.*

Range management (RM)

Question: How does the road system affect access to range allotments? RM (1)

Response: *Existing open road system provides access to range allotment.*

Water production (WP)

Question: How does the road system affect access, constructing, maintaining, monitoring, and operating water diversions, impoundments, and distribution canals or pipes? WP (1)

Response: *Roads are in place to maintain and access the ditch.*

Question: How does road development and use affect the water quality in municipal watersheds? WP (2)

Response: *Non Applicable*

Question: How does the road system affect access to hydroelectric power generation? WP (3)

Response: *Non applicable*

Special forest products (SP)

Question: How does the road system affect access for collecting special forest products? SP (1)

Response: *The existing road system allows access for special forest products, firewood, & bear grass, and a limited amount of Huckleberries.*

Special-Use Permits (SU)

Question: How does the road system affect managing special-use permit sites (concessionaires, communications sites, utility corridors, and so on)? SU (1)

Response: *FDR 430017 provides access to maintain and access the ditch. FDR 2610 provides access to Frog Lake Campground.*

General Public Transportation (GT)

Question: How does the road system connect to public roads and provide primary access to communities? GT (1):

Response: *Highway 26 is the main state highway connecting the Willamette Valley to central Oregon. FDR 4300 provides access to White River Crossing campground, Sportsman Park and the community of Wamic.*

Question: How does the road system connect large blocks of land in other ownership to public roads (ad hoc communities, subdivisions, inholdings, and so on)? GT (2)

Response: *FDR 4800 connects the home owners in Sportsman's Park with Portland. .*

Question: How does the road system affect managing roads with shared ownership or with limited jurisdiction? (RS 2477, cost-share, prescriptive rights, FLPMA easements, FRTA easements, DOT easements)? GT (3)

Response: *Forest/Regional scope*

Questions: How does the road system address the safety of road users? GT (4)

Response: *Use existing MOU to address safety issue of down or hazard trees for Highway 26. FDR 4300 is not wide enough for a double lane road. Deferred road maintenance affects safety.*

Administrative Uses (AU)

Question: How does the road system affect access needed for research, inventory, and monitoring? AU (1)

Response: *Road system is adequate for research inventory and monitoring.*

Question: How does the road system affect investigative or enforcement activities? AU (2). **esponse:** *Existing roads provide ample access to the area. The planning area is accessible by foot, if necessary. Closing roads will reduce opportunities for human disturbance.*

Protection (PT)

Question: How does the road system affect fuels management? PT (1)

Response: *Fuels management will not be affected by current road system or by the obliteration of temp roads. Mechanical fuel treatments can be designed to work around*

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road systems. Personnel are able to walk into units to implement fuel treatments if necessary.

Question: How does the road system affect the capacity of the Forest Service and cooperators to suppress wildfires? PT (2)

Response: *The Bear Knoll road system provides adequate access.*

Question: How does the road system affect risk to firefighters and to public safety? PT (3)

Response: *There is a back log of maintenance items, brushing, cleaning and ditch cleaning that affects the safety of fire fighters.*

Question: How does the road system contribute to airborne dust emissions resulting in reduced visibility and human health concerns? PT (4)

Response: *Native surface roads are not as prone to creating air borne admissions due to reduced use and reduced speed. Gravel roads produce more particulate due to increased speed and increased use. FDR 2610 7 2640 are the most likely roads to produce dust.*

Recreation

Unroaded recreation (UR)

Question. Is there now or will there be in the future excess supply or excess demand for unroaded recreation opportunities? UR (1)

Response: *Answered at forest or providence scale.*

Question: Is developing new roads into unroaded areas, decommissioning of existing roads, or changing the maintenance of existing roads causing substantial changes in the quantity, quality, or type of unroaded recreation opportunities? UR (2)

Response: *Answered at forest or providence scale.*

Question: What are the effects of noise and other disturbances caused by developing, using, and maintaining roads on the quantity, quality, and type of unroaded recreation opportunities? UR (3)

Response: *Answered at forest or providence scale.*

Question: Who participates in unroaded recreation in the areas affected by constructing, maintaining, and decommissioning roads? UR (4)

Response: *Various snowmobile clubs use the existing snowmobile trails. ATV use by individuals is increasing as the trails get better known.*

Question: What are these participants' attachments to the area, how strong are their feelings, and are alternative opportunities and locations available? UR (5)

Response: *Answered at forest or providence scale.*

Road-related recreation (RR)

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Question: Is there now or will there be in the future excess supply or excess demand for roaded recreation opportunities? RR (1)

