# III.1 ENVIRONMENTAL SETTING/ AFFECTED ENVIRONMENT

Volume III presents an overview of the environmental setting of the Plan Area and provides context for the following issue-specific topics in 24 chapters:

III.2 Air Quality
III.3 Meteorology and Climate Change
III.4 Geology and Soils
III.5 Flood Hazard, Hydrology, and Drainage
III.6 Groundwater, Water Supply, and Water Quality
III.7 Biological Resources
III.8 Cultural Resources
III.9 Native American Interests
III.10 Paleontological Resources
III.11 Land Use and Policies
III.12 Agricultural Land and Production
III.13 BLM Lands and Realty—Rights-of-Way and Land Tenure
III.14 BLM Land Designations, Classifications, Allocations, and Lands With Wilderness Characteristics
III.15 Mineral Resources
III.16 Livestock Grazing
III.17 Wild Horses and Burros
III.18 Outdoor Recreation
III.19 Transportation and Public Access
III.20 Visual Resources
III.21 Noise and Vibration
III.22 Public Safety and Services
III.23 Socioeconomics and Environmental Justice
III.24 Department of Defense Lands and Operations
III.25 Literature Cited

## III.1.1 Overview of the Plan Area

The geographic scope of the information presented in this volume is primarily within the Desert Renewable Energy Conservation Plan (DRECP or Plan) boundaries, except for the analysis of transmission and Bureau of Land Management (BLM) plan amendments outside of the Plan Area (see Volume II, Chapter II.3). The Baseline Biology Report, Appendix Q, considers a much broader area than the DRECP boundaries and serves as background for the affected environment. Within this report, profiles of species provide information regarding their habitat inside and outside the Plan Area. The boundary of the Plan Area is used for analysis in all disciplines because renewable energy development could occur throughout the area, and the Conservation and Management Actions would be implemented across the Plan Area.

The Plan Area covers more than 35,000 square miles and spans the California deserts and adjacent areas from Imperial County and eastern San Diego County in the south to Inyo County and eastern Kern County in the north, as illustrated in Figure III.1-1 (Plan Area and Ecoregion Subareas). The Plan Area is bounded by Baja California (Mexico) to the south; Arizona and Nevada to the east; the Sierra Nevada and Tehachapi mountain ranges to the north and northwest; and the Peninsular and Transverse mountain ranges to the west.

