EJ 1 – ENVIRONMENTAL JUSTICE TECHNICAL MEMORANDUM

KERN RIVER NO. 1 HYDROELECTRIC PROJECT
FERC PROJECT NO. 1930

PREPARED FOR:

December 2025

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LIST OF ACRONYMS

BG	Block Group
CalEPA	California Environmental Protection Agency
CBG	Census Block Group
CEQ	Council on Environmental Quality
CT	Census Tract
DAC	Disadvantaged Communities
EJ	environmental justice
EJ Study	Environmental Justice Study
EJScreen	USEPA Environmental Justice Screening and Mapping Tools
FERC	Federal Energy Regulatory Commission
Forest Service	United States Forest Service
ILP	Integrated Licensing Process
NEPA	National Environmental Policy Act
Project	Kern River No. 1 Hydroelectric Project
SB	Senate Bill
SCE	Southern California Edison
SPD	Study Plan Determination
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

An Environmental Justice Study (EJ Study) was developed in response to the Federal Energy Regulatory Commission's (FERC) March 14, 2024, Study Plan Determination (SPD) (FERC 2024). This Technical Memorandum provides the methods and findings of desktop research associated with the EJ-Environmental Justice Study Plan outlined in FERC's SPD in support of Southern California Edison's (SCE) Kern River No. 1 Hydroelectric Project (Project) relicensing, FERC Project No. 1930. The EJ Study follows prior, recently abandoned federal guidelines and methodologies to identify the presence of environmental justice (EJ) communities, develop outreach strategies and solicit input from these communities regarding the Project, and assess the potential for the Project to have disproportionately adverse and significant impacts on those communities. Because the federal government abandoned EJ analyses for purposes of National Environmental Policy Act (NEPA) review subsequent to FERC's SPD in March 2024, this Technical Memorandum was prepared solely to comply with FERC's SPD. Desktop data collection efforts were completed in 2024 and are summarized below.

2.0 STUDY OBJECTIVES

The objectives of the study, as outlined in FERC's SPD and addressed in this memorandum, include:

- Identify the presence of any EJ communities that may be affected by the relicensing of the Project and identify outreach strategies to engage the identified EJ communities in the relicensing process, if present;
- Identify the presence of non-English speaking populations that may be affected by the Project and identify outreach strategies to engage non-English speaking populations in the relicensing process, if present;
- Discuss effects of relicensing the Project on any identified EJ communities and identify any effects that are disproportionately high and adverse;
- Identify mitigation measures to avoid or minimize Project effects on EJ communities; and
- Identify sensitive receptor locations within the Project area and identify potential effects and measures taken to avoid or minimize the effects of such locations, if they are present.

3.0 STUDY AREA

The Project is located along the Kern River in Kern County, California. The Project is situated in the foothills of the western slope of the Sierra Nevada and occupies federal lands within the Sequoia National Forest which is under the jurisdiction of the United States Forest Service (Forest Service). The study area includes areas within the FERC

Project boundary and within 1 mile of the FERC Project boundary. The study area is shown on Map 3-1.

4.0 METHODS

Study implementation followed the methods described in FERC's SPD (FERC 2024).

The methodology used in the study is consistent with prior, recently abandoned guidance from the United States Environmental Protection Agency's (USEPA) *Promising Practices for EJ Methodologies in NEPA Reviews* (NEPA Committee and EJ IWG 2016) (Executive Order Nos. 14148, 14154, and 14173). The analysis was accomplished through a desktop review of available EJ data including but not limited to population, health, racial and economic composition, minority groups, low-income individuals, and non-English-speaking groups. The following sources were used to compile this information:

- United States Census Bureau (U.S. Census Bureau 2022a, 2022b, 2022c, 2022d, 2023a)
- USEPA Environmental Justice Screening and Mapping Tools (EJScreen) (USEPA 2024a, 2024b)
- California Environmental Protection Agency (CalEPA) CalEnviroScreen 4.0 (CalEPA 2021a)

4.1 STUDY PLAN VARIANCES

There are no variances from FERC's SPD (FERC 2024).

4.2 ENVIRONMENTAL JUSTICE DEMOGRAPHIC DATA

In accordance with recently abandoned federal guidelines, the EJ study includes demographic and poverty-level data for the geographical area potentially affected by the Project to determine if EJ populations are present. Prior to the recent abandonment of EJ as an element of NEPA review, EJ populations were identified by applying the methods included in USEPA's *Promising Practices for EJ Methodologies in NEPA Reviews* (NEPA Committee and EJ IWG 2016).

Individuals who identify as any race other than White and/or list their ethnicity as Hispanic or Latino were considered minority (USEPA 2024a). According to prior federal guidelines, an area where the minority population exceeds 50 percent of the total population or where the minority population percentage is "meaningfully greater" than the minority population of an appropriate unit of geographic analysis, referred to as a reference population, was determined to be an EJ population (Council on Environmental Quality [CEQ] 1997); for the purpose of this Technical Memorandum, and as recommended by FERC in the SPD, "meaningfully greater" has been set as 10 percent greater than the reference population percentage.

