

3.16 Noise

This section evaluates the potential noise impacts associated with implementation of the No-Action Alternative, the Proposed Action, and Alternative 1. The following evaluation is based on a review of local land use plans and policies and field reconnaissance to identify potential sensitive receptors in the project area.

3.16.1 AFFECTED ENVIRONMENT/ENVIRONMENTAL SETTING

Existing Noise Levels

Noise is generally defined as excessive and unwanted sound emanating from noise-producing objects. Total environmental noise exerts a sound pressure level that is generally measured with an A-weighted decibel scale (dBA), which approximates the range of sound audible to the human ear (where 10dBA is at the low threshold of hearing and 120–140dBA is the threshold of pain). Human responses to noise are subjective and can vary. Intensity, duration, frequency, time pattern of noise, and existing background noises are some factors that can influence individual responses to noise. Table 3.16-1 lists examples of dBA levels for a range of noises.

TABLE 3.16-1.
NOISE LEVELS AND ASSOCIATED EFFECTS FOR A VARIETY OF NOISE TYPES

Noise Source at a Given Distance	A-Weighted Sound Level in Decibels ^{a,b}	Noise Environments	Subjective Impression
Civil defense siren (100 feet)	140–130		Pain threshold
Jet takeoff (200 feet)	120		
	110	Rock music concert	Very loud
Pile driver (50 feet)	100		
Ambulance siren (100 feet)	90	Boiler room	
Freight cars (50 feet)	80	Printing press	Loud
Pneumatic drill (50 feet)		Kitchen garbage disposal	
Freeway (100 feet)	70		Moderately loud
Vacuum cleaner (100 feet)	60	Data processing center Department store/office	
Light traffic (100 feet)	50	Private business office	Quiet
Large transformer (200 feet)	40		
Soft whisper (5 feet)	30	Quiet bedroom	
	20	Recording studio	
	0-10		Threshold of hearing

^a A-Weighted Sound Level, dBA = The A-weighted filter de-emphasizes very-low and very-high frequency components of sound similar to the response of the human ear.

^b Values in this column show a range of noise levels, with 140 being very loud and 0-10 being very soft. Line items in the columns do not always align horizontally because the noise levels of some of the noise sources and noise environments fall between the values shown.

This noise analysis describes the existing noise environment in the vicinity of the four rehabilitation sites, determines whether the Proposed Action would result in significant noise impacts, and whether mitigation for these impacts would be required.

Noise measurements are usually taken over time to capture daily or hourly variance in noise levels. Noise levels taken over time are often reported in energy-equivalent noise level (L_{eq}), the day-night average noise level (L_{dn}), and the community noise equivalent level (CNEL). L_{eq} is an hourly average, while L_{dn} and CNEL are 24-hour weighted averages.

Noise is not considered to be a problem in Trinity County. Sources of noise in Trinity County include the following:

- highway traffic, especially commercial trucks (e.g., logging trucks, tankers)
- sawmills
- airports (light planes, helicopters)
- mining (sand and gravel excavation)
- other sources, classifiable as miscellaneous residential, commercial, and industrial sources

Noise levels in the general vicinity of the Canyon Creek rehabilitation sites are governed primarily by noise from SR 299 traffic and, to a lesser extent, sand and gravel operations. SR 299 parallels the rehabilitation sites, and the closest large sand and gravel mining operation is in the Junction City area, approximately 2 miles southeast of the Conner Creek site. Local residential and commercial vehicle traffic and miscellaneous sources (e.g., river flow, river recreationists, overhead aircraft, barking dogs, children at play) are intermittent sources of noise throughout the area.

A community noise survey was conducted in Trinity County in 2002 (Brown-Buntin 2002) as part of the update currently in process for the noise element of the County's General Plan. The survey point nearest to the proposed rehabilitation sites is the Junction City Elementary School, located approximately 2 miles southeast of the Conner Creek rehabilitation site. The survey indicated that although the noise levels were slightly higher than those expected in small communities and rural areas, they were consistent with the levels expected in small communities and rural areas; the slightly higher noise levels were caused by a water well pump near the survey point. The community noise survey results indicate that noise levels in the Junction City area range from 47 to 76 dB L_{dn} ¹. Occasional aircraft overflights, fire sirens, and construction activities were other sources of maximum noise levels. Background noise levels in the absence of these maximum-noise generating sources are largely attributable to distant traffic, water, wind, livestock, birds, and insects.

