

## **Appendix A**

### **Documentation of Roads Analysis Process Step 4**

From USDA Forest Service publication FS-643

**Roads Analysis: Informing Decisions about Managing the National Forest  
Transportation System**

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

Not addressed in this analysis because the Siuslaw is not expanding its currently classified road system. Any adjustments to the road system would be minor and generally temporary in nature. The net transportation system is getting smaller thereby reducing environmental impacts.

Reference: Aquatic Conservation Strategy, Northwest Forest Plan, page 18.

**EF(2): 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 areas?**

Noxious weeds are addressed as a key issue on page 62 of this analysis. The others are not key issues on the Forest, and are deferred to site-specific project analysis, if applicable.

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

Not addressed in this analysis since this is not a key issue on the Forest and is therefore deferred to site-specific project analysis, if applicable.

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

See page 65 for a discussion about the effect of roads on wildfires. Other ecological disturbance regimes are not addressed in this analysis.

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

See Terrestrial Wildlife issues, beginning on page 43.

*Aquatic, Riparian Zone, and Water Quality***AQ(1): How and where does the road system modify the surface and subsurface hydrology of the area?**

See Aquatics and Water Quality issue, page 47.

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

See Aquatics and Water Quality issue, page 47.

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

See Aquatics and Water Quality issue, page 47.

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

See Fisheries issues, beginning on page 52.

**AQ(5): 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?**

Not addressed in this analysis. Defer to watershed/project level analysis.

Reference: The Siuslaw Forest Hazardous Materials Response Plan, March 15, 2000 provides operation direction in case of hazardous spills.

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

See Aquatics and Water Quality issue, page 47.

**AQ(7): 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?**

Not addressed in this analysis. Defer to watershed/project level analysis, if applicable.

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

Key Forest Routes are generally above wetland areas. The Northwest Forest Plan ROD Standards and Guidelines RF-2 states that: “For each existing or planned road, meet Aquatic Conservation Strategy objectives by: ... avoiding wetlands entirely when constructing new roads” (NWFP ROD, page C-32, RF-2(g)).

Defer to watershed/project level analysis, if applicable.

**AQ(9): 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?**

See Aquatics and Water Quality issue, page 47.

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

See Fisheries issues, beginning on page 52.

**AQ(11): How does the road system affect shading, litterfall, and riparian plant communities?**

Not a key issue on this Forest. See Fisheries issues for discussion (beginning on page 52). Defer to watershed/project level analysis, if applicable.

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

It is recognized that the existence of the road system may contribute to a negative impact on aquatic species. However, this is not a key issue on this Forest due to seasonal fishing restrictions on anadromous fish (both listed and proposed for listing) by the State. See Fisheries issues for discussion (beginning on page 52).

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

See Fisheries issues, beginning on page 52. Defer to watershed/project level analysis, if applicable.

**AQ(14): 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?**

Not a key issue on this Forest. See Fisheries issues, beginning on page 52, for discussion. Defer to watershed/project level analysis, if applicable.

*Terrestrial Wildlife*

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

See Terrestrial Wildlife issues, beginning on page 44.

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

See Terrestrial Wildlife issues, beginning on page 44.

**TW(3): 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 affects on wildlife species?**

See Terrestrial Wildlife issues, beginning on page 44.

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

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

*Economics***EC(1): 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?**

See Economics issues, beginning on page 23.

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

Not addressed in this analysis, since this is not a key issue on this Forest. Scope is too broad for this level analysis. See the FEIS for the Northwest Forest Plan, Volume 1, "The Economy and Communities," pages 3&4-260 thru 3&4-319.

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

Not addressed in this analysis, since this is not a key issue on this Forest. Scope is too broad for this level analysis. See the FEIS for the Northwest Forest Plan, Volume 1, "The Economy and Communities," pages 3&4-260 thru 3&4-319.

*Commodity Production – Timber Management***TM(1): How does road spacing and location affect logging system feasibility?**

Not addressed in this analysis because the Siuslaw is not expanding its currently classified road system. Timber is harvested only from existing plantations using or reopening existing roads. Defer to watershed/project level analysis.

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

Not addressed in this analysis, since suitable timber harvest is not a key issue on this Forest. Most timber harvest on the Siuslaw National Forest is a byproduct of silvicultural treatments designed to promote late-successional forest development for recovery of threatened species. The current road system is considered adequate for such timber harvest. Defer to watershed/project level analysis if appropriate.

