Chapter 17 – Environmental Justice

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Contents

Page

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Chapter 17 Environmental Justice

This chapter is based on the background information and technical analysis documented in Appendix T, *Environmental Justice Technical Appendix*, which includes additional information on environmental justice conditions and technical analysis of the effects of each alternative.

17.1 Affected Environment

In most portions of the study area, the availability of Central Valley Project (CVP) and State Water Project (SWP) water supplies directly or indirectly affects most of the population within a county. Therefore, the entire population of each county within the study area is considered to determine whether minority or low-income areas could be affected by the implementation of the alternatives.

The availability of CVP and SWP water supplies also affects agricultural productivity and employment. The majority of crop workers in California are Spanish-speaking (approximately 92%) and are immigrants (approximately 90%) (Cha and Collins 2022).

17.1.1 Trinity River

The Trinity River Region includes Del Norte, Humboldt, and Trinity counties.

17.1.1.1 Minority Populations

As recorded in the U.S. Census Bureau 2017–2021 American Community Survey (ACS) five-year population estimate, the Trinity River Region had a total population of 180,487 (U.S. Census Bureau 2023a). About 29% of this population identified themselves as a racial minority and/or of Hispanic or Latino origin, regardless of race. Minority populations accounted for less than 50% of each county's total population, and of the total Trinity River Region population; thus, these counties do not meet the criteria for minority populations under CEQ guidance.

17.1.1.2 Poverty Levels

According to the U.S. Census Bureau, 20.0% of the population in the Trinity River region was below the poverty level (2023b). The U.S. Census Bureau defines geographical areas with more than 20% of the population below the poverty level as "poverty areas"; thus, Humboldt and Trinity counties are defined as "poverty areas" and are subject to environmental justice evaluations.

17.1.2 Sacramento Valley Region

The Sacramento Valley Region includes Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Plumas, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba Counties. Solano County is also located within the Sacramento Valley; however, Solano County is discussed below as part of the San Francisco Bay Area Region.

17.1.2.1 Minority Populations

According to the 2021 ACS five-year dataset, the Sacramento Valley Region had a total population of 3,196,192 in 2021 (U.S. Census Bureau 2023a). Approximately 45% of this population identified themselves as a racial minority and/or of Hispanic or Latino origin, regardless of race. Although the minority population in the region as a whole accounted for less than 50% of the total region population, minority populations accounted for 50% or more of the total county population in Colusa, Sacramento, Sutter, and Yolo counties. Thus, these counties are further evaluated for environmental justice impacts.

17.1.2.2 Poverty Levels

According to the U.S. Census Bureau, 12.9% of the population in the Sacramento Valley Region was below the poverty level (2023b). Neither the region as a whole nor any of the counties within it are considered "poverty areas."

17.1.3 San Joaquin Valley Region

The San Joaquin Valley Region includes Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties.

17.1.3.1 Minority Populations

The San Joaquin Valley Region had a total population of 4,289,382 in 2021 (U.S. Census Bureau 2023a). About 69% of this population identified themselves as a racial minority and/or of Hispanic or Latino origin, regardless of race. Minority populations accounted for 50% or more of the total county populations in all San Joaquin Valley Region counties. Thus, all counties in this region are further evaluated for environmental justice impacts.

17.1.3.2 Poverty Levels

According to the U.S. Census Bureau, 17.7% of the San Joaquin Valley Region population was below the poverty level (2023b). Because the population below the poverty level in Fresno County exceeds 20% of the total population, Fresno County is considered a "poverty area" and is further evaluated for environmental justice impacts.

17.1.4 San Francisco Bay Area Region

The San Francisco Bay Area Region includes Alameda, Contra Costa, Napa, San Benito, Santa Clara, and Solano counties that are within the CVP and SWP service areas.

17.1.4.1 Minority Populations

The San Francisco Bay Area Region had a total population of 5,420,354 in 2021 (U.S. Census Bureau 2023a). About 67% of this population identified themselves as a racial minority and/or of Hispanic or Latino origin, regardless of race. Minority populations accounted for 50% or more of the total populations in Alameda, Contra Costa, San Benito, Santa Clara, and Solano counties. Thus, these counties are further evaluated for environmental justice impacts.

