SECTION 3.10

Noise

3.10 Noise

3.10.1 Introduction and Summary

This section addresses the local regulations and standards for limiting noise levels for a variety of noise-generating activities within the LCR, IID water service area and AAC, and Salton Sea geographic subregions. In general, noise-generating activities include traffic and air travel, and industrial and agricultural. Noise-generating activities associated with the Proposed Project and Alternatives include construction and pump operation.

This section includes an explanation of the measurement and characterization of noise, and a summary of existing noise sources and noise levels within the geographic subregions. This section also presents the impacts to noise as a result of implementing the Proposed Project and Alternatives. Temporary and short-term impacts during construction and impacts from operation are anticipated to occur, including impacts from vehicles and equipment required to construct, operate, and maintain new facilities. After mitigation, impacts would be less than significant. Table 3.10-1 illustrates a summary of noise impacts for the Proposed Project and Alternatives 1, 2, 3, and 4.

TABLE 3.10-1
Summary of Noise Impacts[1]

Proposed Project: 300 KAFY All Conservation Measures	Alternative 1: No Project	Alternative 2: 130 KAFY On-farm Irrigation System Improvements Only	Alternative 3: 230 KAFY All Conservation Measures	Alternative 4: 300 KAFY Fallowing Only
LOWER COLORADO RIVER				
No impact.	Continuation of existing conditions.	No impact.	No impact.	No impact.
IID WATER SERVICE AREA AND AAC				
N-1: Noise impacts to sensitive receptors from construction of conservation measures: Less than significant impact with mitigation.	Continuation of existing conditions, including general agricultural noise.	**A2-N-1: Noise impacts to sensitive receptors from construction of conservation measures:** Less than significant impact with mitigation.	**A3-N-1: Noise impacts to sensitive receptors from construction of conservation measures:** Less than significant impact with mitigation.	No impact.
N-2: Exposure to long-term operation noise: Less than significant impact with mitigation.	Continuation of existing conditions, including general agricultural noise.	**A2-N-2: Exposure to long-term operation noise:** Less than significant impact with mitigation.	**A3-N-2: Exposure to long-term operation noise:** Less than significant impact with mitigation.	No impact.


Table of Contents


Continue

TABLE 3.10-1
Summary of Noise Impacts[1]

Proposed Project: 300 KAFY All Conservation Measures	Alternative 1: No Project	Alternative 2: 130 KAFY On-farm Irrigation System Improvements Only	Alternative 3: 230 KAFY All Conservation Measures	Alternative 4: 300 KAFY Fallowing Only
N-3: Noise impacts from lateral interceptor pumps: Less than significant impact with mitigation.	Continuation of existing conditions, including general agricultural noise.	No impact.	**A3-N-3: Noise impacts from lateral interceptor pumps:** Less than significant impact with mitigation.	No impact.
N-4: Noise from compliance with the IOP: Less than significant impact with mitigation.	Continuation of existing conditions, including general agricultural noise.	**Same as N-4.**	**Same as N-4.**	**Same as N-4.**
HCP-IID-N-5: Noise impacts to sensitive receptors from construction of new marsh habitat or drain channels. Less than significant impact.	Continuation of existing conditions, including general agricultural noise.	**Same as HCP-IID-N-5.**	**Same as HCP-IID-N-5.**	**Same as HCP-IID-N-5.**
SALTON SEA				
No impact.	No impact.	No impact.	No impact.	No impact.
SDCWA SERVICE AREA				
No impact.	No impact.	No impact.	No impact.	No impact.

[1] Programmatic level analyses of USFWS' biological conservation measures in LCR subregion. Subsequent environmental documentation will be required if potential impacts are identified.

3.10.2 Regulatory Framework

3.10.2.1 Federal Regulations and Standards

Federal legislation pertaining to noise includes:

- Noise Pollution and Abatement Act of 1970
- Trust Communities Act of 1978
- Noise Control Act of 1972
- Occupational Safety and Health Act of 1970

However, for the purposes of environmental impact evaluations of local projects, local noise ordinances and policies are generally used as guidance for setting noise-related significance standards.

3.10.2.2 Local Regulations and Standards

NOISE TERMINOLOGY

Several weighting scales are used to measure noise levels. The basic unit of measurement that indicates the relative amplitude of sound is the decibel (dB). The zero on the dB scale is based on the lowest sound level that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dB represents a ten-fold increase in acoustic energy, while an increase of 20 dB is 100 times more intense, an increase of 30 dB is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10-dB increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

There are several methods of characterizing sound. The most common is the A-weighted dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy equivalent sound / noise descriptor is called equivalent noise level (L_{eq}). The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration. Table 3.10-2 shows typical A-weighted noise levels measured in the environment and in industry (Beranek 1988).

Because sensitivity to noise increases during the evening and at night—since excessive noise interferes with the ability to sleep—24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level (CNEL) is a measure of the cumulative noise exposure in a community with approximately 5 dB penalty added to evening (7:00 pm to 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm to 7:00 am) noise levels. The day / night average sound level (L_{dn}) is essentially the same as CNEL, without applying any penalty to noise events occurring in the evening time period.

