

Appendix B

Maps/Information Used

To Answer Risk/Benefit Questions

The ‘Benefit’ questions:

B1. Does the road provide access to private or non-Forest Service lands?

Background

Land ownership patterns show Chippewa National Forest land intermixes with blocks of private or other governmental agency lands, accessed by National Forest System Roads or by roads under cost-share agreements. One way to reduce road density is to eliminate parallel road systems and allow a single road to handle the traffic of both Forest Service and public need. (FS643 Roads Analysis, August 1999)

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of land ownership
- Motorized Vehicle Use designations
- Forest land ownership records
- Information of permit holders

Analytical Tools

- Select all National Forest System Roads that cross, intersect, or provide access to non-National Forest Lands. Designate as “Likely Needed” road.

B2. Does the road access a Forest Service administrative or developed recreation site or trail segment?

Background

Recreation based activity is a large part of the access need on the Chippewa National Forest. Access to the developed recreation and administrative sites accommodate passenger cars, large recreational campers, boat trailers, and other motorized use, generally off major highways.

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of developed recreation sites
- GIS map of boat accesses
- GIS map of developed recreation trails
- GIS map of administrative sites

Analytical Tools

- Select all National Forest System Roads that provide access to Forest Service developed recreation, boat accesses, trails, and administrative sites. Designate as “Likely Needed” road.
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B3. Does the road provide access to areas or sites under a Special Use Permit?

Background

Many of the special-use sites on national forest lands are by permit, for profit. Safe and efficient access to those sites directly affects either the number of potential customers or the operations and maintenance costs. (FS643 Roads Analysis, August 1999)

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of land ownership
- GIS map of Special Use Permit sites
- Forest land ownership records
- Information of permit holders

Analytical Tools

- Select all National Forest System Roads that provide access to Forest Service special use permit sites. Designate as “Likely Needed” road.

B4. Does the road provide access to a recognized dispersed recreation opportunity?

Recreation based activity is a large part of the access need on the Chippewa National Forest. Access to the dispersed recreation sites may be obtained by hiking along gated/closed roads, by water from canoe portages, and by passenger cars or off-highway vehicle on roads and trails. Dispersed sites are a viable recreation activity, and access to these sites is important.

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of dispersed recreation sites
- GIS map of boat carry-in and portage sites
- GIS map of designated trails

Analytical Tools

- Select all National Forest System Roads that provide access to Forest Service dispersed recreation areas and roads that are Maintenance Level 1 or otherwise closed to motorized use. Designate as “Likely Needed” road.

B5. Does the road act as a concurrent motorized and/or non-motorized trail?

Background

Trail networks connect with the road network at intersections and sometimes some overlap occurs along road/trail segments. These concurrent road/trail systems can create mixed traffic patterns, safety hazards of differing user types, but can also provide continuity with other agencies road/trail networks.

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of existing trail network
- GIS map of existing non- Forest Service trail network
- Motorized Vehicle Use designations

Analytical Tools

- Select all National Forest System Roads that provide overlapping/concurrent use with trails. Designate as “Likely Needed” road.

B6. Does the road provide access to a minerals pit(s)?

Background

Large mineral deposits often require mining operations, which frequently require a high-standard access road to the mine site by trucks and heavy equipment. . Much of the available mineral deposits are located on Forest Service land, with permits sold to other local highway departments to crush material within the pits. The value of the salable minerals (crushed rock, sand, or gravel) is sensitive to the transportation costs of moving the materials to a market. (FS643 Roads Analysis, August 1999)

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of Forest Service mineral pits
- GIS map of land ownership

Analytical Tools

- Select all National Forest System Roads that provide direct access to FS mineral pit locations. Designate as “Likely Needed” road.

B7. Does the road allow access for university and agency scientists to conduct on-going short- and long-term research related to silviculture, forest health and climate change at Long Term Ecological Research Sites, Experimental Forests, and Research Natural Areas?

Background

Road access affects research, inventories, and field monitoring. Limited or no road access increases time and cost for field observations. (FS643 Roads Analysis, August 1999)

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of experimental forests and research natural areas
- GIS map of long-term research studies locations
- GIS map of research, inventory, and monitoring sites
- GIS map of land ownership

Analytical Tools

- Select all National Forest System Roads that provide access to or near Long Term Ecological Research Sites, Experimental Forests, and Research Natural Areas. Designate as “Likely Needed” road.