Unlike prior federal guidance on minority populations, there was no quantitative definition of what proportion of low-income populations constituted an EJ population. Prior guidelines suggested using an appropriate poverty threshold and comparing the low-income population in an affected area to a reference population (NEPA Committee and EJ IWG 2016). Within this memorandum, low-income percentages of census block groups (CBG) are compared to the relative county percentage, and any equal to or greater than that percentage is designated a low-income EJ population. Low-income was defined by the USEPA as households where the income is less than or equal to twice the federal poverty level (USEPA 2024a). The poverty threshold is calculated as a percentage of those for whom the poverty ratio was known, as reported by the U.S. Census Bureau. In 2022, the federally defined poverty threshold for an individual under age 65 was $15,230 (U.S. Census Bureau 2023a).

To define an analysis area and identify potentially impacted EJ populations, prior federal guidance advised using an "appropriate unit of geographic analysis" that did not "artificially dilute or inflate" the population (CEQ 1997). The selected area may be a neighborhood CBG,[1] Census Tract (CT),[2] a governing body's jurisdiction, or other similar geographic unit. The CBG is the smallest geographic unit for which U.S. Census Bureau demographic data are available.

This study defines the analysis area as the CBGs where the Project is located and any CBGs within 1 mile of the FERC Project boundary. A CBG was selected as the appropriate geographic unit for analysis for purposes of determining whether EJ populations are in the area that may be affected by operation and maintenance of the Project.

4.3 CALENVIROSCREEN 4.0

In addition to using the U.S. Census Bureau demographics, information from the California-specific EJ tool, CalEnviroScreen (CalEPA 2021a), was reviewed. CalEnviroScreen shows cumulative impacts in California communities by CT. The Project is located within two CTs in Kern County: CT 52.06 and CT 51.04. These two CTs make up the study area for the CalEnviroScreen data.

CalEnviroScreen scores are calculated from the scores for two groups of indicators (i.e., Pollution Burden and Population Characteristics) and present a relative, rather than an absolute, evaluation of pollution burdens and vulnerabilities in California communities by providing a relative ranking of communities across the state. The model uses 21 statewide indicators to characterize Pollution Burden and Population Characteristics and uses percentiles to assign scores for each of the indicators in a given geographic area. The percentile represents a relative score for the indicators. Percentiles are averaged using a scoring system for the set of indicators in each of the four components: Exposures, Environmental Effects, Sensitive Populations, and Socioeconomic Factors. These component scores are then combined to produce a CalEnviroScreen Score for a given

[1] A Census Block Group (CBG) is comprised of a Census Tract (CT) and a specific Block Group (BG) within the CT.
[2] A CT is comprised of a group of BGs.

place relative to other places in the state. The formula for calculating the CalEnviroScreen Score is as follows:

Pollution Burden × Population Characteristics = CalEnviroScreen Score

Where Pollution Burden is the average of exposures and environmental effects (environmental effects score is weighted half as much as the exposures score) and Population Characteristics is the average of sensitive populations and socioeconomic factors. A full description of the methodology for the tool can be found in the October 2021 CalEnviroScreen 4.0 Document on the CalEPA website (CalEPA 2021b).

CalEnviroScreen's purpose is to help calculate the cumulative impact of multiple environmental and social burdens on communities. It is not intended to determine classification of a community as an EJ population. The tool has helped CalEPA and other local, state, and federal agencies ensure their activities address these pollution burdens and protect those communities from additional ones. CalEPA uses CalEnviroScreen to prioritize enforcement and outreach in vulnerable communities.

4.4 SENSITIVE RECEPTORS

A look at specific locations within a study area community that may be associated with sensitive populations is also included. Sensitive Receptors include:

- Places where the community gathers such as community centers, senior facilities, or places of worship;
- Facilities where health vulnerable populations gather such as medical facilities; and
- Locations with large concentrations of children such as schools and daycare centers.

For this study, sensitive receptors were identified using a combination of mapping tools (Google Earth Pro, EJScreen, and ArcGIS) to search the study area for the closest sensitive receptor facilities to the Project.

5.0 RESULTS SUMMARY

The EJ study follows the prior, abandoned federal guidelines and methodologies outlined in Section 4.0 to assess the potential for the Project to have disproportionately adverse impacts on vulnerable populations (or EJ populations).

5.1 ENVIRONMENTAL JUSTICE POPULATIONS IN THE STUDY AREA

Using the U.S. Census Bureau data and the recommended FERC guidelines for identifying an EJ population, one CBG (CT 52.06 BG 1) within the study area is classified as an EJ community based on income.

