

## Chapter 3. Affected Environment and Environmental Consequences

### *Introduction*

This chapter summarizes the physical, biological, social, and economic environments that are affected by the proposed action and alternatives and the effects on that environment that would result from implementation of any of the alternatives. This chapter also presents the scientific and analytical basis for comparison of the alternatives presented in Chapter 2.

The *affected environment* section under each resource topic describes the existing, or baseline, condition against which environmental effects were evaluated, and from which progress toward the desired condition can be measured. The *environmental consequences* section forms the scientific and analytical basis for comparison of the alternatives, including the Proposed Action. This section discusses direct, indirect, and cumulative effects, together with applicable mitigation measures. These terms are defined as follows:

- Direct effects are caused by the action, and occur at the same place and time as the action.
- Indirect effects are caused by the action and are later in time, of further removed in distance, but are still reasonably foreseeable.
- Cumulative effects are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

### *Analysis Process*

The environmental consequences presented in chapter 3 address the impacts of the actions proposed under each alternative for the Modoc National Forest. This effects analysis was done at the Forest scale (the scale of the Proposed Action as discussed in chapter 1). However, the effects findings in this chapter are based on site-specific analyses of each road proposed for addition to the National Forest Transportation System (NFTS) and any changes in vehicle class or season of use for existing NFTS roads. Each affected road proposed in the alternatives has been reviewed by resource specialists; their findings are documented in appendix A. Readers seeking information concerning the environmental effects associated with a specific road are directed to appendices A through G, where details are documented.

For ease of documentation and understanding, the effects of the alternatives are described separately for three discreet actions, and then combined to provide the total direct and indirect effects of each alternative (see below). The combination of these discreet actions is then added to the past, present, and reasonably foreseeable actions in the cumulative effects analysis. The three discreet actions common to all action alternatives are as follows:

1. ***Prohibition of cross-country motor vehicle travel:*** The direct and indirect effects of this action are described generally in each alternative, considering both current conditions and projected trends. Both short (1 year) and long-term (approximately 20 years) effects are presented.
2. ***Addition of new facilities (roads,) to the National Forest Transportation System (NFTS):*** As described above, the impacts of new facilities are addressed in sum total in this chapter, while impacts of individual routes are addressed in appendices A-G. For most resources, one or more resource indicators are used to measure the direct and

indirect effects of each alternative. Both short (1 year) and long-term (approximately 20 years) impacts are presented.

3. ***Changes to vehicle class and season of use on the existing NFTS:*** Impacts caused by changes to vehicle class and season of use on the existing NFTS are described by alternative. For some impacts (for example, public safety), impacts are also addressed by route. Where impacts associated with individual routes are warranted, the reader is directed to appendices or project files where this data is located.

## Cumulative Effects

According to the Council on Environmental Quality (CEQ) NEPA regulations, “cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions (40 CFR 1508.7).

The cumulative effects analysis area is described under each resource, but in most cases includes the entire Modoc National Forest, including private and other public lands that lie within the Forest boundary. Past activities are considered part of the existing condition and are discussed in the “Affected Environment (Existing Conditions)” and “Environmental Consequences” section under each resource. See appendix H for a list of reasonably foreseeable actions.

To understand the contribution of past actions to the cumulative effects of the Proposed Action and alternatives, this analysis relies on current environmental conditions as a proxy for the impacts of past actions. This is because existing conditions reflect the aggregate impact of all prior human actions and natural events that have affected the environment, and might contribute to cumulative effects.