Sensitive Noise Receptors

Sensitive receptors are specific geographic points, such as schools, residences, commercial areas, or parks, where people could be exposed to unacceptable levels of noise. Given the nature of the Proposed Action, the noise-generating activities would occur throughout each of the rehabilitation site boundaries;

¹dB L_{dn} = The average equivalent sound level during a 24-hour day, obtained after addition of 10 A-weighted decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m. A-weighted decibels, abbreviated dBA, or dBa, or dB(a), are an expression of the relative loudness of sounds in air as perceived by the human ear.

however, these would occur only during short periods of time. Upon completion of the Proposed Action, the noise levels would return to the levels that occurred prior to initiation of the Proposed Action. Vehicle traffic on SR 299 and intermittent motor boat passage along the Trinity River produce the majority of ambient noise experienced by noise sensitive receptors in the project area.

Noise-sensitive receptors that have been identified in the general vicinity of the four rehabilitation sites include private residential areas, a commercial enterprise, and persons, primarily recreationists (e.g., hikers, picnickers, anglers, rafters), and wildlife that use the Trinity River corridor. Noise tolerance levels for these groups are subjective, varying widely between individuals. A detailed discussion of wildlife species that are known to occur or have the potential to occur in the project vicinity is provided in Section 3.7.

There are 10 stationary sensitive receptors in the vicinity of the four rehabilitation sites (Figure 3.16-1a – d). Each of these stationary sensitive receptors is located within approximately 0.25 mile of SR 299 and the Trinity River. Each of the 10 sensitive receptors receives varying degrees of ambient noise levels from the highway and the river. However, vegetation and topography create buffers to these noise sources, reducing the intensity, duration, frequency, and time pattern of generated noise. These natural buffers would also aid in buffering noise from project construction activities. Sensitive receptors identified within 1,000 feet of the project site boundaries for each of the rehabilitation sites are listed in Table 3.16-2.

TABLE 3.16-2.
 SENSITIVE NOISE RECEPTORS WITHIN 1,000 FEET OF THE CANYON CREEK
 REHABILITATION SITES

Receptor Number	Description	Approximate Distance to Nearest Rehabilitation Area
Conner Creek Rehabilitation Site		
1	Residential area	160 feet to R-2
2	Residential area	110 feet to U-2
Valdor Gulch Rehabilitation Site		
3	Residential area	500 feet to U-1
4	Residential area	600 feet to R-2
5	Residential area	450 feet to R-2
6	Commercial area	220 feet to R-1
Elkhorn Rehabilitation Site		
7	Residential area	110 feet to R-1 through R-5
8	Residential area	350 feet to R-6 and R-7
9	Residential area	1,500 feet to U-2
Pear Tree Gulch Rehabilitation Site		
10	Residential area	200 feet to U-1

Insert Figure

3.16-1a Sensitive Receptor Locations

Conner Creek Rehabilitation Site

Insert Figure

3.16-1b Sensitive Receptor Locations

Valdor Gulch Rehabilitation Site

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3.16-1c Sensitive Receptor Locations

Elkhorn Rehabilitation Site

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3.16-1d Sensitive Receptor Locations

Pear Tree Gulch Rehabilitation Site

Table 3.16-3 lists the U.S. General Services Administration maximum noise levels allowed for government contract construction activities.