IMPERIAL COUNTY NOISE STANDARDS

The primary regulatory documents that establish noise standards in the county are the Imperial County General Plan Noise Element and the Imperial County Noise Abatement and Control Ordinance. Relevant standards from both documents are discussed below by type of standard (e.g. for construction noise or operation noise) and are referenced as to which document they are from.

Sensitive Receptors. As defined in the Imperial County General Plan Noise Element, sensitive noise receptors are, in general, areas of habitation where the intrusion of noise has the potential to adversely impact the occupancy, use or enjoyment of the environment. Sensitive receptors include, but are not limited to, residences, schools, hospitals, parks and office buildings. Sensitive receptors may also be non-human species. Many riparian bird species are sensitive to excessive noise.

TABLE 3.10-2
Typical Sound Levels Measured in the Environment and Industry

Noise Source at a Given Distance	A-Weighted Sound Level in Decibels[1]	Noise Environments	Subjective Impression
	140		
Civil defense siren (100 ft)	130		
Jet takeoff (200 ft)	120		Pain threshold
	110	Rock music concert	
Pile driver (50 ft)	100		Very loud
Ambulance siren (100 ft)			
	90	Boiler room	
Freight cars (50 ft)		Printing press plant	
Pneumatic drill (50 ft)	80	In kitchen with garbage disposal running	
Freeway (100 ft)	70		Moderately loud
Vacuum cleaner (10 ft)	60	Data processing center	
Department store			
Light traffic (100 ft)	50	Private business office	
Large transformer (200 ft)	40		Quiet
Soft whisper (5 ft)	30	Quiet bedroom	
	20	Recording studio	
	10		
	0		Threshold of hearing

[1] A-Weighted Sound Level, dB: The A-weighted filter de-emphasizes very low and very high frequency components of sound similar to the response of the human ear. All sound levels in this EIR/EIS are A-weighted.
Source: Baraneck 1988

Construction Noise. The Imperial County General Plan limits sound levels from construction activities during specific hours of the day and night through a set of construction noise standards, presented below in Table 3.10-3 (County of Imperial 1997c). The standards apply to the noise measured at the nearest sensitive receptor.

Operation Noise. The Imperial County General Plan Noise Element includes Property Line Noise Limits, listed in Table 3.10-4, that apply to noise generation from one property to an adjacent property (County of Imperial 1997c). The standards imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate. An analysis is required for any project that has the potential to generate noise in excess of the Property Line Noise Limits. The Imperial County Noise Abatement and Control Ordinance also includes property line noise limits that are consistent with those listed below.

TABLE 3.10-3
Construction Noise Standards, County of Imperial, CA

Duration of Construction	Noise Source	Sound Level (dB L_{eq}) [1]	Period of Averaging (hours)	Restricted Hours of Operation
Short-term (days or weeks)	Single piece of construction equipment	75	8	7 am to 7 pm Monday-Friday 9 am to 5 pm Saturday No commercial construction operation is permitted on Sundays and holidays.
Short-term (days or weeks)	Combination of pieces of construction equipment	75	8	7 am to 7 pm Monday-Friday 9 am to 5 pm Saturday No commercial construction operation is permitted on Sundays and holidays.
Extended-term [2]	Single piece of construction equipment	75	1	7 am to 7 pm Monday-Friday 9 am to 5 pm Saturday No commercial construction operation is permitted on Sundays and holidays.
Extended-term [2]	Combination of pieces of construction equipment	75	1	7 am to 7 pm Monday-Friday 9 am to 5 pm Saturday No commercial construction operation is permitted on Sundays and holidays.

[1] As measured at the nearest sensitive receptor.

[2] The standards assume a construction period, relative to an individual sensitive receptor, of days or weeks. The standard can be made more restrictive in cases of extended-length construction times.

L_{eq} = unit for measuring environmental sounds; dB = decibel
Source: County of Imperial 1997c

TABLE 3.10-4
Operation Noise Standards, County of Imperial, CA

Land Use Zone	Time	Applicable Limit 1-hour Average Sound Level (dB)
Residential Zones	7 am to 10 pm	50
	10 pm to 7 am	45
Multi-residential Zones	7 am to 10 pm	55
	10 pm to 7 am	50
Commercial Zone	7 am to 10 pm	60
	10 pm to 7 am	55
Light Industrial/Industrial Park Zones	Anytime	70
General Industrial Zones (inc. agriculture operations)	Anytime	75

Source: County of Imperial General Plan Noise Element 1997c.
Note: When the noise-generating property and the receiving property have different uses, the more restrictive standard shall apply. When the ambient noise level is equal to or exceeds the Property Line noise standard, the increase of the existing or proposed noise shall not exceed 3 dB L_{eq}.