This cumulative effects analysis does not attempt to quantify the effects of past human actions by adding up all prior actions on an action-by-action basis. There are several reasons for not taking this approach. First, a catalog and analysis of all past actions would be impractical to compile and unduly costly to obtain. Current conditions have been impacted by innumerable actions over the last century (and beyond), and trying to isolate the individual actions that continue to have residual impacts would be nearly impossible. Second, providing the details of past actions on an individual basis would not be useful to predict the cumulative effects of the Proposed Action or alternatives. In fact, focusing on individual actions would be less accurate than looking at existing conditions, because there is limited information on the environmental impacts of individual past actions, and one cannot reasonably identify each action over the last century that has contributed to current conditions. Additionally, focusing on the impacts of past human actions, risks ignoring the important residual effects of past natural events; and this may contribute to cumulative effects just as much as human actions. By looking at current conditions, we are sure to capture all the residual effects of past human actions and natural events, regardless of which particular action or event contributed those effects. Third, public scoping for this project did not identify any public interest or need for detailed information on individual past actions. Finally, the Council on Environmental Quality issued an interpretive memorandum on June 24, 2005 regarding analysis of past actions, which states, “agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.” See also 36 CFR 220.4(f). For these reasons, the analysis of past actions in this section is based on current environmental conditions.

The present and reasonably foreseeable actions potentially contributing to cumulative effects on this project are fuel treatments and fire, range management, dam construction and maintenance, minerals management, recreation, timber harvest and vegetation treatments, reforestation, road

and right-of-way management, state and county easements, railroads, special uses, and past road construction and decommissioning. For further discussion of these, see appendix H.

**Table 3-1. Summary of Reasonably Foreseeable Vegetation-Altering Actions on Public Land in and Adjacent to the Modoc National Forest**

Type of Vegetation Change	Estimated Average Impact	Federal Agency
Prescribed fire	4,000 acres/ year	Modoc NF
Mechanical fuels treatment	6,000 acres/ year	Modoc NF
Timber harvest	2,500 acres for saw logs/year 3,000 acres for wood fiber/year	Modoc NF Modoc NF
Sage-steppe restoration	15,000 acres first decade 19,000 acres second decade	Modoc NF & BLM* Modoc NF & BLM
Grazing	122,500 AUMs/year 147,346 AUMs/year	Modoc NF BLM
Power transmission corridor maintenance	3,000 acres/decade	Modoc NF
Road construction	0.95 miles/ year (based on last 10 years)	Modoc NF
Road decommissioning	7.68 miles/ year (based on last 10 years)	Modoc Nf

\*Bureau of Land Management

## Affected Environment Overview

There are many aspects of the affected environment that are shared by all resources. In order to avoid repeating these shared elements of the affected environment in each resource section, the following general elements of the affected environment are provided.

Unmanaged OHV use has resulted in unplanned roads and trails, erosion, watershed and habitat degradation, and impacts to cultural resource sites. On some Modoc NFS lands, long managed as open to cross-country motor vehicle travel, repeated use has resulted in unplanned, unauthorized roads and trails. These routes generally developed without environmental analysis or public involvement, and do not have the same status as NFTS roads and NFTS trails included in the Forest transportation system.

## Assumptions and Limitations

The following assumptions and limitations were applied in the effects analysis in each section:

1. No NEPA decision is necessary to continue use of the NFTS (i.e., by OHVs and other modes of transportation) as currently managed under the No Action Alternative. These decisions were made previously.
2. User-created roads, trails, and areas are not NFTS facilities. They are unauthorized. Proposals to add these to the NFTS require a NEPA decision.
3. Temporary roads, trails, and areas built to support emergency operations or temporarily authorized in association with contracts, permits or leases are not intended for public use. They are not NFTS facilities (i.e., they are unauthorized for public use). Any proposal to add these temporary roads to the NFTS will require a NEPA decision.