None of the CBGs within the study area have minority populations that are meaningfully greater than the Kern County minority population. Kern County has a total minority population that is greater than 50 percent in addition to being greater than the minority population in the state of California; however, the CBGs in the study area have much lower populations of minority residents. Throughout the study area, the minority group with the highest populations are those identifying as Latino or Hispanic or Two or More Races. Refer to Table 5-1 and Map 5-1 for a breakdown of the CBGs in the study area. Minority populations by race and low-income populations within the study area are summarized in Table 5-2.

5.2 CALENVIROSCREEN 4.0

Map 5-2 identifies the overall CalEnviroScreen percentile of each CBG in the study area (CalEPA 2021a). To get the overall CalEnviroScreen percentile score, the Pollution Burden component and the Population Characteristics component are multiplied. Each component is made up of a set of indicators. There are 13 Pollution Burden indicators and 8 Population Characteristics indicators (California Office of Environmental Health Hazard Assessment 2024). CTs with darker red colors have higher CalEnviroScreen scores and therefore have relatively high pollution burdens and population sensitivities. CTs with lighter green colors have lower scores and correspondingly lower pollution burdens and sensitivities.

The overall percentile for CalEnviroScreen in CT 52.06 is 80 with the Pollution Burden percentile at 54 and the Population Characteristics percentile at 90, and the overall percentile for CalEnviroScreen in CT 51.04 is 31 with the Pollution Burden percentile at 36 and the Population Characteristics percentile at 28 (Map 5-2).

CalEPA also provides a mapping tool that identifies Disadvantaged Communities (DAC) in accordance with Senate Bill (SB) 535 established in 2012. SB 535 detailed initial requirements for minimum funding levels to DACs and gives CalEPA the responsibility for identifying those communities. The legislation states that CalEPA's designation of DACs must be based on "geographic, socioeconomic, public health, and environmental hazard criteria" (CalEPA 2024).

According to the CalEPA SB 535 map for the study area, the pollution and demographic burdens are in the low to mid-range for the state of California. Within the study area, CT 52.06 BG 1 qualifies as a DAC following the designation established by CalEPA (Map 5-3).

5.3 SENSITIVE RECEPTORS

The Project is in a rural area of Kern County on federal lands within the Sequoia National Forest. The nearest populated area to the Project (as measured from the Project powerhouse) is the City of Bakersfield, which is approximately 9 miles southwest.

SCE is not proposing any new construction as part of the Project that has the potential to affect sensitive receptors. Further, there are no sensitive receptor locations (e.g., schools, day care centers, hospitals, etc.) within the study area.

5.4 SUMMARY

According to the methodology described in FERC's SPD, there are no minority EJ communities in the study area. However, CT 52.06 BG 1 would be considered an EJ community under prior, now-abandoned federal guidelines, based on income, according to FERC's "low-income threshold criteria" since the percent of the population below the poverty level in the identified block group is equal to or greater than that of the reference population (Kern County).

SCE is seeking a new license to continue operation and maintenance of the existing Project. There are no changes to the Project that would result in impacts to low-income populations and mitigation is not required.

6.0 STUDY SPECIFIC CONSULTATION

To support public outreach and consultation, SCE has engaged with interested stakeholders throughout the relicensing process since 2022. Documents related to the relicensing are publicly available on FERC's e-Library and on SCE's public relicensing website. All interested stakeholders (including those who have filed a comment on the relicensing proceeding) are notified via email when documents are filed with FERC as part of this proceeding.

In addition to the consultation required as part of FERC's Integrated Licensing Process (ILP), SCE conducted the following stakeholder engagement activities:

- On July 21, 2022, SCE distributed a Project Information Questionnaire to stakeholders to solicit information on existing resources in the vicinity of the Project and to identify potential resource issues.

- On August 23, 2022, SCE notified stakeholders of the early outreach activities being conducted as part of the relicensing process, including the questionnaire that was also made electronically available on the Project website, and notice that a public relicensing kick-off teleconference would be conducted. In addition, SCE posted the relicensing public announcement on social networks (i.e., Facebook and Next Door).

- On June 13, 2023, SCE conducted a public relicensing teleconference to acquaint stakeholders with FERC's ILP, including key milestones and opportunities for stakeholder participation; describe Project facilities and operations; and explain the Pre-Application Document contents and organization.

- As part of other FERC-approved technical studies that include direct interactions with the public as part of study plan implementation, bilingual (English and Spanish) information flyers, public questionnaires, and bilingual field staff have been deployed.

SCE will continue ongoing outreach to the local communities and stakeholders in the vicinity of the Project to obtain comments regarding the relicensing of the Project and to understand primary concerns and questions from interested stakeholders as part of the ILP. If a Project-related impact that has a significant and disproportionate effect on low-income EJ communities is identified through the relicensing process, additional consultation may be necessary.

7.0 OUTSTANDING STUDY PLAN ELEMENTS

There are no outstanding study plan elements. The EJ Study is complete.