TABLE 3.16-3.
 U.S. GENERAL SERVICES ADMINISTRATION MAXIMUM NOISE LEVELS ALLOWABLE
 FOR GOVERNMENT CONTRACTS

Equipment	Sound Level (dBA) at 50 feet
Earthmoving	
Front loader	75
Backhoe	75
Dozer	75
Tractor	75
Scraper	80
Grader	75
Truck	75
Paver	80
Impact	
Pile driver	95
Jack hammer	75
Rock drill	80
Pneumatic drill	80
Materials handling	
Concrete mixer	75
Concrete pump	75
Crane	75
Derrick	75
Stationary	
Pump	75
Generator	75
Compressor	75
Other	
Saw	75
Vibrator	75

Source: Sincero and Sincero 1996

Typical construction noise levels are shown in Table 3.16-4. This table assumes operations of various construction equipment, as indicated in Table 3.16-5.

TABLE 3.16-4.
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Stage	Noise Level (dBA, L _{eq}) ¹
Ground clearing	84
Excavation	89
Hauling	88
Revegetation	65

¹ Average noise levels 50 feet from the noisiest source and 200 feet from the rest of the equipment associated with a given construction stage. Noise levels correspond to public works projects (50 dBA ambient environment). Source: Bolt 1971

TABLE 3.16-5.
CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	Maximum Level, dBA at 50 feet
Truck	75
Scrapers	80
Bulldozers	75
Backhoe	75
Pneumatic tools	80

Source Sincero and Sincero 1996

3.16.2 RELEVANT PLANS AND POLICIES

Trinity County

Trinity County has no specific noise standards, but a draft noise element of the General Plan and implementing ordinance are under review for adoption (Brown-Buntin 2002). The current adopted noise element that was prepared in 1974 makes only recommendations and has no implementing ordinance. The Draft County Noise Ordinance was considered by the County Board of Supervisors for approval in June 2003, and the County Planning Department was instructed to continue working on it and present it at some point in the future. County staff indicate there is no expectation that a Draft County Noise Ordinance will be approved prior to completion of the NEPA/CEQA process for the Proposed Action.

The Trinity County General Plan identifies a specific recommendation that is applicable to the Proposed Action. This recommendation states: *“It must be realized that although noise is not a health problem in Trinity County, it is a major annoyance in some areas and should be abated, when feasible, to the benefit of everyone.”* Mitigation measures specific to project construction activities will be applied to meet this recommendation.

Project Consistency with the Trinity County General Plan and Community Plans

This section compares the goals and objectives of the Proposed Action to the relevant local planning policies (i.e., Trinity County General Plan, Junction City Community Plan) to determine if there are any inconsistencies.

The goals and objectives described in Chapter 1 are generally compatible with the applicable General Plan goals and policies summarized above. The overall goal of the Proposed Action is to rehabilitate the sites so that they function in a manner that is closer to historic conditions (e.g., pre-Lewiston Dam).

3.16.3 ENVIRONMENTAL CONSEQUENCES/IMPACTS AND MITIGATION MEASURES

Methodology

Since the Proposed Action would not result in a noticeable increase in traffic volume, the focus of this impact analysis will be on construction noise. Construction noise impacts are based on an assumed mixture of construction equipment and related noise levels. Noise levels of individual types of equipment are based on industry averages. Assumptions related to construction equipment and industry noise averages were used to evaluate construction-related noise impacts.

Implementation of the Proposed Action would occur during a relatively short time period (approximately 6 to 12 months). Associated activities would consist of several distinct phases, including site preparation (minor grading and grubbing), excavation, transport and placement of excavated material, and revegetation of the rehabilitation areas. Noise levels used to evaluate project construction were taken from literature that assumes a typical mix of construction equipment used in the construction of public works projects (Bolt 1971). These construction noise levels were used to determine the noise levels at the nearest sensitive receptors.

Significance Criteria

Based on Appendix G of the *CEQA Guidelines*, the Proposed Action would be considered to have a significant direct noise impact if it results in a noise increase and:

- exposure of persons to or generation of excessive ground-borne vibration or ground borne-noise levels;
- a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels; and
- exposure of persons to or generation of noise levels in excess of standards established in the Trinity County General Plan Noise Element, or applicable standards of other agencies.

Impacts and Mitigation Measures

Table 3.16-6 summarizes the potential noise impacts resulting from construction of the Proposed Action.