**TM(3): How does the road system affect access to timber stands needing silvicultural treatment?**

See Vegetation Management issue, beginning on page 61.

*Commodity Production – Minerals Management***MM(1): How does the road system affect access to locatable, leasable, and salable minerals?**

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable (e.g., rock quarries).

*Commodity Production – Range Management***RM(1): How does the road system affect access to range allotments?**

Not addressed in this analysis, since it is not a key issue on this Forest (there is only one allotment on the Forest). Defer to watershed/project level analysis, if applicable.

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

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

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

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

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

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

*Special Use Permits***SP(1): How does the road system affect access for collecting special forest products??**

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

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

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

*General Public Transportation*

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

Specific primary and secondary route selection criteria (see below) are designed to include vital national forest system roads that connect to public roads and provide primary access to communities (for further discussion, see Community Impact issues, page 43). The maps of Key Forest Roads show how national forest system roads connect to public roads and provide access to communities (see Appendix C, page 132).

Primary route selection criteria (see page 44):

Roads that link state and county roads, which connect high-use entry points or population centers and provide major access into and through the Forest.

Among primary road alternatives, select the one that favors the greatest use of state and county road systems (these are usually double-lane roads and highways).

Secondary route selection criteria (see page 44):

- ⇒ Routes that extend primary Forest roads as well as state and county roads, and give needed long-term access.

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

The road system makes connections to the BLM, State and County road systems which provide primary access to BLM public lands and blocks of privately held timber lands. Private timberlands are generally more scattered than either national Forest or BLM lands. Numerous connections are made through private lands to national Forest lands and through national Forest lands to private inholdings. Connections are made through both Key Forest roads and short-term use project roads.

**GT(3): 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)**

Roads with shared ownership are identified at the forest scale (see selection criteria page 44) and are included on the maps of Key Forest Roads (Appendix C). Such roads are managed in accordance with agreements determined at the project scale.

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

The selection criteria for identifying the primary and secondary road system (page 44), are designed to result in a network of Key Forest Roads most traveled by the public and most needed for general forest management. It is well established that maintenance funding has not kept pace with maintenance needs. Issues related to the safety of road users are likely to be most significant on the network of Key Forest Roads. Road safety issues are addressed by the fact that limited road maintenance resources are prioritized to maintain safety features on Key Forest Roads.

However, it should be pointed out, that known safety deficiencies where risks are unacceptable are corrected on any national system road, including roads that are not on the network of Key Forest Roads.

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

Overall, miles of open road access on national Forest Service lands have been reduced under the ATM guidelines with a corresponding reduction in motorized access for research and inventory. Research and inventory will be more time consuming without vehicle access although this is not expected to have a significant impact since neither activity is extensive on the Siuslaw. Monitoring for effectiveness of project treatments likewise will have reduced motorized access and consequently higher costs.

**AU(2): How does the road system affect investigative or enforcement activities?**

The reduction in open roads has accompanied a reduction in Forest Service employees during the same time period, leading to a decrease in incident observation and reporting. The effect is a concentration of some illegal activities such as vandalism, theft of Forest Products and dumping of garbage along the Key Road system and remaining open short spur roads. As a result, Forest Law Enforcement Officers have spent an increasing amount of time responding to individual incidents

At the same time more serious illegal activity, such as drug manufacture and growing, are practiced on portions of the remaining non-Key Roads since the people conducting these activities realize that the number of Law Enforcement Officers are reduced and response is more difficult on the closed or grown over roads.

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

Not addressed in this analysis, since it is not a key issue on this Forest. There are very few planned fuel management treatments on the Siuslaw. Defer to watershed/project level analysis, if applicable.

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

The amount of road system left intact and accessible is a real key to the fire suppression effort as stated on page 65. Especially, where we have adjacent private landowners that are in the process of harvesting their lands or have the potential to harvest their lands in the future. The majority of these lands are located in the valley bottoms with national Forest lands above them on the ridge tops. Thus, the road system positioned on ridge tops soon become the best alternative for firebreaks and control lines. These types of roads should be maintained and brushed with this in mind.

The other item that needs to consideration is access to water in the stream bottoms. Road systems that lead to these areas need to be identified in pre suppression plans and maintained as a key component of the fire suppression effort. The shorter the distance to water from the fire area, the quicker the suppression action and the best opportunity to meet initial attack objectives of minimizing acres burned.