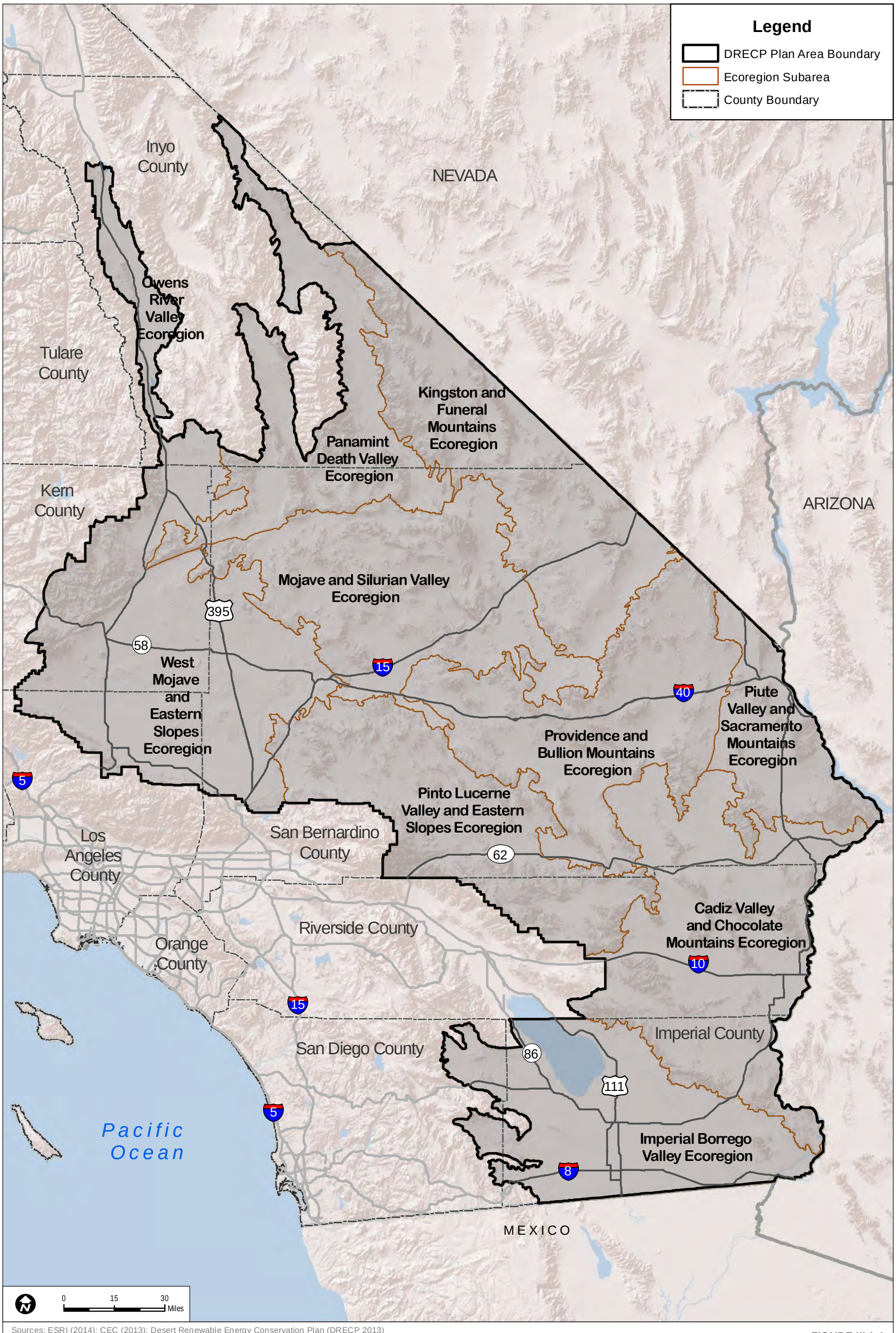
The topography within the Plan Area ranges from 280 feet below mean sea level in the Salton Trough to elevations of 8,500 to 8,700 feet above mean sea level in the southern Sierra Nevada area. The majority of the Plan Area is at the middle elevation range of approximately 1,500 to 3,500 feet above mean sea level. A large portion of the Plan Area is relatively flat, with the flattest areas in the Mojave Desert's high desert plains and hills and in the Colorado/Sonoran Desert.

The Plan Area extends across the Mojave and Colorado/Sonoran deserts and a small portion of the Great Basin Desert. The geomorphology (landforms and relief patterns of the earth's surface) of the desert region is dominated by short, isolated mountain ranges within desert plains. Major landforms include mountains, plateaus, alluvial fans, playas, basins, and dunes. See Chapter III.4, Geology and Soils, for more information regarding landforms in the Plan Area.

In the desert regions of the Plan Area, the climate is generally characterized by hot, dry summers and mild to cold winters. Rainfall originates from winter frontal storms off the Pacific Ocean and occasional summer convective monsoons; these sources are variable, however, in different regions of the desert. Winter storms generally bring widespread, longer duration, low-intensity rainfall, particularly in the western desert regions (Mojave). Summer monsoons generate isolated, short, high-intensity rainfall in the eastern desert regions (Colorado/Sonoran) (Lichvar and McColley 2008). Annual precipitation ranges from approximately 3 inches in the low deserts (Colorado/Sonoran) to approximately 8 inches in the high deserts and desert ranges (Mojave) (U.S. Forest Service 1997).