8.0 REFERENCES

CalEPA (California Environmental Protection Agency). 2021a. CalEnviroScreen, Version 4.0. Online tool. Accessed: September 2024. Available online: CalEnviroScreen 4.0 Results (arcgis.com).

_____. 2021b. California Communities Environmental Health Screening Tool Guide. Accessed: September 2024 Available online: CalEnviroScreen 4.0.

_____. 2024. California Climate Investments to Benefit Disadvantaged Communities. Accessed: September 2024. Available online: California Climate Investments to Benefit Disadvantaged Communities | CalEPA.

CEQ (Council on Environmental Quality). 1997. Environmental Justice Guidance Under the National Environmental Policy Act. Accessed: September 2024. Available online: Environmental Justice Guidance Under the National Environmental Policy Act (epa.gov).

Executive Order No. 14148. “Initial Rescissions of Harmful Executive Orders and Actions,” 90 FR 8237 (January 28, 2025).

Executive Order No. 14154. “Unleashing American Energy,” 90 FR 8353 (January 20, 2025).

Executive Order No. 14173. “Ending Illegal Discrimination and Restoring Merit-Based Opportunity,” 90 FR 6807 (January 21, 2025).FERC (Federal Energy Regulatory Commission). 2024. Study Plan Determination for the Kern River No. 1 Hydroelectric Project. March 14.

NEPA Committee and EJ IWG (National Environmental Policy Act Committee and Federal Interagency Working Group on Environmental Justice). 2016. Promising Practices for EJ Methodologies in NEPA Reviews. Accessed: September 2024. Available online: Promising Practices FOR EJ Methodologies IN NEPA Reviews

OEHHA (California Office of Environmental Health Hazard Assessment). 2024. CalEnviroScreen Scoring & Model. Accessed: September 2024. Available online: Scoring & Model | OEHHA (ca.gov).

U.S. Census Bureau (United States Census Bureau). 2022a. ACS 5-Year Estimates Detailed Tables. File B01001 Sex by Age. Accessed: September 2024. Available online: B01001: Census Bureau Table..

_____. 2022b. ACS 5-Year Estimates Detailed Tables. File B03002 Hispanic or Latino Origin by Race. Accessed: September 2024. Available online: B03002: Hispanic or Latino Origin ... - Census Bureau Table.

_____. 2022c. ACS 5-Year Estimates Detailed Tables. File B16004 Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Older. Accessed: September 2024. Available online: B16004: Age by Language Spoken at ... - Census Bureau Table.

_____. 2022d. ACS 5-Year Estimates Detailed Tables. File B17017 Poverty Status in the past 12 Months by Household Type by Age of Householder. Accessed: September 2024. Available online: B17017: Census Bureau Table.

_____. 2023a. Poverty Thresholds by Size of Family and Number of Related Children Under 18 Years. Accessed: September 2024. Available online: Poverty Thresholds (census.gov).

_____.2023b. Code Lists, Definitions, and Accuracy – Subject Definitions. Accessed: September 2024. Available online: Code Lists, Definitions, and Accuracy (census.gov).

USEPA (United States Environmental Protection Agency). 2024a. EJScreen: Environmental Justice Screening and Map Tool – Overview of Socioeconomic Indicators in EJScreen. Accessed: September 2024. Available online: Overview of Socioeconomic Indicators in EJScreen | US EPA.

_____. 2024b. EPA EJScreen (Version 2.3). Online tool. Accessed: September 2024. Available online: EJScreen (epa.gov).

TABLES

Table 5-1. Census Block Groups within the Study Area

County	Census Block Groups
Kern County	CT 52.06 BG 1[1] CT 51.04 BG 4

Notes: [1] EJ Community based on low-income population higher than the relative county percentage.

Key: BG = Block Group
CT = Census Tract

Table 5-2. Minority Populations by Race and Low-Income Populations within the Study Area

Geography	Race and Ethnicity Data[1,2]										Low-Income Data[1,2]
	Total Population	White Alone Not Hispanic	African American	Native American/ Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race	Two or More Races	Hispanic or Latino	Total Minority[3]	Below Poverty Level
California	39,356,104	35.2%	5.3%	0.3%	14.9%	0.3%	0.4%	3.8%	39.7%	64.8%	11.8%
Kern County	906,883	31.5%	4.9%	0.4%	4.8%	0.1%	0.4%	2.7%	55.3%	68.5%	18.2%
CT: 52.06 BG: 1	751	67.0%	3.3%	0.0%	0.0%	0.0%	0.0%	6.5%	23.2%	33.0%	**40.5%**
CT: 51.04 BG: 4	391	90.0%	0.0%	0.0%	3.07%	0.0%	0.0%	4.86%	2.05%	10.0%	0.0%