On the Westside, the fire suppression effort is a cooperative effort between Oregon Department of Forestry and the US Forest Service working under a cooperative agreement. When the Forest Service decommissions roads, that action can affect the ability of cooperators to access lands for which they have fire protection responsibility. These roads need to have ODF oversight and agreement. Road stability as it relates to water quality is one of the key issues for decommissioning roads. We have areas that with some

forethought, we might be able to construct new access roads on ridge tops on private land that would allow both agencies to achieve their objectives.

In general, roads have to be evaluated on a case-by-case basis while maintaining the big picture, sub-basin approach. On the Westside, if we can limit public access, we normally can limit the risk of human caused wildfires. However, in the event that we do incur fires with poor accessibility, the risk of a catastrophic event occurring is greatly increased.

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

The amount of public access to the forest both for recreational use as well as accessing their private land through national Forest land is similar to the statements above, concerning working with our cooperators for fire suppression. Risk to the public in areas with poor accessibility could result in higher property damage and a greater risk of the fire spreading to national Forest lands. Roads that are only one way in and one way out are a high risk to firefighter safety as the escape routes are very limited. These areas also need to have agreement with our cooperators concerning any road decommissioning that could affect their ability to provide adequate fire protection.

Medical response time will be greatly increased in areas with limited access. Where recreational opportunities exist such as hiking trails, hunting, fishing and gathering of miscellaneous forest products, should a public medical emergency occur, it will take more time to reach these folks. These situations are rare, but do require some attention when evaluating different road intensity alternatives.

Roads determined to be Key Forest system roads do need to be maintained at a high level for quick response of emergency vehicles of all sizes and visibility for safe travel by both public and agency vehicles.

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

Not addressed in this analysis, since it is not a key issue on this Forest. In general, the climate is too wet for dust to be an issue on forest roads, especially since seasonal restrictions for fisheries and wildlife limit haul during the dry season. Defer to watershed/project level analysis, if applicable.

*Recreation – Unroaded Recreation*

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

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

**UR(2): 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?**

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

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

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

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

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

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

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

**UR(6): How is developing new roads into unroaded areas affecting the Scenic Integrity Objective, SIO(s)? Note: Some forests are still using the Visual Management System (VMS). If that is the case, substitute Visual Quality Objective (VQO) for SIO. (Region 2 added this question. There is no corresponding national direction).**

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

*Recreation – Road-Related Recreation*

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

As non-Key Forest Roads become inaccessible, are closed or decommissioned, fewer roads are available for roaded recreation opportunities. However, roads or lack thereof, will not be the limiting factor, causing demand to exceed supply. The capabilities of land and recreation facilities will be the limiting factors of future roaded recreation opportunities.

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

Not as long as the Forest retains the existing Key Forest Road system. There should be no change to the roaded recreation opportunities.

**RR(3): 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?**

Retaining the existing Key Forest Road system will result in no adverse effects to the quantity or types of roaded recreation opportunities. Maintaining roads may create a temporary/transitory adverse impact to roaded recreation opportunities from effects like dust, noise, and travel delays.

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

This question is not applicable if the Forest intends to retain the existing Key Forest Roads.

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

This question is not applicable if the Forest intends to retain the existing Key Forest Roads.

**RR(6): How does the road system affect the Scenic Integrity Objective, SIO(s)? Note: Some forests are still using the Visual Management System (VMS). If that is the case, substitute Visual Quality Objective (VQO) for SIO. (Region 2 added this question. There is no corresponding national direction).**

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

*Recreation – Passive-Use Value*

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

Not addressed in this analysis, since it is not a key issue on this Forest. Road construction would only occur on a minor and generally temporary basis. Closure or decommissioning a road would yield a net benefit to wildlife species despite short-term disturbance issues, which would be mitigated by seasonal restrictions. The same would be true for any unique physical characteristics, since road access to such features would be reduced.

For site-specific analysis, defer to watershed/project level analysis, if applicable.

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

Not addressed in this analysis. Consultation with the Confederated Tribes of Siletz, Confederated Tribes of Grand Ronde, Confederated Tribes of Coos, Lower Umpqua and Siuslaw, and, on specific coastal issues, with the Coquille Indian Nation occurs and is addressed during watershed/project level analysis.