The “Risk” questions:

R1. Is the road without easement through any crossing of private or non-Forest Service lands?

Land ownership patterns show Chippewa National Forest land intermixes with blocks of private or other governmental agency lands. Sometimes the forest roads cross over non-Forest Service lands creating trespass situations and can also lead to improperly allowing access to lands not under Forest Service jurisdiction.

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of land ownership
- Motorized Vehicle Use designations
- Forest land ownership records

Analytical Tools

- Select all National Forest System Roads that cross, intersect, or provide access to non-National Forest Lands without proper legal authority. Designate as “Likely Not Needed” road.

R2. Is the road’s Operational Maintenance Level not the same as its Objective Maintenance Level?

Background

Driving on any road may pose hazards, but driving on a road receiving less maintenance than it was designed for can be more hazardous. Roads that are recommended for closure but remain open due to budget constraints are also dangerous and can have unidentified consequences to users. Roads not receiving proper maintenance also tend to have higher resource damage at wetlands, and sensitive soil areas. The presence of roads and their maintenance levels also help determine who can or will have access to the opportunities served by the roads. Issues of concern include realities of limited budgets, congestion, user conflict, and other quantitative and qualitative effects. (FS643 Roads Analysis, August 1999)

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- Motorized Vehicle Use designations

Analytical Tools

- Select all National Forest System Roads where Objective Maintenance Level does not equal Operational Maintenance Level in Iweb (database of record). Designate Roads with “Route Status = Existing” and “Objective Maintenance Level = Decommission” as “Likely Not Needed” road.

R3. Does road density in the area of evaluation exceed a forest plan standard, wildlife conservation standard or any obligatory standard/threshold?

Background

The presence of roads directly affects habitat for many wildlife species. Direct effects include habitat loss and fragmentation, and edge effects. The magnitude of those effects depends of road density, intended road use, road location, types of habitats traversed by roads, and the status of populations in the surrounding area. (FS643 Roads Analysis, August 1999)

Mainly due to the intermixed ownership of the Chippewa National Forest, much of the road density is out of the control of Forest Service authority. There are private roads, public roads, and Forest Service roads all accessing different properties and for different

reasons of existence. All mapping strategies show the Chippewa National Forest to be over the minimum allowable miles-per-square mile for road density, especially for the Lynx Analysis Units. (Chippewa National Forest Land and Resource Management Plan, Pg. 2-27)

The Chippewa National Forest is actively striving to decommission unneeded roads to reduce road density on the Forested lands, but has little authority to recommend closure of roads on private and other public lands.

Scale

The Scale is at the Forest level.

Analytical Tools

- Road density calculations show that all roads are a risk as the entire Forest is over the road density limit. No map required.

R4.Does the road affect the use of known wildlife travel corridor(s) during critical movement periods, or in close proximity to a known nest site or TES location?

Background

The presence of roads directly affects the habitat for many species. Direct effects include habitat loss and fragmentation, and edge effects. The magnitude of these effects depends on the road density, intensity of the road use, types of habitats traversed by roads, and the status of populations in the surrounding area.(FS643 Roads Analysis, August 1999)

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of existing know TES locations
- GIS map of known nesting sites
- GIS map of vegetation adjacent to roads
- Motorized Vehicle Use designations
- List of species associated with interior habitat

Analytical Tools

- Select all National Forest System Roads that provide access to or near known nesting sites or TES locations. Designate as potential for “Likely Not Needed” road.

R5.Is the road or road segment within 300 feet of streams, lakes, and reservoirs?

Background

Roads may create potential access sites for pollutants when they are in close proximity to rivers and waterbodies. Chemicals such as surfacing oils, de-icing salts, herbicides,

and fertilizers may be applied to roads for maintenance, safety, or other improvements. Rivers and lakes may also become contaminated by material from vehicles, including accumulation of small spills, such as crankcase oil or hydraulic fluid, or accidental spills of hazardous or harmful materials being transported over the roads. As roads are in closer proximity to lakes, rivers, and streams, the higher the potential for hazardous damage to organisms and waterbodies. Accumulation of road derived sediment in to the streams and run-off into the ditches can create surface flows of water, which ultimately creates a hydrologically connected road system. (FS643 Roads Analysis, August 1999)

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of waterbodies
- GIS map of road and stream crossings
- GIS map of culvert and bridge locations
- Watershed Condition Framework information

Analytical Tools

- Select all National Forest System Roads within a 300-foot buffer of streams, lakes, and reservoirs. Designate as potential for “Likely Not Needed” road.