Source: U.S. Census Bureau 2022b and 2022d

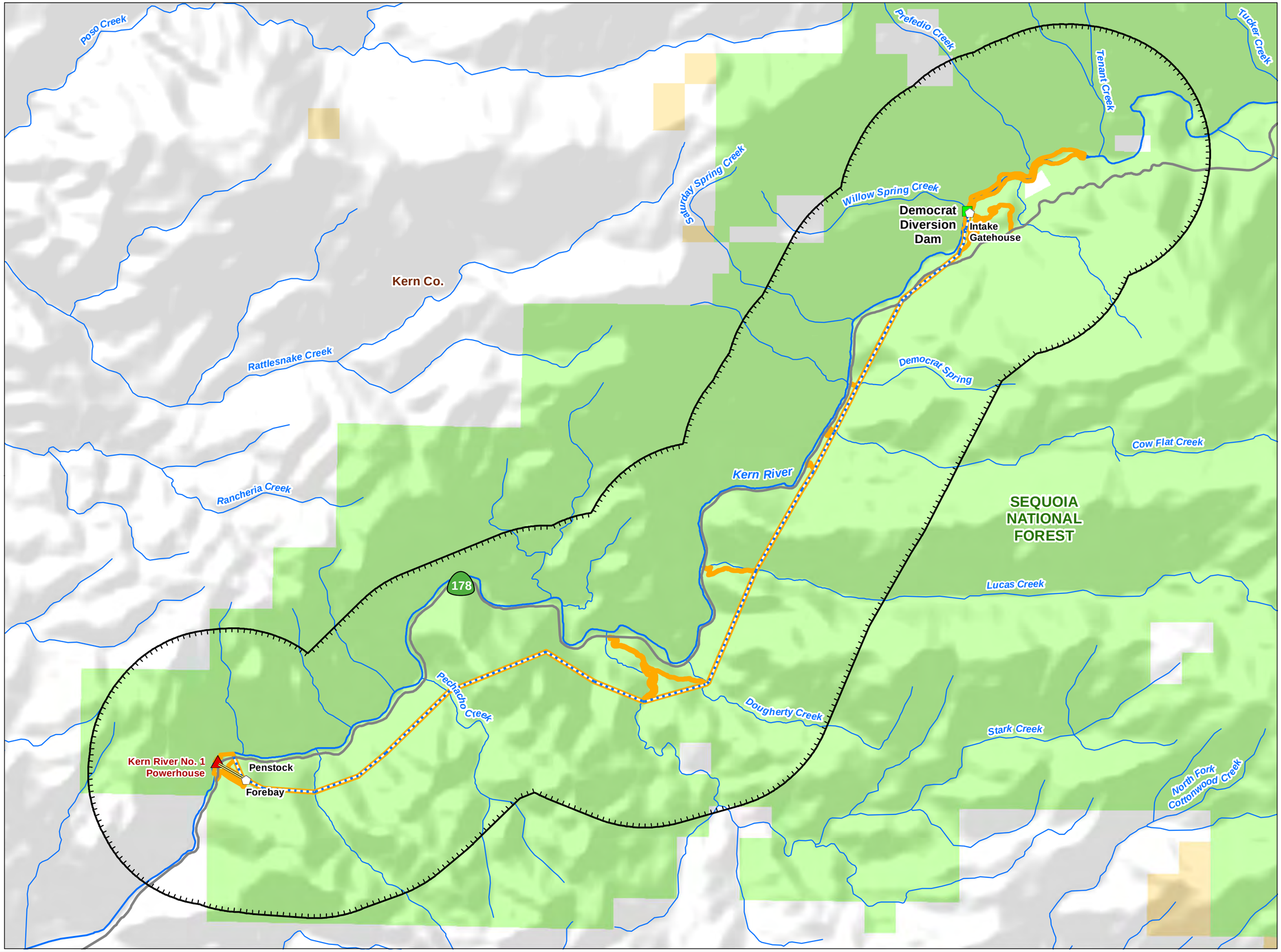
Notes: [1] Bold type and gray shading indicate minority or low-income populations exceeding the established thresholds.

[2] Due to rounding differences in the dataset, the totals may not reflect the sum of the addends.

[3] "Minority" refers to people who reported their ethnicity and race as something other than Non-Hispanic White.

Key: BG = Block Group
CT = Census Tract

MAPS



Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Flowline
- Penstock
- FERC Boundary

Other Features

- Watercourse
- Highway

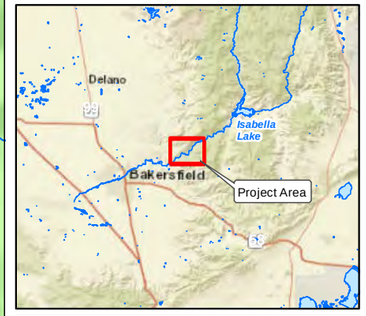
Land Jurisdiction**

- U.S. Forest Service
- U.S. Bureau of Land Management
- Private (Blank)

**SOURCE: BLM 2021

Environmental Justice Study

- Study Area (1-Mile Buffer of FERC Boundary)