The Mojave Desert is a "cold" or winter desert, with about 50% to 70% of rainfall occurring during the winter. Rainfall amounts are geographically and seasonally variable and related to topography and elevation. The Colorado/Sonoran Desert is lower in elevation overall and hotter and drier than the Mojave Desert. In contrast with the Mojave Desert, the lower elevations of the Colorado/Sonoran Desert seldom experience subfreezing temperatures and frost. There is winter rain, but a substantial portion of the annual rainfall in the Colorado/Sonoran Desert is from the North American monsoon, which typically occurs from July to late September. Compared with the Mojave Desert, precipitation patterns and temperature regimes across the Colorado/Sonoran Desert are less variable. See Chapter III.3, Meteorology and Climate Change, for more information on climate patterns for the Plan Area.

Major hydrologic features in the Plan Area include the Lower Colorado River, Salton Sea, Owens River, Owens Lake, Mojave River, and Amargosa River. The Plan Area is divided into two major hydrologic regions: the South Lahontan Hydrologic Region and the Colorado River Hydrologic Region. See Chapter III.5, Flood Hazard, Hydrology, and Drainage, for more information about hydrologic features in the Plan Area.




Sources: ESRI (2014); CEC (2013); Desert Renewable Energy Conservation Plan (DRECP 2013)

**FIGURE III.1-1**

**DRECP Plan Area and Ecoregion Subareas**

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## III.1.2 Ecoregion Subareas Within the Plan Area

The Plan Area is divided into ecoregion subareas, and these subareas are further divided into 33 ecoregion subarea subunits. The two categories of areas used in the Baseline and Impact Analysis sections of this document are:

- **Ecoregion Subareas** – These are the 10 broad planning units used consistently in this document. They were defined initially based on the U.S. Forest Service system (U.S. Forest Service 1997), which established ecoregion boundaries, but later modified for DRECP purposes. The names and geographic boundaries of the ecoregion subareas are shown in Figure III.1-1. The ecoregion subareas are:
    - Cadiz Valley and Chocolate Mountains
    - Imperial Borrego Valley
    - Kingston and Funeral Mountains
    - Mojave and Silurian Valley
    - Owens River Valley
    - Panamint Death Valley
    - Pinto Lucerne Valley and Eastern Slopes
    - Piute Valley and Sacramento Mountains
    - Providence and Bullion Mountains
    - West Mojave and Eastern Slopes
- **Subunits of Ecoregion Subareas** – These are units within an ecoregion subarea (e.g., West Mojave 1). These units were created specifically for the DRECP and are used for the more detailed analysis of certain geographic components of alternatives including distribution of generation and analysis of operational effects. Figure III.1-1 also shows the names and geographic boundaries of subunits.

The Environmental Impact Report/Environmental Impact Statement (EIR/EIS) presents analysis within ecoregion subareas and subunits wherever appropriate to describe settings and impacts.

## III.1.3 Definition of Environmental Baseline

### III.1.3.1 CEQA Environmental Setting

California Environmental Quality Act (CEQA) Guidelines, Section 15125, generally define the baseline as the existing physical conditions at the time the Notice of Preparation (NOP)

is published, at the inception of the environmental review. This environmental setting normally constitutes the baseline physical conditions by which a lead agency determines the significance of an impact.

Courts have recognized instances where calculating the baseline on the NOP date does not capture true pre-project conditions. These rulings reason that, by using the qualifying term "normally," Section 15125 recognizes that, when appropriate, a lead agency does have discretion to select a different baseline method to account for the circumstances presented. (See *Fat v. County of Sacramento* [2002] 97 Cal.App.4th 1270, 1278.)

### III.1.3.2 NEPA Affected Environment

The National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) regulations require that environmental impact statements "succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration" (40 Code of Federal Regulations 1502.15). Establishing the baseline is therefore fundamental to the analysis in an EIS.