4. Any unauthorized routes not included in the Proposed Action are not precluded from consideration for addition to the NFTS in future travel-management actions.
5. The agency will continue to make changes to the NFTS on an as-needed basis. It will also continue to make decisions about temporary roads or trails on an as-needed basis associated with contract, permit, lease, or other written authorization.
6. Any activity associated with contract, permit, lease, or other written authorization is exempt from designation under the Travel Management Rule (36 CFR 212.51 (a) (8)), and should not be part of the proposal (e.g., fuelwood permits, motorized SUP permits, mining activity, etc.). Such actions are subject to separate NEPA analysis.
7. “Designation” is an administrative act that does not trigger NEPA. Designation technically occurs with printing of the Motor Vehicle Use Map (MVUM). NEPA is not required for printing a map.
8. For travel management, the Federal action triggering NEPA is any change to current restrictions or prohibitions regarding motorized travel by the public. Examples would be prohibiting cross-country travel, changing management (e.g., changing vehicle class or season of use), and any additions or deletions of facilities (roads, trails, or areas) to the NFTS.
9. Previous decisions on the NFTS do not need to be revisited to implement the Travel Management Rule (TMR) or the MVUM. That is, the NFTS contains existing facilities (roads and trails) that either underwent the NEPA process or predate NEPA. Allowing continued motorized use of the facilities in the NFTS in accordance with existing laws and regulations, does not require a NEPA decision.
10. Dispersed recreation activities (i.e., activities that occur after the motor vehicle stops, such as camping, hunting, fishing, hiking, etc.) are not part of the scope of the Proposed Action. The action and the analysis focus on motor vehicle use.
11. Travel analysis is a pre-NEPA planning exercise for transportation planning that informs travel management. Until new directives are published, the agency continues to follow existing policy related to transportation planning and analysis. For example, some roads analysis process requirements in FSM (Forest Service Manual) 7700 and 7710 are still applicable.
12. Setting road-maintenance levels and changing maintenance levels are administrative, and not subject to NEPA. However, changes in allowed vehicle class, season of use, access, and proposals to reconstruct facilities are subject to NEPA.
13. The system will be maintained to standard and all additions or changes to the NFTS will meet standards prior to availability for public use.
14. Seasonal Restrictions – Seasonal closures will be shown on the MVUM.

## Resource Reports

Each section in this chapter provides a summary of the project-specific reports, assessments, and input prepared by Forest Service specialists, which are incorporated by reference in this Draft Environmental Impact Statement (DEIS). Each of following sections includes a summary of the report findings, including a description of the methodology used to determine impacts. The following reports and memoranda are incorporated by reference: Botanical Biological Evaluation, Botany Report, Noxious Weeds Risk Assessment; Biological Assessment and Biological Evaluation (BA and BE) for Fish and Wildlife; Hydrology and Soils Report; Recreation, Visual Resources, and the Heritage Resources Report. These reports or memorandums are part of the project record on file at the Forest Supervisor’s Office in Alturas, California. Copies of these reports are available upon request by contacting Kathleen Borovac, Project Leader, at 530-233-8754.

## Route-Specific Analysis Summary

During the planning stages of the travel management project for the Modoc National Forest (MDF), members of the public recommended changes to the existing NFTS with a focus on unauthorized routes. Comments regarding specific routes were also received during the public scoping period for the notice of intent (NOI). The disposition of these routes fell into two categories: routes brought forward for detailed study in alternative(s), and routes eliminated from detailed study. These decisions were made by the Responsible Official based upon the Purpose and Need, the scope of the EIS, and issues raised by the public and the Interdisciplinary Team. The Forest developed a spreadsheet for all routes considered in alternatives 2, 4, and 5. This spreadsheet is available in the appendices A1 and A2.

A number of the recommended routes are proposed to be added to the NFTS under one or more of the action alternatives. For these routes, the spreadsheet identifies the alternative(s) under which the route is proposed, the type of vehicles allowed, and the season when the route would be open. It describes any mitigation measures that would be implemented on the route prior to publication on an MVUM and allowing public use. It also contains effects determinations. Regular operation and maintenance activities (e.g., clearing brush, posting signs, cleaning and maintaining existing drainage structures, patrolling routes, etc.) are a part of regular maintenance and management strategies for the NFTS.

## Law Enforcement

Law enforcement authority and jurisdiction, cooperation, implementation and tracking, implementation strategy, assumptions and measures of success are discussed in details in appendix J.

### *Enforcement Assumptions:*

Laws and regulations related to travel management will be enforced equally in authority and weight, as with all other Federal laws and regulations.