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Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

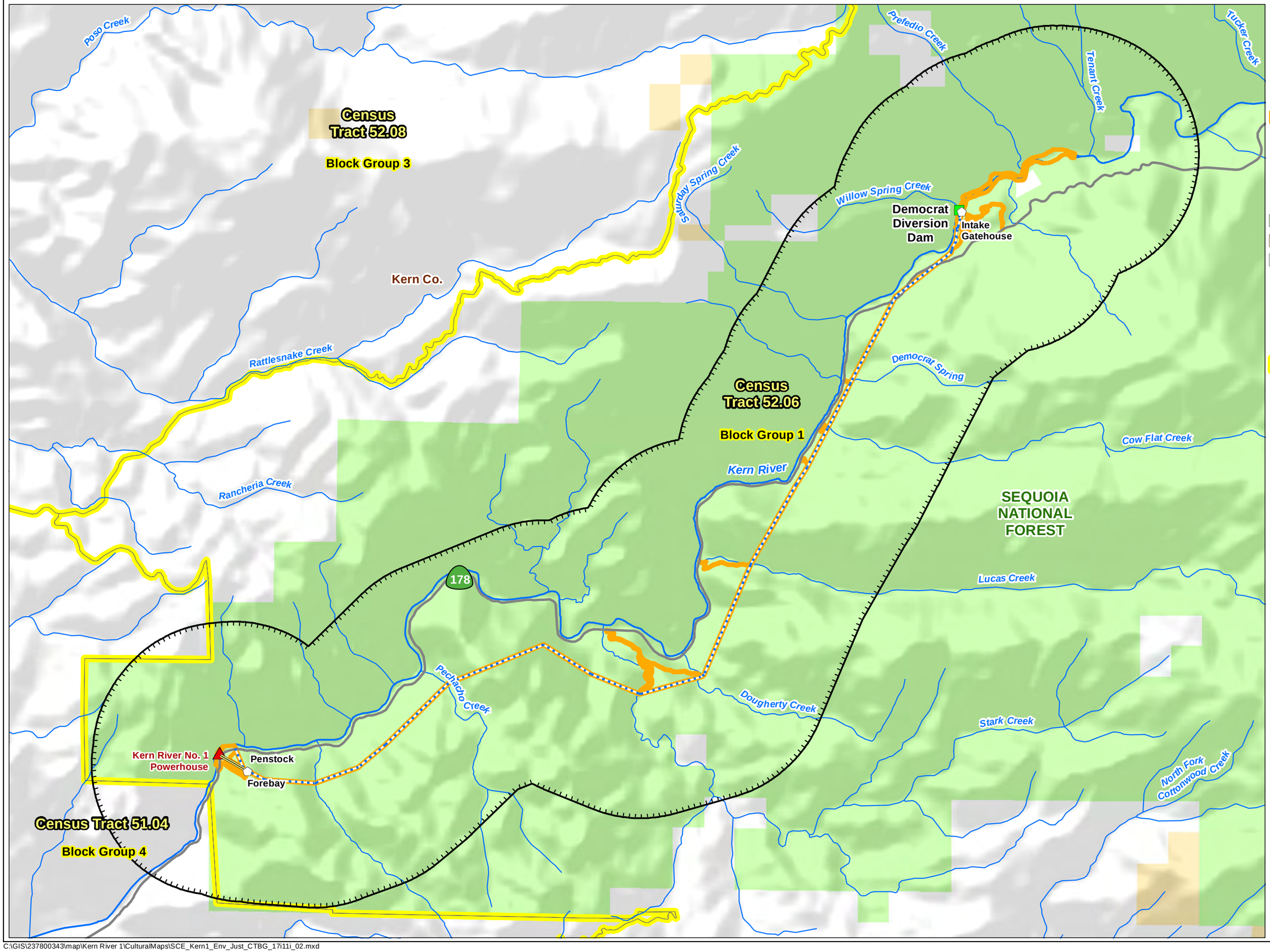
Map 3-1

Environmental Justice Study Area

0 0.25 0.5 Miles

Projection: UTM Zone 11
Datum: NAD 83

Date: 11/17/2025



Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Flowline
- Penstock
- FERC Boundary

Other Features

- Watercourse
- Highway

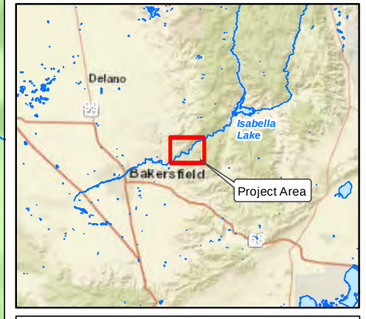
Land Jurisdiction**

- U.S. Forest Service
- U.S. Bureau of Land Management
- Private (Blank)

**SOURCE: BLM 2021

Environmental Justice Study

- Study Area (1-Mile Buffer of FERC Boundary)
- Census Tract / Block Group Boundary