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

Since the spectrum of people using the Siuslaw National Forest is so broad, passive-use values for areas planned for road entry or closure/decommissioning are equally diverse and often mutually exclusive. Public involvement is encouraged and incorporated during project level analysis. However, this specific question is not addressed in this analysis.

**PV(4): Will constructing, closing, or decommissioning roads substantially affect passive-use value?**

Passive-use values reflect the spectrum of people, from those who would like improved, increased access to all areas of the Forest to those who favor decreasing the density of the road system because they value other forest characteristics that are incompatible with roads. Public involvement is encouraged and incorporated during project level analysis. However, this specific question is not addressed in this analysis.

*Social Issues*

**SI(1): 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?**

As stated above, the perceived need for and value of roads varies across a broad spectrum. Some people value the access that the road system provides; others would rather have larger unroaded or Roadless areas. Local communities within and adjacent to the Siuslaw National Forest are sometimes dependent on the Key Forest Routes for access, which is addressed more fully on page 43.

**SI(2): 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?**

One of the main issues regarding roads on the Siuslaw is access. This is discussed more fully in the discussion under Access and Community Impact issues, beginning on page 43.

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

Access to these sites is generally not encouraged unless the sites have been evaluated, protected and are serving as interpretive or educational features associated with recreation sites and primary access routes. As such, the current level of access on the Key Road System will be maintained and access on the non-Key Roads will be reduced over time as roads are closed or decommissioned. Closing and decommissioning will reduce potential disturbance associated with motorized access on known historic sites, which are often located near valley bottom roads in the Coast Range. If needed, analysis is expected to be at the watershed or project level.

**SI(4): 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?**

American Indian treaty rights are outside the scope of this analysis. Traditional plant gathering and access to cultural sites accommodated by the road system of the early 1990s will require additional walking or other means of access similar to gathering commercial and personal use Forest Products. If needed, analysis is expected to be at the watershed or project level.

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

Not addressed in this analysis, since it is not a key issue on this Forest. Defer to watershed/project level analysis, if applicable.

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

Specific primary and secondary route selection criteria (see below) are designed to keep access open to developed recreation sites, campgrounds, scenic routes, trailheads, and facilities of special interest. Such roads are identified and placed on the maps of Key Forest Roads (see Appendix C, page 132). Maintaining the infrastructure to these sites promotes business and tourism within the local communities.

Primary route selection criteria (see page 44):

Roads that help provide the most extensive linkage to secondary networks.

Roads that are designated scenic routes or auto tours.

Secondary route criteria (see page 44):

- ⇒ Roads that access developed sites, wilderness trailheads, multiple resource management areas, and special sites and facilities that require permanent vehicle access.

**SI(7): 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?**

The intrinsic existence and symbolic value of an unroaded area is difficult if not impossible to measure. Again, its value differs based on individual perspective. The social and economic dependencies of rural communities using forest roads is addressed in this analysis (see page 43).

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

There are three wilderness areas on the Siuslaw National Forest, all surrounded by forest roads. Certainly the edges of the wilderness areas are affected by the road system. However, these concerns, balanced by community needs for access and budget concerns, are best addressed at the watershed/project level.

**SI(9): What are traditional uses of animal and plant species in the area of analysis?**

Not addressed in this analysis. Traditional uses vary by locality and the presence of individual plant and animal species across the Forest. Analysis is expected to be at the watershed or project level.

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

A sense of place is an individual issue. The majority of Forest visitors utilize motor vehicles to travel to their destinations, such as campgrounds, boat landings, picnic areas, swimming beaches, trailhead parking areas, etc. Forest roads also provide motorized access for gathering special forest products, such as mushrooms, conifer boughs, etc. On the other hand, many people feel that there is an intrinsic value ("sense of place") to unroaded and wilderness areas. This is not a key issue on the Siuslaw; however, the issue of Community Impact is addressed in this analysis on page 43.

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

On the Siuslaw, the main issue affecting groups of people is access (page 43). Consultation with the Confederated Tribes of Siletz, Confederated Tribes of Grand Ronde, Confederated Tribes of Coos, Lower Umpqua and Siuslaw, and, on specific coastal issues, with the Coquille Indian Nation occurs and is addressed during watershed/project level analysis. Access for people with disabilities is also addressed at the watershed/project level.

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