A Noise Impact Zone is an area that is likely to be exposed to significant noise. The County of Imperial defines a Noise Impact Zone as an area that may be exposed to noise greater than 60 dB CNEL or 75 dB L_{eq} (averaged over one hour). The purpose of the Noise Impact


Table of Contents Continue

Zone is to define areas and properties where an acoustical analysis of a Proposed Project is required to demonstrate project compliance with land use compatibility requirements and other applicable environmental noise standards. Any property within one-quarter mile (1,320 feet) of existing farmland that is in an agricultural zone is included in the definition of a Noise Impact Zone. The noise/land use compatibility guidelines for the Agriculture Land Use category in the Imperial County General Plan are as shown in Table 3.10-5.

TABLE 3.10-5
Noise/Land Use Compatibility Guidelines for Agriculture Land Use, County of Imperial, CA

Compatibility Category	CNEL (dB)	Compatibility Guidelines
Normally Acceptable	Less than 70	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
Conditionally Acceptable	70 - 75	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.
Normally Unacceptable	75-80	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable	Over 80	New construction or development clearly should not be undertaken.

Source: County of Imperial General Plan Noise Element 1997c.
CNEL: Community Noise Equivalent Level

An acoustical analysis is required for any project which would be located, all or in part, in a Noise Impact Zone. According to the Imperial County General Plan Noise Element, if the future noise levels from the project are within the "normally acceptable" noise level guideline, but result in an increase of 5 dB CNEL or greater, the project would have a potentially significant noise impact and mitigation measures must be considered. If the future noise level after the project is completed is greater than the "normally acceptable" noise level, a noise increase of 3 dB CNEL or greater should be considered a potentially significant noise impact and mitigation measures must be considered.

Right to Farm Ordinance. In recognition of the role of agriculture in the county, Imperial County has adopted a Right to Farm ordinance (Division 2, Title 6 of the Codified Ordinances of the County of Imperial). This ordinance requires a disclosure to land owners near agricultural land operations, or areas zoned for agricultural purposes. The disclosure advises persons that discomfort and inconvenience from machinery resulting from conforming and accepted agricultural operations are a normal and necessary aspect of living in the agricultural areas of the county (County of Imperial 1993).

RIVERSIDE COUNTY NOISE STANDARDS

Sensitive Receptors. Sensitive receptors are recognized in the Riverside County Comprehensive General Plan and include certain agricultural operations involving livestock, recreational lands, and wildlife habitat. The Riverside County Comprehensive General Plan (Riverside County 1984) addresses abatement of noise sources for these sensitive uses by guiding the location and future development of the county based on

existing and predicted noise levels. These policies include guidance related to the preferable location of noise sensitive land uses in areas of low level community noise and the use of proper siting and physical barriers of an intensive noise source near sensitive land uses.

Construction Noise. Construction noise standards for Riverside County are found in Title 15.04.020 of the Riverside County Code. The Riverside County Code does not provide construction noise limits; however, it does restrict construction activities within one-quarter mile of an occupied residence(s) to the hours of 6 am to 6 pm during the months of June through September. During the months of October through May, such construction activities are restricted to the hours of 7 a.m. to 6 p.m. Exceptions to these standards are developed with the consent of a County building official. (Riverside County 2001).

Operation Noise. According to the Riverside County Department of Industrial Hygiene (Riverside County Department of Industrial Hygiene 2000), stationary source noise, "as projected to any portion of any surrounding property containing an occupied residential structure," must not exceed the following worst-case noise levels:

- 45 dBA 10-minute L_{eq} between 10 pm and 7 am (nighttime standard); and
- 65 dBA 10-minute L_{eq} between 7 am and 10 pm (daytime standard).

3.10.3 Existing Setting

3.10.3.1 Lower Colorado River

The primary sources of noise along the LCR include transportation sources, including aircraft, rail lines, and motor vehicles; industrial sources, including rail switching yards, utilities, and manufacturing facilities; agricultural operations; and recreational activities (County of Imperial 1997c). I-10, SR 95, SR 78, Highway 62, the Burlington Northern and Sante Fe (BNSF) Railroad rail line, the SPRR rail line, Parker Dam, and Imperial Dam are the primary sources of noise along the LCR.

Other noise sources are associated with developed recreation sites managed by BLM. Noise from recreational sources includes active and passive recreational noise sources from tent and RV camping, swimming, and boating (power boating and fishing). Existing recreational resources along the LCR are discussed further in Section 3.6.

SENSITIVE RECEPTORS

Because land use in the LCR geographic subregion is primarily recreational, there are few areas that include sensitive receptors other than scattered, isolated residences.

3.10.3.2 IID Water Service Area and AAC

Primary sources of noise in the IID water service area include aircraft, geothermal hydroelectric facilities, agricultural equipment, rail traffic, and vehicle traffic (County of Imperial 1997c). Rural areas within the IID water service area do not fall within the 60 dB or higher noise limit contours for airports in Imperial County. The Imperial County General Plan does not provide noise data for existing geothermal power plants. Existing geothermal power plants are located in the southeast Salton Sea, Heber, and East Mesa areas.

AGRICULTURAL OPERATIONS NOISE

The predominant land use in Imperial County is agriculture. Noise sources associated with agricultural operations include the field machinery, especially diesel engine driven heavy trucks, used for the delivery of supplies and the distribution of products; and aircraft, used for the spraying of crops (County of Imperial 1997c). Typical electric pump noise emissions from agricultural operations range from 69 – 77 dBA at 50 feet.