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FERC Project No. 1930

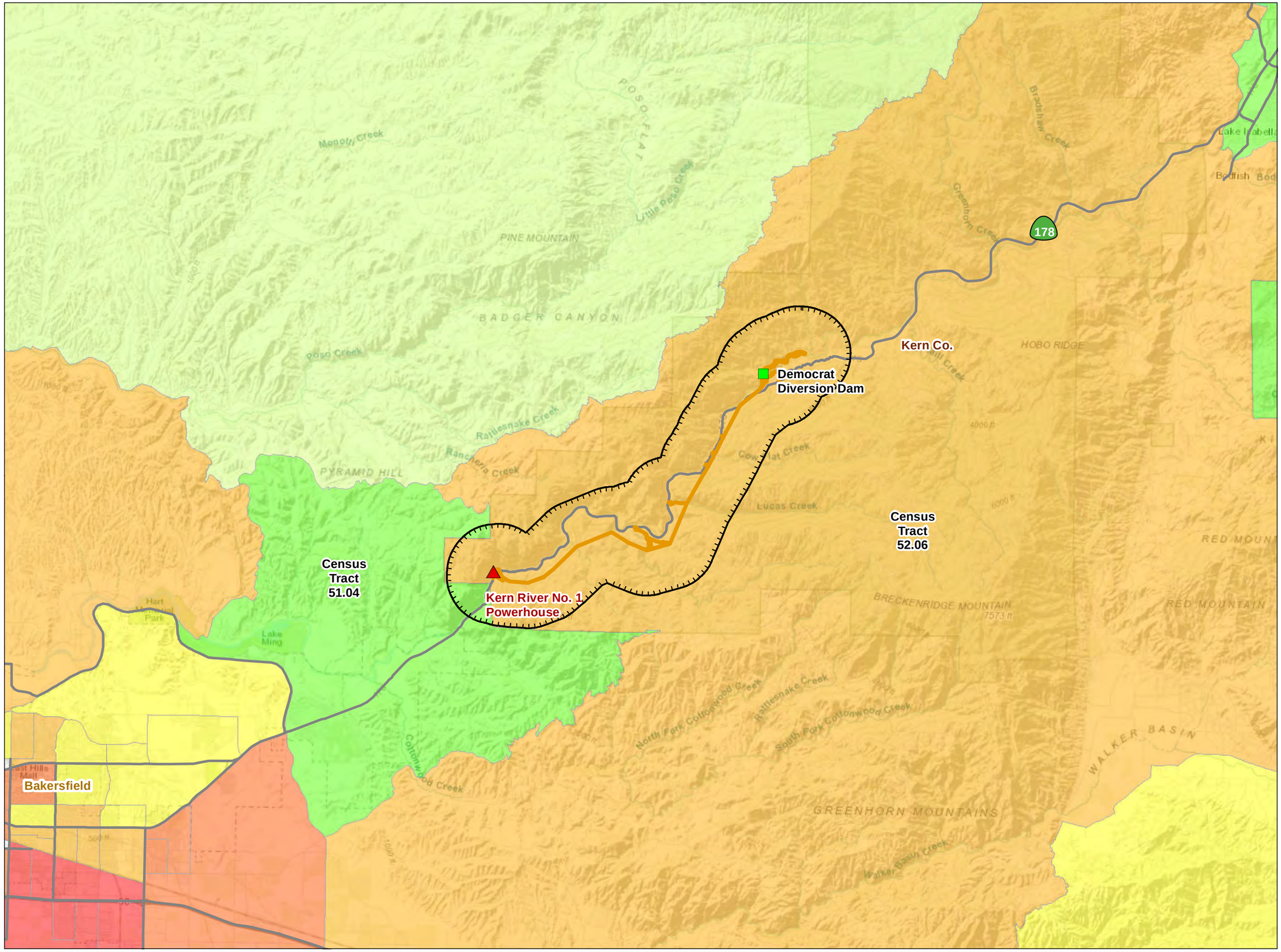
Map 5-1

Study Area with Identified Environmental Justice Communities

0 0.25 0.5 Miles

Projection: UTM Zone 11
Datum: NAD 83

Date: 11/17/2025



Facilities

- Dam
- Powerhouse
- FERC Boundary

Other Features

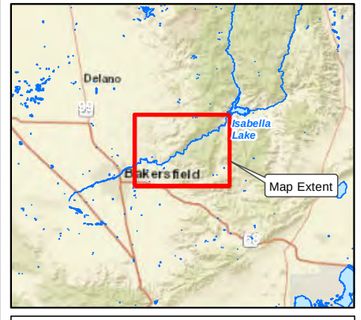
- Highway

Environmental Justice Study

- Study Area (1-Mile Buffer of FERC Boundary)
- Census Tract

CalEnviroScreen 4.0 Results (Overall Percentile)