### III.1.3.3 Environmental Baseline Used in This Document

The "affected environment" (NEPA) and "environmental setting" (CEQA) together make up the environmental baseline used to determine the effects of the Plan. The environmental baseline is the same for both NEPA and CEQA.

Due to the complexity of the DRECP EIR/EIS and the Renewable Energy Action Team agencies' desire to share interim documents with the public, the agencies provided, in December 2012, the DRECP documents *Description and Comparative Evaluation of Draft DRECP Alternatives*. These documents included environmental baseline sections for eight resource areas and provided the public the opportunity to comment on the draft alternatives.

The DRECP, a regional plan covering 22,400,000 acres, is extraordinary in its scope and scale. It has taken time and coordinated effort to determine appropriate boundaries, create maps, and acquire and verify survey data for certain species, among hundreds of other details. Multiple agencies, all requiring coordination and review, are involved in this effort.

As noted in Section III.1.3.1, CEQA Environmental Setting, CEQA states that the environmental baseline is normally set on the date when the lead agency publishes its NOP for an EIR; this occurred on July 29, 2011, consistent with CEQA Guidelines. As noted, case law has determined that the lead agency has the discretion to choose a different baseline as long as it is supported by substantial evidence.

In addition to the coordination time required for the DRECP, many renewable energy projects have been built since the NOP date, changing existing conditions. The lead agencies have therefore determined that October 15, 2013, is the appropriate baseline date for this EIR/EIS. The Renewable Energy Action Team agencies chose this date instead of the NOP publication date for the following reasons:

- The October 15, 2013, baseline date is closer to the projected approval date for the DRECP, so the physical setting should be substantially the same as when the project begins.
- The more recent date includes newer existing projects. Of the over 50 renewable energy projects within the Plan Area that are either already operational or under construction, at least half began construction after the NOP publication date. In the interests of timeliness and accuracy, the Renewable Energy Action Team agencies wanted to include those projects and their significant impacts in the baseline.
- The biological resources mapping effort was largely complete by October 15, 2013, so at that point there was enough data for a meaningful environmental review. Additionally, the October date should not affect analysis for most of the other resources evaluated in the EIR/EIS. Some technical areas, such as soils and geology, do not change quickly; and the data do not typically change from year to year. The choice of the revised date reflects both adequate data available in those areas and the robust data available in more sensitive areas.
- For all the reasons defined here, the revised October 15, 2013, date offers the most accurate assessment of the environmental baseline.

The environmental baseline includes renewable projects expected to be completed by the baseline date. The effects of renewable projects that were approved but not yet constructed by that date are analyzed in Volume IV, Chapter IV.25, Cumulative Impacts Analysis. Projects that were under construction but not completed before the baseline date have been evaluated on a case-by-case basis and are included in the baseline if the majority of the project's environmental impacts (e.g., ground disturbance) were expected to occur by the baseline date.

The baseline includes more than 50 renewable energy projects within the Plan Area, listed in Appendix O (Existing Renewable Energy Projects). The DRECP would allow permitting of up to 20,000 megawatts of renewable energy projects, in addition to these existing projects. Figures III.1-2a and III.1-2b show the locations of these projects, and Table III.1-1 summarizes their acreage and generation capacity.

