

Appendix H - Analysis Questions

Development of Risk/Benefit Assessment Questions

Regional and forest subject-matter/category experts were asked to develop questions that are effective at making distinctions between risk and benefits of a forest road system, using available data and tools. The process started with Regional subject-matter/category experts reviewing analysis questions from other sources and developing a shorter list to consider if they could be used as part of this analysis. Previous sources included:

- Road Analysis Process (FS-643)
- Watershed Condition Framework (FS-977)
- Previously completed Travel Analysis Processes by other forests
- Travel Analysis Questions developed by Forest Service Region 9.

Then the shorter list of questions was modified to better reflect the environmental risks and road access benefits on the Flathead National Forest through a series of meetings using a blended interdisciplinary team. The subject-matter/category experts were provided a set of selection criteria that were used as guidance for refining risk/benefit assessment questions. The interdisciplinary team eliminated questions that were duplicative and combined questions that had the same overall intent. Members of the interdisciplinary team and other contributors are listed at the end of this document.

a. Overarching Selection Criteria:

- 1) Questions reflect requirements of law, regulation, Forest Service policies or Forest land management plans.
- 2) Questions use best available data sources.
- 3) Questions lend themselves to answers that are objective, quantifiable and repeatable (different investigators applying the same question to the same data would come up with the same answers).
- 4) Questions can be answered based on accepted science.
- 5) Questions are matched to an appropriate scale of analysis.
- 6) Questions are effective at making distinctions between necessary and unnecessary roads, making use of previous analysis work.
- 7) Questions are answered with existing geographic information system (GIS) layers to the maximum extent possible.

b. Risk Selection Criteria: (Addressed by specific questions)

- 1) Does the road contribute to an adverse regulatory finding (e.g., Clean Water Act impairment)?
- 2) Does the road violate Forest Service Manual or Handbook requirements?
- 3) Does the road violate a Forest Plan standard or guideline?

c. Benefit Selection Criteria: (Addressed by specific questions)

- 1) Is the road necessary to meet Forest Plan direction?
- 2) Is the road necessary to maintain a capital investment?
- 3) Is the road necessary to access a long-term special use?
- 4) Is the road necessary to access a reserved or outstanding interest in land or resources?

The risk and benefit questions were used to determine numeric, consolidated assessment values of specific road segments across the forest. The initial risk/benefit assessment values are used in conjunction with the cost analysis, public/partner involvement, and previous commitments (such as road cost-share agreements or long-term special use permits) to identify opportunities to change the Forest road system.

Some of the road-related issues identified by the public and other agencies can be addressed by risk/benefit questions relative to specific road segments, while others would be more appropriately addressed during forest plan revision or during implementation of site-specific projects.

Flathead NF Interdisciplinary Team Members and Participants:

Shawn Boelman	Team Leader – Assistant Forest Engineer
Gary Danczyk	Forest Engineer
Deb Mucklow	Spotted Bear District Ranger
Keith Meredith	Civil Engineer
Dennis McCarthy	Geographic Information Specialist
Kathy Ake	Geographic Information Specialist
Vangie Wolfe	Geographic Information Specialist
Trisha Kassner	Engineering INFRA and Geographic Information Specialist
Joseph Krueger	Planner/NEPA Specialist
Becky Smith	Forest Recreation Program Manager
Craig Kendall	Forest Hydrology & Fisheries Program Manager
Reed Kuennen	Forest/District Wildlife Biologist
Amy Jacobs	Forest/District Wildlife Biologist
Chantelle Delay	Forest Botanist
Michelle Dragoo	Planner/NEPA Specialist
Heidi Trechsel	District Silviculturist
Chris Prew	District Recreation Staff
Tad Wehunt	District Recreation Staff
Richard Connell	Forest Fire Management Officer
Seth Carbonari	District Fire Management Office
Timothy Light	Forest Archeologist
Heidi Pfosch	Forest Lands & Minerals Program Manager
Eric Muehlhof	Forest Public Information Specialist

Regional Office Interdisciplinary Participants:

Fred Bower	Team Leader
Kim Foiles	Geographic Information Specialist
Brandon Smith	Realty/Special Uses Specialist
Garry Edson	Recreation Specialist
Bruce Sims	Hydrologist
Kristi Swisher	Wildlife Biologist
Steve Shelly	Botanist
James Innes	Timber Management
Shari Miller	Fire/Fuels Management
Brandan Schulze	Public Information Specialist