- > 90-100 (Highest Scores)
- > 80 - 90
- > 70 - 80
- > 50 - 60
- > 30-40
- > 20 - 30



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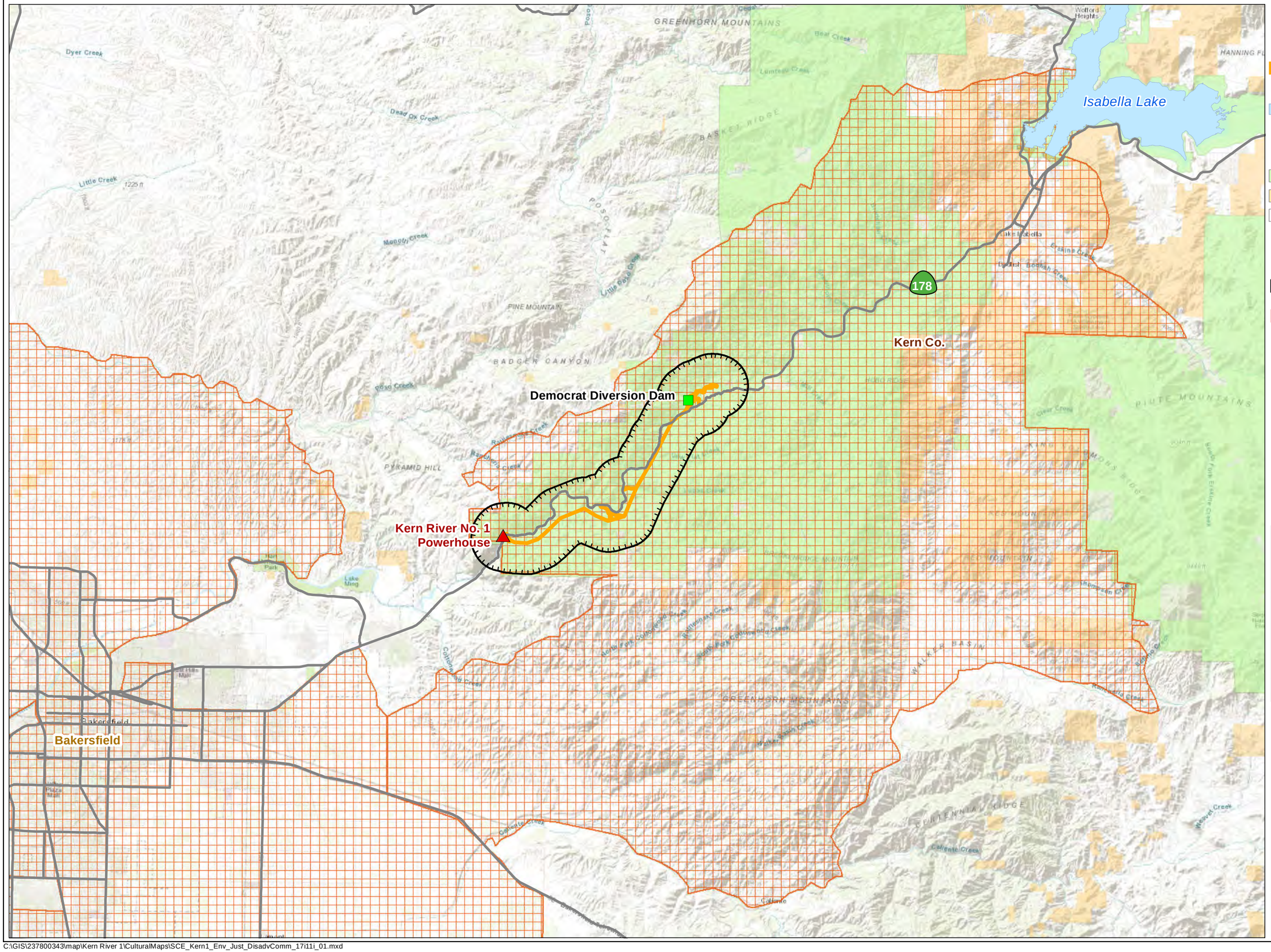
Map 5-2

Kern County Census Tract 52.06 and 51.04 CalEnviroScreen Map

0 1.25 2.5 Miles

Projection: UTM Zone 11
Datum: NAD 83

Date: 11/17/2025



Facilities

- Dam
- Powerhouse
- FERC Boundary

Other Features

- Lake
- Highway

Land Jurisdiction**

- U.S. Forest Service
- U.S. Bureau of Land Management
- Private (Blank)

**SOURCE: BLM 2021

Environmental Justice Study

- Study Area (1-Mile Buffer of FERC Boundary)
- Disadvantaged Communities

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Map 5-3

Map of CalEPA Identified Disadvantaged Communities Relative to the Study Area

0 2 4 Miles

Projection: UTM Zone 11
Datum: NAD 83

Date: 11/17/2025