RAILROAD NOISE

SPRR is the primary source of rail traffic noise in the IID water service area. In 1990, noise attributable to SPRR traffic, just north of the Riverside County border, was documented by Imperial County (County of Imperial 1997c). The results of this assessment are presented in Table 3.10-6. Subsequent to the compilation of the latter data, operations data for 1992 were reviewed for the main SPRR line and were determined to be similar to those for 1988 (i.e., an average of about 40 trains per day) (County of Imperial 1997c). According to the Imperial County General Plan, the data summarized in Table 3.10-6 are representative of existing conditions. Railroad noise from spur tracks presents much less noise than noise from main rail lines. The SPRR branch to Imperial and Calexico averages four trains per day. Figure 3.13-1 in Section 3.13, Transportation, presents the location of the railroads discussed in this section.

TABLE 3.10-6
Existing Railroad Noise Levels

Distance (ft)	100	200	300	400	500	700	1,000	2,000	5,000
CNEL (dBA)	74	70	67	64	62	60	57	51	44

Notes: ft = feet; CNEL = Community Noise Equivalent Level; dBA – decibel A-weighted
Source: County of Imperial 1997c

ROADWAY NOISE

I-8, SR 86/78, SR 98, SR 111, and SR 115 are the primary sources of vehicular noise in the IID water service area. Figure 3.13-2 in Section 3.13, Transportation, shows the routes of these roadways. Data regarding the interstate and state highways in Imperial County, vehicle volumes, percent of each vehicle type, and calculated distances to the 60, 65, and 70 dB CNEL contours are presented in Table 3.10-7.

SENSITIVE RECEPTORS

Sensitive receptors in the IID water service area and AAC geographic subregion include residences, schools, hospitals, parks, and office buildings that could occur in the incorporated and unincorporated communities of the IID water service area, as well as rural residences throughout the IID water service area. Riparian birds species sensitive to excessive noise occur in the geographic subregion as described in Section 3.2, Biological Resources.

TABLE 3.10-7
Imperial County Interstate and State Highway Traffic and Noise Data (Existing Conditions)

Road Segment	Traffic Volume (thousands)	Speed (mph)	Vehicle Mix (percent)			Distance in feet to CNEL Contour		
			Auto	Medium	Heavy	70 dB	65 dB	60 dB
I-8								
w/o[1] Ocotillo	10.7	65	84	4.8	11.2	180	565	1605
e/o Ocotillo	8.6	65	84	4.8	11.2	145	455	1355
w/o El Centro	10.9	65	87	4.0	9.0	170	524	1455
e/o El Centro	22.9	65	89	3.4	7.6	325	1005	2205
e/o 111	8.4	65	83	5.0	12.0	145	455	1355
w/o 115	6.5	65	81	4.8	14.2	125	380	1155
e/o 115	7.2	65	77	4.6	18.4	160	495	1405
e/o 98	8.7	65	80	4.4	15.6	170	530	1505
w/o 186	10.7	65	80	4.4	15.6	215	655	1705
e/o 186	14.0	65	80	4.4	15.6	275	855	2005
SR 78								
w/o 86	0.6	55	66	6.1	27.9	*	*	135
e/o 111S	3.5	55	70	2.1	27.9	80	240	775
e/o 115S	1.5	55	73	7.0	20.0	*	85	275
SR 86								
w/o 111	4.3	55	93	4.8	2.2	*	105	315
s/o 8	9.2	55	94	4.1	1.9	70	205	630
s/o 78E	13.5	55	90	4.8	5.2	130	385	1180
nw/o Brawley	5.3	55	78	6.8	15.2	85	245	780
s/o 78W	4.6	55	52	5.1	42.9	150	465	1380
n/o 78W	4.1	55	52	5.0	43.0	135	410	1225
SR 98								
e/o Ocotillo	1.8	55	89	4.6	6.4	*	55	175
w/o Drew	2.1	55	89	2.6	8.4	*	70	220
w/o 111	12.0	55	93	2.8	4.2	95	300	950
w/o 8	0.9	55	77	2.3	20.7	*	50	160
SR 111								
s/o 86W	25.0	55	92	4.4	3.6	205	635	1655
s/o 8	22.0	55	93	3.7	3.3	170	535	1505

TABLE 3.10-7
Imperial County Interstate and State Highway Traffic and Noise Data (Existing Conditions)

Road Segment	Traffic Volume (thousands)	Speed (mph)	Vehicle Mix (percent)			Distance in feet to CNEL Contour		
			Auto	Medium	Heavy	70 dB	65 dB	60 dB
n/o 8	9.5	55	87	5.9	7.1	100	310	980
s/o 78	6.9	55	84	7.2	8.8	80	240	775
n/o 78	7.1	55	82	7.5	10.5	90	285	900
s/o 115	7.1	55	79	7.5	13.5	100	210	980
n/o 115	5.6	55	82	7.5	10.5	70	225	700
s/o Riv. Cty.	3.5	55	71	12.2	16.8	60	190	600
SR 115								
n/o 8	2.1	55	63	9.3	27.7	49	155	485
s/o 78	2.7	55	68	7.9	24.1	55	175	560
n/o 78	1.3	55	18	19.7	62.3	60	185	590
SR 186	2.0	55	90	8.8	1.2	*	50	150