## Table III.1-1
## Summary of Existing Renewable Energy (RE) Projects in the Plan Area as of October 15, 2013

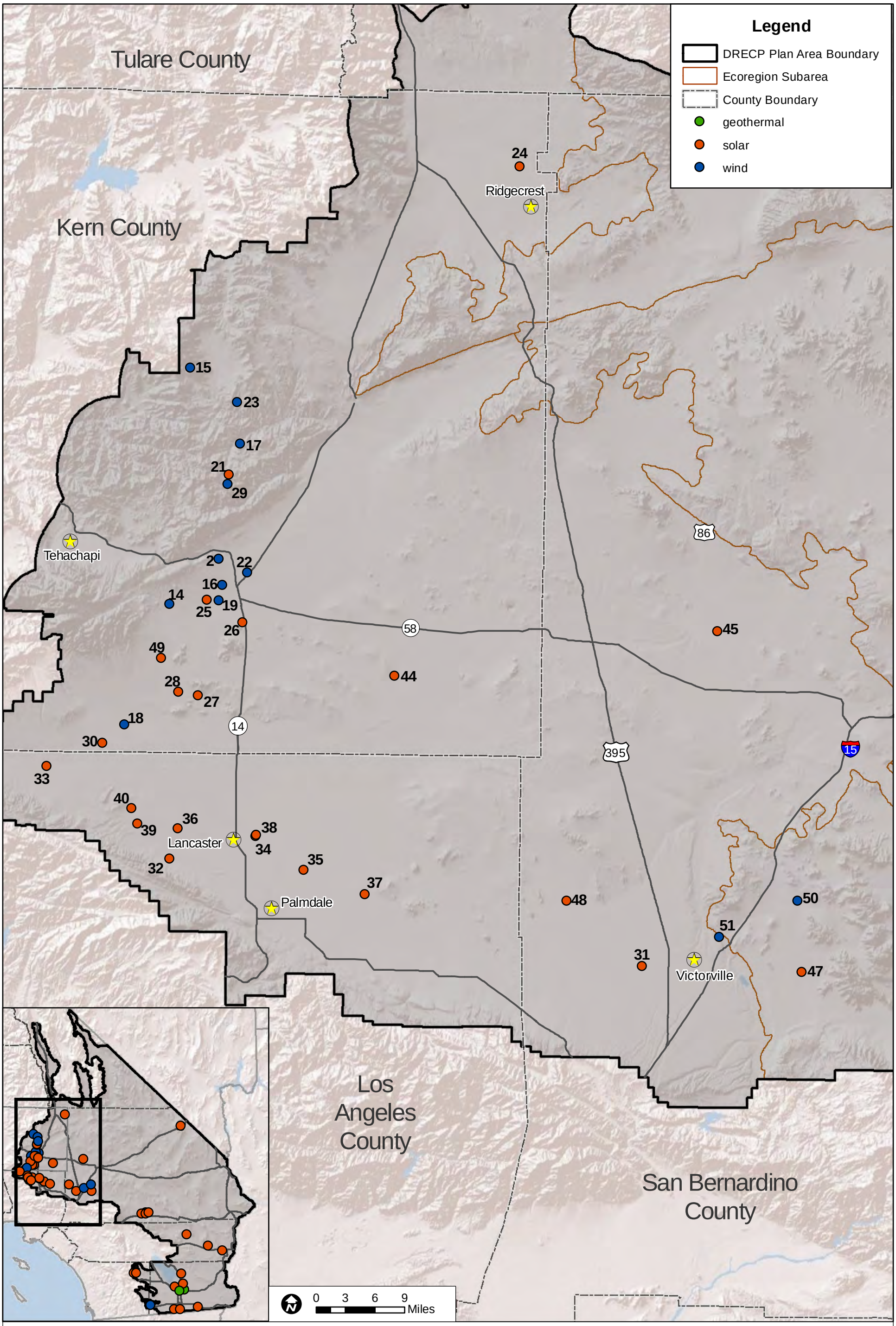
| | Generation Capacity | | Acreage | | | |
|---|---|---|---|---|---|---|
| | *Total MW* | *% of Total MW* | *% of Total Acres* | *Total Acres of RE Projects in Plan Area* | *Total Acres of RE Projects in DFAs** | *% of Total RE Project Acreage in DFAs** |
| *BLM-administered public lands: total* | *1,805* | *29%* | *28%* | *24,593* | *8,686* | *35%* |
| Wind | 615 | 34% | 61% | 15,028 | 2,592 | 11% |
| Solar | 1,190 | 66% | 39% | 9,565 | 6,094 | 25% |
| *Private lands and other public lands: total* | *4,445* | *71%* | *72%* | *64,453* | *41,641* | *65%* |
| Wind | 2,015 | 45% | 69% | 44,643 | 23,222 | 36% |
| Solar | 2,330 | 55% | 31% | 19,810 | 18,419 | 29% |
| Geothermal | 100 | | | | | |
| **TOTAL renewable energy projects** | **6,250** | **100%** | **100%** | **89,046** | **50,327** | **57%** |