R6.Does the road cross soils with severe erosion potential?

Background

The areas on the Forest not covered by water or wetlands can have soil that is not necessarily suitable for traffic, and can have severe erosion potentials. The lack of topography on the Forest safeguards it from developing mass wasting areas. However, erosion can and does occur where roads intersect with wetlands and stream crossings.

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of waterbodies
- GIS map of road and stream crossings
- GIS map of Soil types
- GIS map of culvert and bridge locations
- Watershed Condition Framework information

Analytical Tools

- Select all National Forest System Roads that cross, intersect, or provide access in areas of wetlands or poor soil conditions. Designate as “Likely Not Needed” road.

R7.Does the road create opportunities for resource damage because two or more roads access a single general area, or the road is less than 0.25 miles in length and accesses an area for no administrative benefit?

Background

Field reviews or mapping assessments reveal that a single resource area can have multiple access sites. Providing duplicate access to a single location increases both road miles and the potential for resource damage. There are also routes that dead-end that are less than 0.25 miles in length. These routes create a tendency for users to travel further into the forested areas and potentially travel cross-country illegally. Removal of the duplicate routes and eliminating short dead-end routes will aid in reducing road miles, and divert much needed financial resources to through roads, or roads that should remain open. (FS643 Roads Analysis, August 1999)

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of developed recreation sites
- GIS map of boat accesses
- GIS map of developed recreation trails
- GIS map of administrative sites

Analytical Tools

- Select all National Forest System Roads that provide duplicate access to Forest Service developed recreation, boat accesses, trails, and administrative sites, or provided access to general forest areas and less than 0.25 miles in length. Designate as “Likely Not Needed” road.

R8.Does the road density substantially change the hydrologic changes of runoff conditions?

Background

Mainly due to the intermixed ownership of the Chippewa National Forest, much of the road density is out of the control of Forest Service authority. There are private roads, public roads, and Forest Service roads, all accessing different properties and for different reasons. All mapping strategies show the Chippewa National Forest to be over the minimum allowable miles-per-square mile for road density, especially for the Lynx Analysis Units.

The Chippewa National Forest is actively striving to decommission unneeded roads to reduce road density on the Forested lands, but has little authority to recommend

closure of roads on private and other public lands. (Chippewa National Forest Land and Resource Management Plan, Pg. 2-27)

Scale

The Scale is at the Forest level.

Analytical Tools

- Road density calculations show that all roads are a risk as the entire Forest is over the road density limit. No map required.

R9. Is the road previously designated in an existing NEPA process and has not yet been decommissioned?

Background

Travel management is an on-going dynamic process that occurs frequently on the Forest. Each project level environmental assessment project analyzes a new area on the Forest and new decisions will recommend changes to the road system. These decisions are logged into the lweb database. As funds become available, these recommendations are implemented, such as road decommissioning. Until the funding is available, these road decisions will remain in the database, but the objective is still to implement when feasible.

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- Previous NEPA Decision Notice documents

Analytical Tools

- Select all National Forest System Roads where “Route Status = Existing” and “Objective Maintenance Level = Decommission” as “Likely Not Needed” road.

R10. How and where do road-stream crossing influence local stream channels and water quality?

Background

Road-stream culvert crossings can cause large inputs of sediment to enter streams when culvert hydraulic capacity is exceeded, or the culvert is plugged and streamflow overtops the road-fill. The result is often erosion of the crossing fill, diversion of streamflow onto the road surface or ditch, or both. (FS643 Roads Analysis, August 1999). Sediment can also enter the stream channels at open slatted bridge decks.

Scale

The Scale is at the Forest level.

Information Needs

- GIS map of existing road network
- GIS map of waterbodies
- GIS map of road and stream crossings
- GIS map of Soil types
- GIS map of culvert and bridge locations
- Watershed Condition Framework information

Analytical Tools

- Select all National Forest System Roads that cross or intersect with rivers or streams. Designate as potential for “Likely Not Needed” road.