Notes:
[1] w/o: west of; e/o: east of; s/o: south of; n/o: north of; nw/o: northwest of
* indicates contours lies within the right-of-way
All calculations assume flat, hard terrain with no obstructions; actual conditions
Source: County of Imperial General Plan Noise Element 1997c

3.10.4 Impacts and Mitigation Measures

3.10.4.1 Methodology

Evaluation of potential noise impacts from the Proposed Project included reviewing relevant federal, state, and county noise standards; characterizing the existing noise environment; and projecting noise emissions from the construction and operation activities that could occur in the Proposed Project area. The analysis conducted in this EIR/EIS is a qualitative assessment of noise impacts that could result from implementation of the Proposed Project and Alternatives. The potential for noise impacts is associated with construction and operation of the water conservation measures and the increase in pumping at diversion on the LCR. Because of the potential for conservation measures to be constructed at various locations throughout the Proposed Project area, qualitative assumptions have been made regarding the types of noise sources, their sound levels, and the duration of their operation.

Construction Noise

Construction of the water conservation components of the Proposed Project and Project Alternatives and of the habitat creation under the HCP would be typical of current on-farm building construction/improvements in terms of equipment and traffic noise. Table 3.10-8 includes the standard noise emissions for construction equipment that would be temporarily operating at various sites throughout rural Imperial Valley during the

construction of on-farm facilities, creation/restoration of HCP habitat areas, and improvement of existing facilities, as required.

TABLE 3.10-8
Description of Equipment Associated with IID Water Conservation Alternatives

Source	Size (bhp)	Type	Fuel	Noise Level at Receiver (dBA)		
				50 ft	500 ft	2000 ft
Backhoe	100	Off-Road	Diesel	85	65	53
Chain Trencher, Riding	40	Off-Road	Diesel	77	57	45
Compactor	80	Off-Road	Diesel	80	60	48
Concrete Mix Truck	200	On-Road	Diesel	85	65	53
Dozer, D-6	165	Off-Road	Diesel	83	63	51
End Loader	170	Off-Road	Diesel	84	64	52
Excavator	250	Off-Road	Diesel	85	65	53
Loader	180	Off-Road	Diesel	83	63	51
Scraper	175	Off-Road	Diesel	84	64	52
Slipform Paver	300	Off-Road	Diesel	89	69	57
Utility Truck, 1 ton[1]	200	On-Road	Gasoline	77	62	53

[1] Moving at 40 mph, engine operating at full throttle.
Sources: EPA 1971; Empire State Electric Energy Research Corporation 1977.

Operation Noise

Operation of the conservation components of the Proposed Project would include the use of various electric pumps similar to pumps currently in use on-farm. Assumptions regarding the type and size of pumps that would be used are listed in Table 3.10-9.

TABLE 3.10-9
Typical Noise Emissions for Electric Pumps

Conservation Measure	Type of Pump	Sound Level at 50 ft (dBA)	Duration of Operation
Tailwater Return System	Nondiesel, truckmounted	77	Intermittent
Drip Irrigation	25-50 hp[1]	69-72	Intermittent- running approximately 40% of the time
Lateral Interceptor System	Max 500 hp[1]	78	Intermittent- running approximately 50% of the time
Mid-Lateral Reservoirs	25 hp[1]	Up to 69	If necessary, running approximately 30% of the time
Seepage Interceptors	25-50 hp[1]	69-72	Continuous

[1] Pump size is an estimate. Actual size of pump would depend on exact system built for the different conservation measures.
Source: Miller 1982.

Subregions Excluded from Impact Analysis. No new facilities will be constructed within the SDCWA service area and the Salton Sea subregions, and no changes in operations would

occur that would result in noise impacts in these subregions. Therefore, these subregions are not discussed in the impact analysis.

3.10.4.2 Significance Criteria

The Proposed Project and / or Alternatives would have a significant impact from noise if they:

- Expose persons to or generate noise levels in excess of standards established in an adopted general plan or noise ordinance that pertains to the Project region of influence, or applicable standards of other agencies.
- Expose persons to or generate excessive groundbourne vibration or groundbourne noise levels.
- Result in a substantial, permanent increase in ambient noise levels in the project vicinity above levels existing without the Project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the Project.

3.10.4.3 Proposed Project

LOWER COLORADO RIVER

Water Conservation and Transfer

Because the Proposed Project would not include construction of new or improvement of existing facilities in the LCR subregion, no construction noise impacts would occur.

Biological Conservation Measures in USFWS' Biological Opinion

Implementation of the biological conservation measures may result in minor, temporary noise impacts during habitat construction activities.

Noise impacts from construction of the biological conservation measures in USFWS' Biological Opinion would be the same for Alternatives 2, 3, and 4; therefore, they are not discussed under each Alternative.