**Note:** This data is summarized from the table in Appendix O.

* The Development Focus Area (DFA) locations for the Preferred Alternative are used to illustrate the concentrated areas of renewable energy projects in this exercise. While the sizes and locations of DFAs vary among alternatives, this data provides the locations of existing renewable energy in comparison with the proposed DFAs. The Preferred Alternative contains 2,027,693 acres of DFAs.

**Planning Decisions.** The baseline includes specifically allowable land uses and any use restrictions in decisions or plans. For example, BLM land use plan decisions are effective immediately when approved, so the environmental baseline would include the effect of the BLM's land use planning decision on grazing, recreation, or realty (i.e., uses of the land). However, the actual physical effects of construction of a project would not be included if they occurred after the baseline date. Those impacts are considered reasonably foreseeable and thus included in the analysis of cumulative effects rather than in the baseline.

**Baseline Data**. Rounding of data was applied to raw values to avoid false precision when presenting calculated values. However, in presenting rounded values there were tradeoffs. Numerical data presented and analyzed in this volume comes from a variety of different sources with varying levels of precision in the data. For presentation purposes, the following general rounding rules were applied: values greater than 1,000 were rounded to nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10. Each value, including the totals and sub-totals, was independently rounded directly from the underlying source data.




Sources: ESRI (2014); CEC (2013); Desert Renewable Energy Conservation Plan (DRECP)

**FIGURE III.1-2A**

**Existing Renewable Energy Projects in DRECP Plan Area (Western Portion)**

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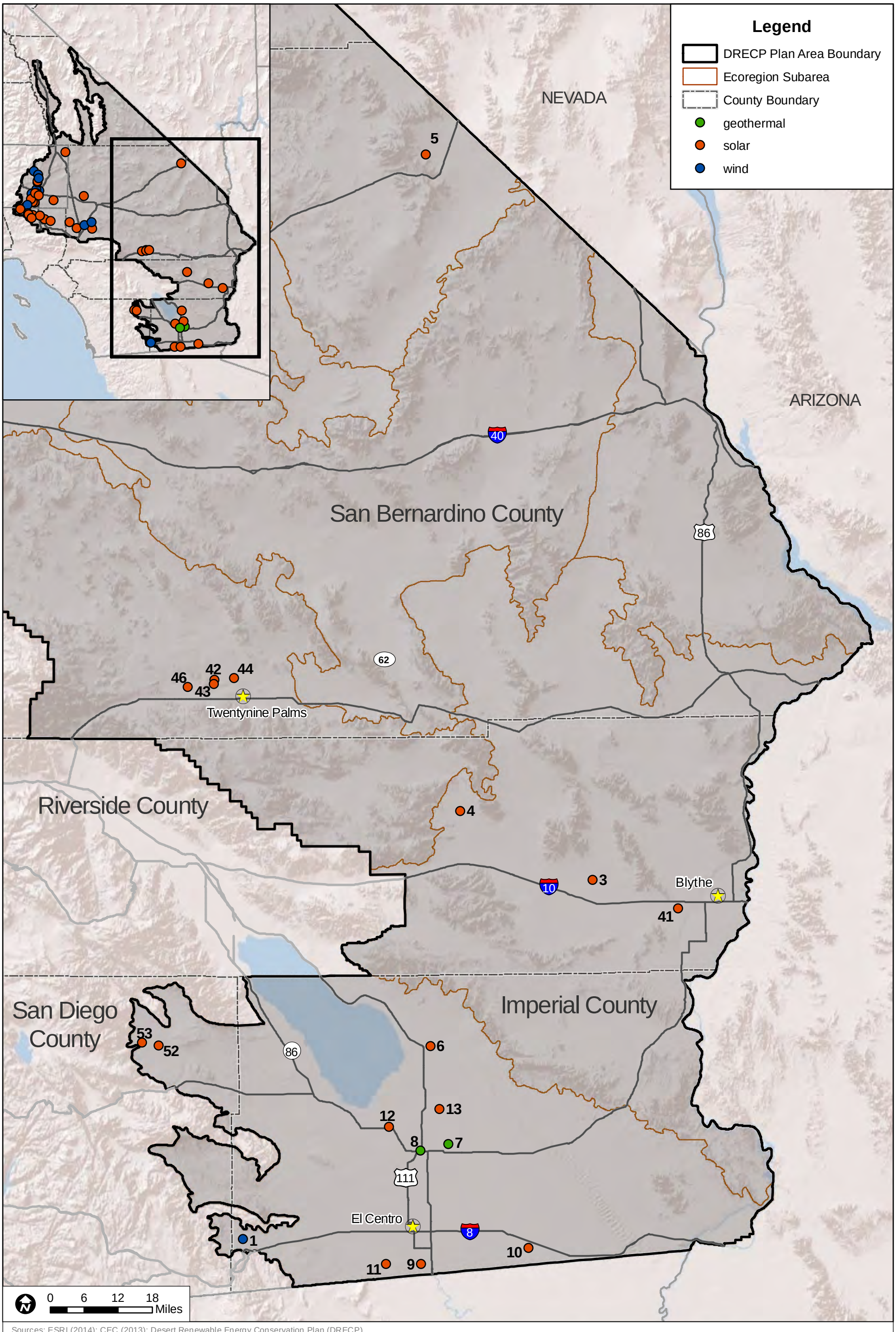


