

9. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

BACKGROUND

This chapter describes the existing environment that could be affected by the implementation of any of the alternatives analyzed in the *Merced Wild and Scenic River Comprehensive Management Plan/DEIS (Merced River Plan/DEIS)*. It also analyzes the direct and indirect impacts that could result from implementation of each of the alternatives. The information is organized around 19 general topics, which are listed below, along with the topics dismissed from further analysis and the rationale for their dismissal. The general approach to the environmental analysis follows the list of topics.

GENERAL APPROACH TO IMPACT ANALYSIS

Evaluating Impacts under the National Environmental Policy Act

This section provides a scientific and analytic basis for comparisons among the alternatives, in accordance with direction in the National Environmental Policy Act (NEPA) and NPS policy (NPS 2001). The analysis examines both direct and indirect impacts that could result from the alternatives based on the context, duration, intensity, and type of potential impact, and whether the impacts would be cumulative. The following guidelines are applicable to all the analysis topics, with the exception of selected cultural resources and rare, threatened, and endangered species. Historic properties that are listed in or eligible for the National Register of Historic Places are evaluated using guidelines developed for the implementation of the National Historic Preservation Act (see the *Environmental Consequences Methodology* discussion in the “Historic Buildings, Structures, and Cultural Landscapes” subsection of this chapter). Impacts on rare, threatened, and endangered species are evaluated according to direction of the Endangered Species Act (see the *Environmental Consequences Methodology* discussion in the “Special Status Species” and “Wildlife” subsections of this chapter).

Context. The context of the impact considers whether the impact would be local, segmentwide, parkwide, or regional. For the purposes of this analysis, local impacts would be those that occur in a specific area within a segment of the river. The river corridor is defined as $\frac{1}{4}$ mile on either side of the river as measured from the ordinary high water mark. The Study Area is defined as 1.25 miles on either side of the river. This analysis further identifies if there would be local impacts in multiple segments. Segmentwide impacts would consist of a number of local impacts within a single segment, or larger-scale impacts that would affect the segment as a whole. Parkwide impacts would extend beyond the river corridor and the study area within Yosemite National Park. Regional impacts would be those that extend to the Yosemite gateway region, unless specified differently under each individual topic.

Duration. The duration of an impact is noted as either short term or long term in nature. Short-term impacts are typically associated with construction-related actions and could last up to two years unless otherwise noted. Long-term impacts are those that would typically last longer than two years unless otherwise noted.

Intensity. The intensity refers to the degree or magnitude of impacts on a resource (either beneficial or adverse). Each impact is identified as negligible, minor, moderate, or major, in conformance with the definitions provided under each impact topic.

Type. The type of impact refers to whether the impact is considered beneficial or adverse. Beneficial impacts would improve resource conditions. Adverse impacts would deplete or negatively alter resources. Negligible impacts can be considered beneficial, adverse, or neither, as described in the individual impact assessments.

Impact Topics Considered in this Plan

Natural Resources

- Geology, Geohazards, and Soils
- Hydrology, Floodplains, and Water Quality
- Vegetation and Wetlands
- Wildlife
- Special Status Species
- Lightscares
- Soundscapes
- Air Quality

Sociocultural Resources

- Scenic Resources
- Visitor Experience
- Wilderness Character
- Park Operations and Facilities
- Transportation
- Energy Consumption and Climate Change
- Socioeconomics

Historic Properties

- Historic Buildings, Structures, and Cultural Landscapes
- Archeological Resources
- American Indian Traditional Cultural Resources

Impact Topics Dismissed from Further Analysis

To ensure that particular components of the human environment are always considered during preparation of an environmental impact statement, the Council on Environmental Quality (CEQ) developed a list of mandatory topics that must be considered if they would potentially be affected by one or more of the planning alternatives. Items on that list that were considered but dismissed are discussed below.

Environmental Justice

Environmental justice analyses determine whether a proposed action would have “disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.” The NPS and other federal agencies have determined that a disproportionately high and adverse effect on minority and low-income populations means an adverse effect that (1) is predominately borne by a minority population and/or a low-income population, or (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or non-low-income population.

Potential adverse effects identified in an environmental justice analysis include air, noise, and water pollution; soil contamination; destruction or diminution of aesthetic values; destruction or disruption of community cohesion and economic vitality; displacement of public and private facilities and services; increased traffic congestion; and exclusion or separation of minority or low-income populations from the broader community. Of particular concern is the effect on property acquisition and displacement of people.

No aspect of any alternative in the *Merced River Plan/DEIS* would result in disproportionately high and adverse human health or environmental effects on minority or low-income populations. Any restriction on travel, lodging accommodations, or access to any area of the park that might result from the *Merced River Plan/DEIS* would be equally applied to all visitors, regardless of race or socioeconomic standing. The one exception to this policy is that use by culturally associated American Indian tribes and groups is and would continue to be managed independently of general public recreational use. Effects on culturally associated tribes and groups are assessed as part of the *Merced River Plan/DEIS*. (See the “American Indian Traditional Cultural Resources” subsection in this chapter.)

