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APPENDIX K

**Forest Service Manual
Title 2300 - Recreation, Wilderness,
and Related Resource Management
Section 2354.76**

**Amendment No. 2300-94-4
Effective July 8, 1994**

2354.76 - Evaluation Procedures. Evaluate proposed water resources projects using the following ten steps. Consider all activities which meet the definition of water resources projects found at 36 CFR Part 297 to be water resources projects for the purposes of the evaluation as outlined in this section. Also, use the procedure of applicable parts of it, to evaluate activities proposed outside a designated or study river corridor to determine if the actions result in indirect effects that invade the area, or unreasonably diminish the scenic, recreation, or fish and wildlife values present in the area.

1. Establish Need. Define the need for the proposed activity and make a preliminary determination whether the proposed activity is consistent with the management goals and objectives for the river. If management goals and objectives have not been formalized through a river planning process, utilize Forest Plan standards and guidelines and any applicable state fish and wildlife, water quality, or other state agency management plans or policies consistent with identified values to develop objectives for each of the outstanding river values.

If the activity does not evidence a compelling need or is inconsistent with the management goals and objective or other applicable laws, the project need not be considered further. If there is a need for the activity and it appears consistent with management goals and objectives, proceed with Steps 2-10. In conducting and documenting the analysis, the scope of the evaluation is to be consistent with the magnitude and complexity of the proposed activity.

2. Define the Proposed Activity. Objectively describe the proposed activity in terms of the:

- a. Project proponent(s);
- b. Purpose/need for the project(document results of Step. 1);
- c. Geographic location of the project;
- d. Duration of the proposed activities;
- e. Magnitude/extent of the proposed activities; and,
- f. Relationship to past and future management activities.

3. Describe How the Proposed Activity Will Directly Alter Within-Channel Conditions. Address the magnitude and spatial extent of the effects the proposed activity will have on in-channel attributes. Give special attention to changes in features that would affect the outstandingly remarkable and other significant resource values. Describe:

- a. The position of the proposed activity relative of the stream bed and stream banks.

b. Any likely resulting changes in:

- (1) Active channel location;
- (2) Channel geometry (cross-sectional shape, width/depth characteristics);
- (3) Channel slope (rate or nature of vertical drop);
- (4) Channel form (straight, meandering, or braided); and,
- (5) Relevant water quality parameters (turbidity, temperature, nutrient availability).

4. Describe How the Proposed Activity Will Directly Alter Riparian and/or Floodplain Conditions. Address the magnitude and spatial extent of the effects the proposed activity will have on riparian/floodplain attributes. Give special attention to changes in features that would affect the outstandingly remarkable and other significant resource values. Describe:

a. The position of the proposed activity relative to the riparian area and floodplain.

b. Any likely resulting changes in:

- (1) Vegetation composition, age structure, quantity, or vigor.
- (2) Relevant soil properties such as compaction or percent bare ground.
- (3) Relevant floodplain properties such as width, roughness, bank stability, or susceptibility to erosion.

5. Describe How the Proposed Activity Will Directly Alter Upland Conditions. Address the magnitude and spatial extent of the effects the proposed activity will have on upland attributes. Give special attention to changes in features that would affect the outstandingly remarkable and other significant resource values. Describe:

a. The position of the proposed activity relative to the uplands.

b. Any likely resulting changes in:

- (1) Vegetation composition, age structure, quantity, or vigor.
- (2) Relevant soil properties such as compaction or percent bare ground.
- (3) Relevant hydrologic properties such as drainage patterns or the character of surface and subsurface flows.

- c. Potential changes in upland conditions that would influence archeological, cultural, or other identified significant resource values.

6. Evaluate and Describe How Changes in On-Site Conditions Can/Will Alter Existing Hydrologic or Biologic Processes. Evaluate potential changes in hydrologic and biological processes by quantifying, qualifying, and/or modeling the likely effects of the proposed activity on:

- a. The ability of the channel to change course, re-occupy former segments, or inundate its floodplain;
- b. Streambank erosion potential, sediment routing and deposition, or debris loading;
- c. The amount or timing of flow in the channel;
- d. Existing flow patterns;
- e. Surface and subsurface flow characteristics;
- f. Flood storage (detention storage);
- g. Aggradation/degradation of the channel; and,
- h. Biological processes such as:
 - (1) Reproduction, vigor, growth and/or succession of streamside vegetation;
 - (2) Nutrient cycling;
 - (3) Fish spawning and/or rearing success;
 - (4) Riparian dependent avian species needs; and,
 - (5) Amphibian/mollusk needs.

7. Estimate the Magnitude and Spatial extent of Potential Off-Site Changes. Address potential off-site, or indirect effects of the proposed activity, acknowledging any uncertainties.

- a. Consider and document:
 - (1) Changes that influence other parts of the river system;
 - (2) The range of circumstances under which off-site changes might occur (for example, as may be related to flow frequency); and,

(3) The probability or likelihood that predicted changes will be realized.

b. Specify processes involved, such as water and sediment, and the movement of nutrients.

8. Define the Time Scale Over Which Steps 3-7 are Likely to Occur. Review steps 3-7 looking independently at the element of time. Define and document the time scale over which the effects will occur.

9. Compare Project Analyses to Management Goals. Based on the analysis of steps 3-8, identify and document project effects on achievement, or timing of achievement, of management goals and objectives relative to free-flow, water quality, riparian area and floodplain conditions, and the outstandingly remarkable and other significant resource values.

10. Make Section 7 Determination. Make the Section 7 determination consistent with the policy outlined in FSM 2354.73. Based on the analysis of steps 3-9, document:

a. The effects of the proposed activity on conditions of free-flow, including identification of any proposed measures to minimize those effects;

b. Any direct and adverse effects on the outstandingly remarkable and other significant resource values for which the river was designated or is being studied; and,

c. Any unreasonable diminishing of scenic, recreational, fish and wildlife values associated with project activities above or below the area.