17.1.4.2 Poverty Levels

According to the U.S. Census Bureau, 7.9% of the San Francisco Bay Area Region population was below the poverty level (2023b). None of the counties in the San Francisco Bay Area Region are defined as "poverty areas."

17.1.5 Central Coast Region

The Central Coast Region includes San Luis Obispo and Santa Barbara Counties, portions of which are served by the SWP.

17.1.5.1 Minority Populations

The Central Coast Region had a total population of 730,422 in 2021 (U.S. Census Bureau 2023a). 47.6% of this population identified themselves as a racial minority and/or of Hispanic or Latino origin, regardless of race. Minority populations accounted for 50% or more of the total population of Santa Barbara County; thus, Santa Barbara County is further evaluated for environmental justice impacts.

17.1.5.2 Poverty Levels

According to the U.S. Census Bureau, 12.9% of the Central Coast Region population was below the poverty level (2023b). None of the counties in the Central Coast Region are considered "poverty areas."

17.1.6 South Coast Region

The South Coast Region includes Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties, portions of which are served by the SWP.

17.1.6.1 Minority Populations

The South Coast Region had a total population of 21,924,532 in 2021 (U.S. Census Bureau 2023a). About 68% of this population identified themselves as a racial minority and/or of Hispanic or Latino origin, regardless of race. Minority populations accounted for 50% or more of the total county populations in all six counties of this region. Thus, all counties within the South Coast Region are further evaluated for environmental justice impacts.

17.1.6.2 Poverty Levels

According to the U.S. Census Bureau, 12.5% of the South Coast Region population was below the poverty level (2023b). None of the counties in the South Coast Region are considered "poverty areas."

17.2 Effects of the Alternatives

The impact analysis considers changes in environmental justice related to changes in CVP and SWP operation under the alternatives as compared with the No Action Alternative.

For the purposes of this analysis, the changes in operations and flows are linked to changes in environmental justice conditions because they are related to water supply which directly or

indirectly affects most of the population within a county. Changes in water supply under the No Action Alternative could affect the availability of jobs associated with agriculture and M&I water supplies and groundwater resources. The analysis is focused on the alternatives' potential for causing disproportionately high and adverse effects on minority and/or low-income populations.

The No Action Alternative is based on 2040 conditions. Changes that would occur over that time frame without implementation of the action alternatives are not analyzed in this chapter. However, the changes to environmental justice that are assumed to occur by 2040 under the No Action Alternative are summarized in this section.

Conditions in 2040 would be different than existing conditions because of the following factors:

- Climate change and sea-level rise
- General plan development throughout California, including increased water demands in portions of the Sacramento Valley

In the long term, it is anticipated that climate change, and development throughout California, could affect water supply deliveries.

Under the No Action Alternative, Reclamation would continue with the current operation of the CVP, as described in the 2020 Record of Decision and subject to the 2019 Biological Opinions. The 2020 Record of Decision for the CVP and the 2020 Incidental Take Permit for the SWP represent current management direction or intensity pursuant to 43 CFR Section 46.30. The 2020 Record of Decision did not identify environmental justice impacts.

Although the No Action Alternative included habitat restoration projects at a programmatic level, the 2020 ROD did not provide environmental coverage for these projects, and all of the habitat projects considered under the No Action required or will require additional environmental documentation. Thus, ground disturbance for habitat restoration projects did not materialize as a result of implementing the No Action Alternative. For the purpose of the analysis, these habitat restoration projects are considered independent projects that will be considered under cumulative effects.

By the end of September, the surface water elevations at CVP reservoirs generally decline. It is anticipated that climate change would result in more short-duration high-rainfall events and less snowpack in the winter and early spring months. The reservoirs would be full more frequently by the end of April or May by 2040 than in recent historical conditions. However, as the water is released in the spring, there would be less snowpack to refill the reservoirs. This condition would reduce reservoir storage, which may result in reduced water availability and subsequent impacts on the industries and minority and/or low-income populations that rely on the water.

Under the No Action Alternative, land uses in 2040 would occur in accordance with adopted general plans, which could also result in impacts on minority and/or low-income communities. Development under the general plans could affect the availability of jobs associated with agriculture and M&I water uses and groundwater resources, depending on the type and location of development.