TABLE 3.16-6.
SUMMARY OF NOISE IMPACTS FOR THE NO-ACTION ALTERNATIVE, PROPOSED ACTION, AND ALTERNATIVE 1

Impact	Project Site	No-Action Alternative	Proposed Action	Alternative 1	Proposed Action with Mitigation	Alternative 1 with Mitigation
1. Construction activities associated with the project would result in temporary noise impacts to nearby sensitive receptors.	All sites	NI	S	S	LS	LS

Notes:

LS = Less than Significant S = Significant SU = Significant Unavoidable
 NI = No Impact B = Beneficial N/A = Not Applicable

All Sites (Conner Creek, Valdor Gulch, Elkhorn, and Pear Tree Gulch)

Impact 3.16-1: Construction activities associated with the project would result in noise impacts to nearby sensitive receptors. ***No Impact for No-Action Alternative; Significant Impact for Proposed Action and Alternative 1***

No-Action Alternative

Under the No-Action Alternative, no change in ambient noise levels would occur because the project would not be constructed.

Proposed Action

During the construction phase of the project, noise from construction activities would dominate the noise environment in the immediate area. As shown in Table 3.16-4, construction activities would generate noise levels ranging from 70 to 90 dBA at a distance of 50 feet, although intervening terrain and vegetation could reduce these noise levels. Construction noise would be temporary and is expected to last for 3 to 6 weeks at each site. There would be no permanent noise impacts as a result of project implementation.

Ten sensitive receptors are located in the immediate vicinity of the four rehabilitation sites (Figures 3.16-1 through 3.16-4). Sensitive receptors identified within 1,000 feet of the four rehabilitation sites are listed in Table 3.16-2. Each sensitive receptor is located at least 100 feet from the nearest proposed activity. During the construction phases of the project, noise from construction activities would dominate the noise environment in the immediate area. This would be considered a significant impact.

Construction activities would typically occur during normal working hours. No nighttime construction activities are proposed; however, incidental project activities (i.e., security, equipment service) in support of the project could occur at night. The noise levels associated with incidental activities would not exceed

ambient noise levels in the project vicinity (e.g., noise from SR 299 traffic). No construction activities would occur on Sundays.

Alternative 1

Noise impacts would be lower under Alternative 1 than under the Proposed Action. Under Alternative 1, there would be less excavation at the Conner Creek and Elkhorn sites and less time would be required to rehabilitate these sites. At the Conner Creek site, rehabilitation activities would not occur at activity areas R-1 and R-2, therefore reducing the noise impacts associated with sensitive receptor #1. Proposed activities within the vicinity of sensitive receptor #2 at the Conner Creek site would be the same under both the Proposed Action and Alternative 1. At the Elkhorn site, rehabilitation activities would not occur in activity areas R-2, R-4, and R-5, therefore reducing the noise impacts associated with sensitive receptor #7. Proposed activities within the vicinity of sensitive receptors #8 and #9 at the Elkhorn site would be the same under both the Proposed Action and Alternative 1. It is anticipated that ground vibration associated with project rehabilitation activities under the Proposed Action and Alternative 1 will not be detectable at adjacent land uses, nor will it result in structural damage.

Mitigation Measures

No-Action Alternative

Since no significant impact was identified, no mitigation is required.

Significance after Mitigation: N/A.

Proposed Action and Alternative 1

- 1a:** Construction activities near residential areas would be scheduled between 7:00 AM and 7:00 PM, Monday through Saturday. No construction activities shall be scheduled for Sundays or other hours and days established by the local jurisdiction (i.e., Trinity County). The contractor may submit for variances in construction activity hours, as needed.
- 1b:** Reclamation shall require in construction specifications that the contractor maintain all construction equipment with manufacturer's specified noise muffling devices.
- 1c:** Reclamation shall require in construction specifications that the contractor place all stationary noise-generating equipment as far away as feasibly possible from sensitive noise receptors or in an orientation minimizing noise impacts (i.e., behind existing barriers, storage piles, unused equipment).

Significance after Mitigation: Less than significant.