IID WATER SERVICE AREA AND AAC

Water Conservation and Transfer

Impact N-1: Noise impacts to sensitive receptors from construction of conservation measures. Implementation of the Proposed Project could result in the construction of new on-farm facilities and improvement or expansion of the existing water delivery system in the irrigated portion of rural Imperial Valley. Construction activities that might be required for the conservation of 300 KAFY could expose sensitive receptors, including riparian bird species, to temporary construction noise. As shown in Table 2-3, which describes the construction process associated with each of the on-farm and water delivery system improvements, and Table 3-10.8, which lists the corresponding noise of each piece of construction equipment, the potential exists for sound levels to exceed 75 dB L_{eq} over an 8-hour period. Specific construction equipment that would be used for each conservation measure, and the potential resulting noise levels, are listed below in Table 3.10-10.

Because 75 dBA L_{eq} over an 8-hour period exceeds County of Imperial construction noise standards, direct construction noise impacts to sensitive receptors, including riparian bird species, from the Proposed Project in the Imperial Valley could be considered potentially significant and would require appropriate mitigation measures to reduce the impact to a less than significant level.

TABLE 3.10-10
Expected Conservation Measure Construction Noise Impacts in the IID Water Service Area

Conservation Measure	Construction Equipment Required	Sound Level at 50 ft (dBA)[1]
On-farm Irrigation System Improvements		
Tailwater Return System	Scraper, D-6 dozer, backhoes, excavators, 1-ton utility truck, loader, compactor	77 – 85
Cascading Tailwater	Compactor, backhoe, excavator	80 – 85
Level Basins	1-ton utility truck, 2 D-6 dozers, scraper	77 – 84
Shortening Furrows/ Border Strip Improvements	1-ton utility truck, 2 D-6 dozers, scraper	77 – 84
Narrowing Border Strips	1-ton utility truck, backhoe	77 – 85
Laser Leveling	1-ton utility truck, D-6 dozer, scraper	77 – 84
Multislope	1-ton utility truck, D-6 dozer, scraper	77 – 84
Drip irrigation	Scraper, D-6 dozer, backhoe, excavator, 1-ton utility truck, concrete mix truck, riding chain trencher	77 – 85
Water Delivery System Conservation Measures		
Lateral Interceptor System	Scraper, D-6 dozer, backhoe, 1-ton utility truck, concrete mix truck, slipform paver, compactor, end loader	77 – 89
Mid-Lateral Reservoir	D-6 dozers, backhoes, 1-ton utility trucks, scrapers, excavator	77 – 85
Regulating Reservoir	D-6 dozers, backhoes, 1-ton utility trucks, scrapers, excavator	77 – 85
Seepage Interceptors	D-6 dozer, backhoes, 1-ton utility truck, scraper, excavators	77 – 85
Conveyance Lining	Compactor, excavator, D-6 dozer, concrete mix trucks, backhoes, 1-ton utility truck	77 – 85

[1] Per individual piece of equipment

Cutback, an on-farm irrigation management technique, does not require any construction and, therefore, does not have noise impacts. Similarly, if fallowing is selected as a conservation measure, no noise impacts would occur. (Potentially significant impact.)

Mitigation Measure N-1. The following measures would be implemented to reduce noise resulting from construction activities.

- Use hydraulically or electrically powered impact tools (e.g., jack hammers) when possible. If the use of pneumatically powered tools is unavoidable, use an exhaust muffler on the compressed air exhaust.
- Install manufacturer's standard noise control devices, such as mufflers, on engineer-powered equipment.
- Locate stationary construction equipment as far from noise-sensitive receptors as possible.
- Limit construction activities to non-mating, non-nesting seasons (also see Section 3.2, Biological Resources).
- Notify nearby property users whenever extremely noisy work might occur.
- Utilize stockpiles as effective noise barriers when feasible.
- Keep idling of construction equipment to a minimum when not in use. No piece of equipment should idle in place for more than 30 minutes.
- Install temporary or portable acoustic barriers around stationary construction noise sources.

Implementation of these mitigation measures would reduce potentially significant noise impacts from construction of water conservation measures in the IID water service area to less-than-significant. (Less than significant impact with mitigation.)

Impact N-2: Exposure to long-term operation noise. Operation of measures to conserve 300 KAFY is proposed to occur solely within the irrigated portion of rural Imperial Valley.

As shown in Table 3.10-9 above, several on-farm and delivery system conservation measures, including tailwater return systems, drip irrigation, lateral interceptor systems, mid-lateral reservoirs, and seepage interceptors require the operation of pumps that produce noise at various levels, some over 70 dBA at 50 feet. These pumps could potentially exceed the Normally Acceptable noise/land use compatibility guideline of 70 dBA (see Table 3.10-5). (Potentially significant impact.)

Mitigation Measure N-2: If possible, conservation system pumps would be located at sufficient distances from sensitive receptors to ensure that noise levels at the receptor do not exceed the 70 dBA guideline. If there is no flexibility in placement of equipment, permanent or temporary barriers/semi-enclosures would be placed over the pumps to ensure adherence to the guideline. Implementation of this measure would reduce potentially significant noise impacts from conservation system pump operation in the IID water service area to a less than significant level. (Less than significant impact with mitigation.)