Sources: ESRI (2014); CEC (2013); Desert Renewable Energy Conservation Plan (DRECP)

**FIGURE III.1-2B**

**Existing Renewable Energy Projects in DRECP Plan Area (Eastern Portion)**

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However, because totals and sub-totals were independently rounded they may not be the sum of the other constituent lower level table values.

## III.1.4 Baseline Outside the Plan Area

The Plan would have effects outside of the Plan Area for two reasons. First, required transmission facilities would be constructed or upgraded between the renewable generation facility locations and the areas in California with the highest electricity demand—specifically the San Diego and Los Angeles areas and Pacific Gas and Electric Company's Northern California service territory. Second, the BLM Land Use Plan Amendment (LUPA) would implement planning changes outside the Plan Area (e.g., changes in approach to visual resource management). Because the LUPA changes extend outside the Plan boundaries, this EIR/EIS and LUPA addresses the potential effects outside of the Plan Area. Resource discussions in each chapter within Volumes III and IV include specific discussion of the resources and effects outside of the Plan Area.

## III.1.5 Organization of the Environmental Baseline Chapters

The organization of the sections within Volume III differs among chapters since the resources are distributed differently across the Plan Area. Each chapter within Volume III includes high-level sections on the following topics:

**Regulatory Setting.** Each resource chapter has a section describing the existing laws, orders, regulations, and standards that are relevant to conservation or development within the Plan Area.

**Overview of Resources Within the Plan Area.** This section describes the existing conditions for each resource within the Plan Area. Most resources are described by ecoregion subarea, but that division is not appropriate for all chapters.

**Specifics on Resources Within the Plan Area.** Each chapter has a section describing, on a programmatic level, the affected environment for that resource.

Some chapters within this volume include discussion of resources for the following agency-specific decisions:

- BLM LUPA Affected Environment
- Natural Community Conservation Plan Affected Environment.
- General Conservation Plan Affected Environment.

## Resources Outside of the Plan Area

- Transmission Outside of Plan Area
- BLM LUPA Decisions Outside of Plan Area