Response: *Answered at forest or providence scale.*

Question: Is developing new roads into unroaded areas, decommissioning existing roads, or changing maintenance of existing roads causing significant changes in the quantity, quality, or type of roaded recreation opportunities? RR (2)

Response: *There are no inventoried unroaded areas in this planning area. About half of the available roads will be closed in this area. This would reduce the roaded recreational opportunities for some individuals.*

Question: What are the adverse effects of noise and other disturbances caused by constructing, using, and maintaining roads on the quantity, quality, or type of roaded recreation opportunities? RR (3)

Response: *There should be little effect on roaded recreation users from construction, use or maintenance of roads.*

Question: Who participates in roaded recreation in the areas affected by road constructing, maintaining, or decommissioning? RR (4)

Response: *Dispersed recreation users (berry pickers, Hunters, OHV users, fire wood gathering, dispersed campers, snow mobiles, horse back riders, mushroom pickers), and others use the road system.*

Question: What are these participants' attachments to the area, how strong are their feelings, and are alternative opportunities and locations available? RR (5)

Response: *Mt. Hood Snowmobile Club has a high attachment to this area. Hunters use the area year after year. This area is part of the ceded land for the Confederated Tribes of the Warm Springs.*

Passive-Use Value (PV)

Question: Do areas planned for road entry, closure, or decommissioning have unique physical or biological characteristics, such as unique natural features and threatened or endangered species? PV (1)

Response: *FDR 2610021 access this LSR, and is recommended for closure.*

Question: Do areas planned for road construction, closure, or decommissioning have unique cultural, traditional, symbolic, sacred, spiritual, or religious significance? PV (2)

Response: *No unique use has been identified in the planning area, although this area is part of the ceded lands of the Confederated Tribes of the Warm Springs.*

Question: What, if any, groups of people (ethnic groups, subcultures, and so on) hold cultural, symbolic, spiritual, sacred, traditional, or religious values for unroaded areas planned for road entry or road closure? PV (3)

Response: *No special place has been identified by any group. Although this area is part of the ceded lands of the confederated Tribes of the Warm Springs, they have not identified any area for special values.*

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Question: Will road construction, closure, or decommissioning significantly affect passive-use value? PV (4)

Response: *Reference PV questions. Forest/regional level.*

Social Issues (SI)

Question: What are people's perceived needs and values for roads? How does road management affect people's dependence on, need for, and desire for roads? SI (1)

Response: *Reference PV questions. Forest/regional level*

Question: What are people's perceived needs and values for access? How does road management affect people's dependence on, need for, and desire for access? SI (2)
Reference PV 2.

Response: *These are ceded lands. There are no known Native American traditional use areas with in the Bear Knoll planning area. Frog Lake and Skyline Snow parks are hubs for snow mobile access. OHV users want more roads open, environmentalists want more roads closed.*

Question: How does the road system affect access to paleontological, archaeological, and historical sites? SI (3)

Response: *FDR 4300017 provides access to the historic Frog Ditch. There is road access for management of other archaeological sites. FDR 2640000 coincides with the Oak Grove Wagon Road.*

Question: How does the road system affect cultural and traditional uses (such as plant gathering, and access to traditional and cultural sites) and American Indian treaty rights? SI (4)

Response: *Reference SI 2.*

Question: How are roads that are historic sites affected by road management? SI (5)

Response: *Reference SI 3*

Question: How is community social and economic health affected by road management (for example, lifestyles, businesses, tourism industry, infrastructure maintenance)? SI (6)
Reference SI 2.

Response: *Highway 26 is the main route that supplies access for these lifestyles, business, & tourism. This is also a forest level issue.*

Question: What is the perceived social and economic dependency of a community on an unroaded area versus the value of that unroaded area for its intrinsic existence and symbolic values? SI (7)

Response: *Forest/Regional scope, There are no inventoried unroaded areas in this planning area.*

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Question: How does road management affect wilderness attributes, including natural integrity, natural appearance, opportunities for solitude, and opportunities for primitive recreation? SI (8)

Response: *Road management does not affect these values; the wilderness is not affected by this proposal.*

Question: What are the traditional uses of animal and plant species within the area of analysis? SI (9),

Response: *Occasional use by Native Americans for hunting and picking, hunting, grazing allotment.*

Question: How does road management affect people's sense of place? SI (10).

Response: *Forest/Regional level*

Civil Rights and Environmental Justice (CR)

Question: How does the road system, or its management, affect certain groups of people (minority, ethnic, cultural, racial, disabled, and low-income groups)? CR (1)

Response: *Closing roads may reduce opportunities for disabled hunters.*

Prepared by the Bear Knoll ID Team
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