Impact N-3: Noise impacts from lateral interceptor pumps. Lateral interceptor system pumps, which could operate up to approximately 50 percent of the time at 78 dBA, would exceed the County operation noise standard of 75 dB (averaged sound level over one hour) for agriculture operations. (Potentially significant impact.)

Mitigation Measure N-3: If possible, lateral interceptor system pumps would be located at sufficient distances from sensitive receptors to ensure that noise levels at the nearest receptor do not exceed the Normally Acceptable noise/land use compatibility guideline of 70 dBA (see Table 3.10-5). If there is no flexibility in placement of the pumps, permanent or temporary barriers/semi-enclosures will be placed over the pumps to ensure adherence to the standard. Implementation of this measure would reduce potentially significant noise impacts from lateral interceptor system pump operation in the IID water service area to a less than significant impact.

Maintenance of the pumps for the various conservation systems would require occasional vehicular traffic; however, the change in the noise level from infrequent maintenance vehicles would likely be indistinguishable from existing farm equipment and maintenance truck traffic, and any impacts would be negligible. (Less than significant impact with mitigation.)

Inadvertent Overrun and Payback Policy (IOP)

Impact N-4: Noise impacts from compliance with the IOP. Conservation of 59 KAFY for the IOP can be accomplished via fallowing (about 9,800 acres) or other conservation measures. Noise impacts could occur during construction of additional on-farm irrigation system improvements or water delivery system improvements as described in Impact N-1 through N-3. This conservation would be in addition to the up to 300 KAFY for the Proposed Project and is part of the Proposed Project. If fallowing is selected for IOP compliance about 9,800 additional acres would be required and no noise impacts would occur. (Potentially significant impact.)

Mitigation Measure N-3: See Mitigation Measures N-1 through N-3. (Less than significant impact with mitigation.)

Impacts resulting from the compliance of IOP would be the same for Alternatives 2, 3, and 4; therefore, they are not discussed under each Alternative.

Habitat Conservation Plan (HCP-IID) (IID Water Service Area Portion)

Impact HCP-IID-N-5: Noise impacts to sensitive receptors from construction of new marsh habitat or drain channels. Construction of new marsh habitat and drain channels would require the use of standard construction equipment such as backhoes, excavators, and utility trucks. Each of these pieces of equipment emits noise at a minimum of 77 dBA, which exceeds the County of Imperial construction noise standards. Therefore, the noise impact to sensitive receptors, including riparian bird species, from construction associated with creation of marsh habitat or drain channels is potentially significant. (Potentially significant impact.)

Mitigation Measure HCP-IID-N-5. Implementation of the measures described above in Mitigation Measure N-1, especially limiting construction activities to non-mating, non-

nesting seasons, would reduce potentially significant noise impacts to less-than-significant levels.

Operation of HCP elements will not result in equipment-related noise. The increased habitat may result in an increased number of birds nesting or feeding in the IID water service area, which could result in increased noise from birds; however, these noise impacts are expected to be minor. Operation of the elements of the HCP will not result in any significant noise impacts in the IID water service area. (Less than significant impact with mitigation.)

Salton Sea Habitat Conservation Strategy (HCP-SS)

Mitigation water for the Salton Sea Habitat Conservation Strategy could be generated via fallowing in the IID water service area, but other sources of water could be used as described in Section 2.2.6.7. If fallowing is used, no noise impacts would occur.

As described in Section 2.2.6.7, the Salton Sea Habitat Conservation Strategy has been evaluated in this Final EIR/EIS with the assumption that mitigation water would be generated by fallowing within the IID water service area. Other sources of water could be used, but they have not been evaluated in this EIR/EIS.

Additionally, under the Proposed Project, the implementation of the Salton Sea Habitat Conservation Strategy in concert with the on-farm irrigation system improvement approach to conserving water for transfer was determined not to be feasible due to the number of total acres that would be needed. This is because the "efficiency conservation" measures require a 1 to 1 ratio of mitigation water to the Sea. Therefore, the combination of only on-farm and/or delivery system efficiency conservation measures required to produce 300 KAFY for transfer plus fallowing within the IID water service area as the sole method of providing the mitigation water associated with the Salton Sea Habitat Conservation Strategy has not been assessed in this Final EIR/EIS.

Additional details of the Salton Sea Habitat Conservation Strategy can be found in Section 2.2.6.7.

Noise impacts resulting from implementation of the HCP would be the same for Alternatives 2, 3, and 4; therefore, they are not discussed under those Alternatives.

3.10.4.4 Alternative 1: No Project

LOWER COLORADO RIVER

With the No Project Alternative, IID would not engage in a program to conserve water for the purpose of transferring it outside the service area other than continued implementation of the 1988 IID/MWD Water Conservation and Transfer Agreement. None of the conservation measures included in the Proposed Project would be constructed or operated, and no water would be diverted from Parker Dam for transfer. The No Project Alternative would not result in any construction or noise impacts in the LCR geographic subregion.