17.2.1 Potential Disproportionate Economic Effects on Minority or Low-Income Populations

Economic impacts could occur if changes in CVP and SWP operations under the action alternatives were to result in changes to M&I water supply deliveries and associated water costs, agricultural water supply deliveries, or recreation (only relevant in Trinity County) that would subsequently affect labor income and/or job availability within the regions. Minority and/or low-income populations could be disproportionately affected by changes in labor income and/or job availability if those changes were to occur in sectors of the labor force that predominantly employ minority and/or low-income individuals, such as the agriculture sector, more significantly than other sectors. Economic impacts could also occur if groundwater levels decreased below the maximum operable depth of existing private wells, or if reduced groundwater levels resulted in increased subsidence. This reduction could limit well owners' access to water and generate new economic burdens from procuring alternate supplies or potentially modifying their existing well(s) to access groundwater at lower levels. Reclamation acknowledges there is uncertainty in how changes in well depths associated with the alternatives may affect disadvantaged communities.

Potential changes in M&I water supply deliveries resulting from the implementation of the action alternatives are expected to affect job availability and labor income primarily within the services sector. Jobs within the services sector are not predominantly held by minority and/or low-income populations. Although changes in M&I water supply may result in effects on job availability and/or labor income within other sectors (agriculture, mining, construction, transportation, information, power and utilities, trade, service, and government), effects within these sectors are expected to be much smaller than effects within the services sector. Therefore, although impacts on job availability and/or labor income resulting from changes in M&I water supply may result in negligible to minor effects on minority and/or low-income populations, the effects are not expected to be disproportionately high or adverse on minority and/or low-income populations.

Changes in agricultural water availability resulting in changes to irrigated acreage and gross revenue in the agriculture sector have the potential to disproportionately affect minority and/or low-income populations since agricultural jobs are disproportionately held by minority and low-income individuals (Cha and Collins 2022). Generally, increases or decreases in job availability resulting from the implementation of the action alternatives would be minor, representing less than 5% of the total farm worker labor force in the region; however, Alternative 3 has the potential to cause more significant changes to agricultural revenue and job availability. Alternative 3 could result in decreases of up to 11.1% (during average conditions) and 14.0% (during dry conditions) in the farm worker labor force in the Sacramento Valley Region. and in the farm worker labor force in the San Joaquin Valley Region up to 16.2% (during average conditions) and 11.7% (during dry conditions).

There is potential for Alternative 2 without TUCP and with Delta VA to result in the drawdown of reservoir elevations under certain conditions that make the boat ramps unusable[1,2]. In periods when the boat ramps are non-operational, recreational visitation is expected to decrease by up to 27%, which could affect the revenue of local businesses that rely on visitors (e.g., Shasta-Trinity National Forest, retail stores, hotels). Because Trinity County is considered a "poverty area," a reduction in jobs and/or labor income within the tourism industry in the county could have disproportionately high and adverse effects on low-income populations.

Alternative 3 is expected to result in the largest impacts to groundwater elevations, especially in the San Joaquin Valley Region. Reduced groundwater elevations could result in reduced water accessibility through existing private wells, although the depths and locations of existing private wells are not known. Should reduced groundwater elevations result in reduced water accessibility for residents within the San Joaquin Valley Region, which contains both minority and low-income populations, well owners may be forced to take on additional economic burdens to modify their existing wells or pay for water from a different source. Therefore, decreases in groundwater elevations could have disproportionately high and adverse effects on minority and/or low-income populations. Additionally, these reductions in groundwater elevations are expected to occur in areas susceptible to land subsidence. Should subsidence occur on properties owned by minority and/or low-income individuals, an additional financial burden may be imparted onto these homeowners to pay for repairs to their homes or other infrastructure damaged by subsidence. Because the exact location and severity of subsidence is impossible to predict, it is not possible to quantify this impact.

17.2.2 Potential Disproportionate Effects on Health of Minority or Low-Income Populations

Construction or operation and maintenance of any planned or underway CVP or SWP projects or any ongoing operations and maintenance activities requiring heavy equipment (e.g., front loaders, dump trucks, excavators, cranes) that use hazardous materials (e.g., fuels, lubricants, solvents) could create a hazard to the public and environment through the accidental release of those hazardous materials. However, these projects are expected to be the same as those occurring under the No Action Alternative; no construction work is required under Alternatives 1 through 4. Thus, no adverse effects related to human health, including minority and low-income populations, would result from operations expected to occur under Alternatives 1 through 4.