As with any change in a regulation on NFS lands, there is usually a transitional period for the public to understand the changes. The emphasis for the first several years will be on education and gaining voluntary compliance. It is anticipated there will be a higher number of violations to the Travel Management Rule the first few years, and the number of violations will decline as the users understand and comply with the rules. It is assumed that—

- Users in communities adjacent to the Forest would comply within 1 to 2 years.
- Frequent users, but further in distant from the Forest, would comply within 2 to 3 years.
- Infrequent users, regardless of distance, may take up to 5 years to comply.
- Law enforcement officer and agency personnel's presence and enforcement actions will positively affect OHV users' behaviors and attitudes.
- The Travel Management Rule and associated Motor Vehicle Use Map clearly define the designated routes, thereby making violations to the rule unequivocal.
- Once the Motor Vehicle Use Map is published, the implementation of the established dedicated network of roads, trails, and areas with signs, together with user education programs, will reduce the number of violations.
- FPOs (Forest protection officers) spend a large percentage of their time on travel management issues; depending on the Forest, the estimates range from 30 to 50 percent. LEOs (law enforcement officers) spend approximately 10 to 20 percent of their time enforcing off-highway vehicle rules.

- The Forest, through the Proposed Action, plans to facilitate the change from a cross-country travel system to one where such travel is prohibited. This would be done by providing motorized access in popular locations where it is already occurring. Providing this access would create an incentive to stay on the designated routes—helping reduce pressure to travel off those designated routes.

## Information on Other Resource Areas

The Proposed Action and alternatives do not affect wilderness or air quality. However, a summary of why they are not included in chapter 3 is provided below, based upon input received during scoping.

### Wilderness

Actions proposed are in compliance with wilderness designations and the Wilderness Act of 1964. Wilderness resources are not affected by the Proposed Action or the alternatives, and motorized activity would continue to be prohibited in wilderness under all the alternatives per the Wilderness Act of 1964.

### Air Quality

Actions proposed are in compliance with state air quality regulations and the Modoc National Forest LRMP. Air emissions are generally managed and analyzed spatially by air basins (<http://www.arb.ca.gov/knowzone/basin/basin.swf>), where topographic features delineate common air-quality characteristics. Air quality conditions are largely determined by short- and long-term meteorological and climatic conditions.

Generally, the number of vehicle miles traveled annually by Forest users is not expected to change in any alternatives through the prohibition of cross-country travel and the redirection of motorized use onto a designated system of roads, trails and areas. As a result, no adverse effects are anticipated to air quality. It is possible, where seasonal restrictions are put into place, that there may be a slight benefit to air quality as a result of the actions. Where action alternatives propose adding routes to the NFTS, any air quality-related issues would be offset by the reduction of cross-country travel. These routes were pulled from the inventory of unauthorized routes open to public use as part of cross-country travel prior to this proposal. The following analysis led to a determination that no adverse effects to air quality would result from any of the action alternatives. None of the proposed routes passes through serpentine soils; none of the alternatives proposes routes, areas or terminal facilities that would result in a significant increase or change in concentration of use; and none of the alternatives proposes routes located in Federal (national) non-attainment areas for pm2.5 and ozone 8 hour. Tailpipe emissions have been accounted for by CARB in the green/red sticker program suggesting that CARB has a program to regulate these emissions to achieve state implementation plan targets. No adverse change in attainment status is expected to occur as a result of these projects

## Analysis Framework: Statute, Regulation, Forest Plan and Other Direction

NEPA at 40 CFR 1502.25(a) directs “to the fullest extent possible, agencies shall prepare Draft Environmental Impact Statements concurrently with and integrated with ...other environmental review laws and executive orders.” Each resource section includes a list of applicable laws, regulations, policies, and executive orders that are relevant to that resource. Surveys, analyses, and findings required by those laws are addressed in those sections.

## National Forest Management Act

The Forest Service is complying with the provisions of this law (see appendix B on monitoring for how the Forest complies with the NFMA in its monitoring activities).

## 2005 Travel Management Rule 36 CFR 212

The Forest Service is complying with the provisions of this law (see the project file for a copy of the rule).