IID WATER SERVICE AREA AND AAC

With the No Project Alternative, IID would not engage in a program to conserve water for the purpose of transferring it outside the service area other than continued implementation of the 1988 IID/MWD Water Conservation and Transfer Agreement. System improvements and modernization programs would continue as needed; however, none of the conservation

measures included in the Proposed Project would be constructed or operated, and none of the noise impacts described above for the IID water service area would occur.

3.10.4.5 Alternative 2 (A2): Water Conservation and Transfer of Up To 130 KAFY to SDCWA (On-farm Irrigation System Improvements as Exclusive Conservation Measure)

IID WATER SERVICE AREA AND AAC

Water Conservation and Transfer

Impact A2-N-1: Noise impacts to sensitive receptors from construction of conservation measures. Construction of on-farm irrigation system improvements in the IID water service area under Alternative 2 could result in potentially significant noise impacts to sensitive receptors, similar to those described above for the Proposed Project. The level of impact would be relatively less than for the Proposed Project, because fewer conservation measures would be implemented to achieve the lower level of conservation. (Potentially significant impact.)

Mitigation Measure A2-N-1. The mitigation measures listed above for the Proposed Project to reduce construction noise would need to be implemented to reduce impacts to less than significant. (Less than significant impact with mitigation.)

Impact A2-N-2: Exposure to long-term operation noise. Operation of on-farm irrigation system improvements in the IID water service area under Alternative 2 could result in potentially significant noise impacts to sensitive receptors from exposure to long-term operation noise. Pump operation noise levels could potentially exceed the normally acceptable noise/land use compatibility guideline of 70 dBA; however, the level of impact would be relatively less than for the Proposed Project due to the reduced transfer quantity. Because no distribution system improvements would be included in Alternative 2, no lateral interceptor pump systems would be installed. Potentially significant noise impacts that occur with the use of the lateral interceptor pumps in the Proposed Project would not occur with Alternative 2. (Potentially significant impact.)

Mitigation Measure A2-N-2: As described above for the Proposed Project, pumps would be located a sufficient from sensitive receptors or covered with permanent or temporary barriers/semi-enclosures to ensure that noise standards are met and impacts are reduced to less-than-significant. (Less than significant impact with mitigation.)

3.10.4.6 Alternative 3 (A3): Water Conservation and Transfer of Up To 230 KAFY to SDCWA, CVWD, and/or MWD (All Conservation Measures)

IID WATER SERVICE AREA AND AAC

Water Conservation and Transfer

Impact A3-N-1: Noise impacts to sensitive receptors from construction of conservation measures. Construction of on-farm irrigation system improvements in the IID water service area under Alternative 3 could result in potentially significant noise impacts to sensitive receptors, similar to those described above for the Proposed Project. The level of impact would be relatively less than for the Proposed Project, because fewer conservation measures would be implemented to achieve the lower level of conservation. (Potentially significant impact.)

Mitigation Measure A3-N-1. The mitigation measures listed above for the Proposed Project to reduce construction noise would need to be implemented to reduce impacts to less than significant. (Less than significant impact with mitigation.)

Impact A3-N-2: Exposure to long-term operation noise. Operation of on-farm irrigation system improvements in the IID water service area under Alternative 3 could result in potentially significant noise impacts from exposure to long-term operation noise. Pump operation noise levels could potentially exceed the Normally Acceptable noise/land use compatibility guideline of 70 dBA; however, the level of impact would be relatively less than for the Proposed Project due to the reduced transfer quantity. (Potentially significant impact.)

Mitigation Measure A3-N-2: As described above for the Proposed Project, pumps would be located a sufficient from sensitive receptors or covered with permanent or temporary barriers/semi-enclosures to ensure that noise standards are met and impacts are reduced to less-than-significant. (Less than significant impact with mitigation.)

Impact A3-N-3: Noise impacts from lateral interceptor pumps. Lateral interceptor system pumps, which would operate approximately 50 percent of the time at 78 dBA, would exceed the County operation noise standard of 75 dB (averaged sound level over one hour) for agriculture operations. (Potentially significant impact.)

Mitigation Measure A3-N-3: As described above for the Proposed Project, pumps would be located a sufficient from sensitive receptors or covered with permanent or temporary barriers/semi-enclosures to ensure that noise standards are met and impacts are reduced to less-than-significant. (Less than significant impact with mitigation.)

3.10.4.7 Alternative 4 (A4): Water Conservation and Transfer of Up To 300 KAFY to SDCWA, CVWD, and/or MWD (Fallowing As Exclusive Conservation Measure)

IID WATER SERVICE AREA AND AAC

Water Conservation and Transfer

Fallowing does not require the construction of any facilities for implementation, and no construction noise impacts would occur with Alternative 4, and no mitigation would be required.

Because fallowing would result in a decrease in the number of pieces of farm machinery required during planting and harvesting, Alternative 4 would result in beneficial impacts to operational noise levels in the IID water service area. (Beneficial impact.)