As described in Appendix V, *Hazards and Hazardous Materials Technical Appendix,* Alternatives 1 through 4 would require chemical weed control and algae treatments involving the use of toxic herbicides at Clifton Court Forebay. However, these weed control and algae treatments would comply with relevant conditions required in the General Pesticide Permit issued for the work, and the same activities would be implemented under the No Action

[1] Potential changes to water levels in Trinity Lake are evaluated in Chapter 5 and Appendix H, *Water Supply Technical Appendix.*
[2] Potential changes to river flow in the Trinity River downstream of Trinity Lake are evaluated in Chapter 4 and Appendix G, *Water Quality Technical Appendix.*

Alternative. Thus, no adverse effects related to human health, including minority and low-income populations, would result from these treatments under Alternatives 1 through 4.

Alternatives 1 through 4 are not expected to substantially reduce reservoir levels in the study area and as such would not adversely affect recreation opportunities occurring at these reservoirs. Alternatives 1 through 4 are not expected to impair firefighting abilities in the study area; therefore, there would be no adverse effects on the population, including minority and low-income populations, within the study area.

17.2.3 Consideration of Potential Effects on Minority or Low-Income Populations Resulting from Greenhouse Gas Emissions

California is home to significant numbers of emission producing power plants, despite its status as a world leader in renewable and emission free energy development and goals. These emissions include, but are not limited to Carbon Dioxide, Methane, NOx, and fine particulate matter such as PM 2.5, along with other point source pollutants. Emission producing power plants tend to disproportionally affect minority and low-income populations because of their proximity to these populations. As described in Appendix M, *Greenhouse Gas Emissions*, under Alternatives 1, 2 (all four phases), and 4, net energy from hydropower would decrease compared to the No Action Alternative. Other sources of energy that are less clean would need to be used and as a result GHG emissions would increase. The increases in emissions would be largest with Alternative 1, less with Alternative 4, and least with Alternative 2 (all four phases). With Alternative 3 net hydropower energy generation would increase compared to the No Action Alternative, and as a result GHG emissions would decrease. The relatively low magnitudes of changes in emissions suggest that potential disproportionate effect on minority or low-income populations would be minimal.

17.3 Mitigation Measures

Appendix D includes a detailed description of mitigation measures identified for environmental justice resources per alternative. These mitigation measures include avoidance and minimization measures that are part of each alternative and, where appropriate, additional mitigation to lessen impacts of the alternatives. For environmental justice resources, no avoidance and minimization measures have been identified. Additional mitigation measures have been identified for environmental justice resources.

17.3.1 Avoidance and Minimization Measures

17.3.1.1 Alternatives 1-4

No avoidance and minimization measures have been identified.

17.3.2 Additional Mitigation

17.3.2.1 Alternatives 1-4

The following mitigation measures have been identified for Environmental Justice:

- *Mitigation Measure EJ-1: Increase Participation with Tribal, Minority, and Low-Income Populations* – would require that Reclamation identify opportunities to gather Tribal Indigenous Knowledge for consideration in future Reclamation projects and to include tribal interests and low-income/minority advocacy groups in affected communities to review and provide input on compliance documentation.
- *Mitigation Measure EJ-2: Reduce Effects of Employment Loss* – would require assisting in offsetting agricultural sector job losses.
- *Mitigation Measure EJ-3: Increasing Participation with Trinity River Parties* – Reclamation will hold a public meeting in Trinity County to hear from local interests on Trinity River-specific alternatives and potential impacts.

17.4 Cumulative Impacts

The No Action Alternative would continue with the current operation of the CVP and, as described in the 2020 Record of Decision, would not result in potential changes to disproportionate economic and health effects on minority or low-income populations. The action alternatives will result in changes of disproportionate economic and health effects on minority or low-income populations and greenhouse gas emissions. The magnitude of the changes is dependent on alternative and water year type. Given these changes, the action alternatives may contribute to cumulative changes to environmental justice conditions as described in Appendix T, *Environmental Justice,* and Appendix Y, *Cumulative Impacts Technical Appendix*.