Although levels of park employee housing in various areas may be affected by decisions made under the *Merced River Plan/DEIS*, employee housing decisions are not expected to result in destruction or disruption of community cohesion and economic vitality, displacement of public and private facilities and services, increased traffic congestion, and/or exclusion or separation of minority or low-income populations from the broader community.

Prime and Unique Agricultural Lands

There are no agricultural lands within Yosemite National Park; thus, no further discussion of this topic is necessary. Also, no alternative in this *Merced River Plan/DEIS* would have any direct or indirect effects on downstream agricultural lands.

Public Health and Safety

Public health and safety is not presented as a separate topic in this environmental impact statement. Instead, park-related public health and safety issues are adequately addressed under other analysis topics, such as water quality, visitor experience, and park operations and facilities.

Land Use

Land use within the Merced River corridor is managed under a variety of federal laws, NPS policies, and Yosemite National Park policies and plans. The following laws and policies direct land use in the Merced River corridor: the NPS Organic Act, the Yosemite enabling legislation, the Wild and Scenic Rivers Act, and the Wilderness Act. These all call for the conservation and preservation of the natural, cultural and scenic features of the park, while providing for public use and enjoyment of the area. NPS *Management Policies 2006* (NPS 2006) and associated Director's Orders direct management of natural and cultural resources, the Yosemite Wilderness, and visitor use; the policies also address development of visitor and park facilities. The *Merced River Plan* complies with all these laws and policies.

None of the *Merced River Plan/DEIS* alternatives would fundamentally affect land use within the river corridor. Under each of the alternatives, opportunities for both day and overnight recreational use would be retained. The character of the recreational use would differ under the various alternatives (for example, visitors would need to be more self sufficient under Alternative 2). However, all of the alternatives would continue existing land use under guidance of the laws, policies, and plans listed above. The changes in the character of recreational use that would occur under some alternatives are addressed under the "Visitor Experience" subsection analysis later in this chapter.

Museum Collections and Objects

The Yosemite Museum collection is not presented as a separate topic because the *Merced River Plan* does not specifically call for any data collection activities. Future projects undertaken in the river corridor could require data collection. Any effect from these projects on the Yosemite Museum collection would be addressed within project-specific compliance documents.

Cumulative Impacts

The environmental consequences sections also include a discussion of the *cumulative impacts*, which considers the *Merced River Plan/DEIS* in the context of other past, current, or proposed projects in the area. A cumulative impact is described in regulations developed by the CEQ (CEQ regulation 1508.7), as follows:

A “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 other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Appendix B contains the list of past, present, and reasonably foreseeable actions considered in the cumulative impacts analysis. These cumulative actions are evaluated in conjunction with the impacts of an alternative to determine whether they would have additive effects on a particular resource or value.

General guidance and methodologies for the cumulative impacts analysis in this document follow those published by the CEQ (CEQ 1997). Cumulative impacts have been analyzed for each alternative, and are included under each analysis topic. The methodology for defining the context, intensity, duration, and type of cumulative impacts is the same as that described for evaluating impacts under the NEPA, above.

Impairment

In addition to determining the environmental consequences of the alternatives, NPS *Management Policies 2006* (NPS 2006) and NPS Director’s Order 12 require analysis of potential effects to determine if actions would impair park resources and values. Following all public review and after conclusion of the no-action period, the evaluation determination of no impairment for the selected alternative will be described documented in an Attachment to the Record of Decision for the Merced River Plan/DEIS FEIS.

Mitigation

The NPS places a strong emphasis on avoidance, minimization, and mitigation of impacts to help ensure that the activities associated with the *Merced River Plan* will protect park resources and the quality of the visitor experience. Mitigation measures include the following types of actions:

- Avoid conducting management activities that would adversely affect the resource.
- Minimize the type, duration, or intensity of the impact on an affected resource.
- Repair localized damage to the affected resource immediately after an adverse impact.
- Rehabilitate an affected resource with a combination of additional management activities.
- Compensate a long-term, major, adverse direct impact through additional strategies designed to improve an affected resource to the degree practicable.
- Recover important scientific or other data that may be lost from archaeological sites.
- Specific mitigation measures that would occur prior to, during, and after construction under all action alternatives are described in Appendix C.

The No Action Alternative Analysis

The No Action alternative represents the current management direction for the Merced River corridor, as modified by the settlement agreement (see Chapter 2). It provides a baseline from which to compare other alternatives, to evaluate the magnitude of proposed changes, and to measure the environmental effects of those changes. Pursuant to the settlement agreement, the Merced River corridor is measured as an average of not more than 320 acres of land per mile, measured from the ordinary high-water mark on both sides of the river, which sets up a protection buffer of about 0.25 mile on each side of the river (or a total corridor width of 0.5 mile). Boundaries and classifications of the river segments are discussed in Chapter 3.