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The Nature Conservancy
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To: California Energy Commission
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From: Laura Crane, Director, California Renewable Energy Initiative
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Subject: Identifying and Prioritizing Geographic Areas in California, Comments for the 2012 Integrated Energy and Policy Report (IPER).

On behalf of The Nature Conservancy, we would like to thank you for the opportunity to provide input on the 2012 Integrated Energy and Policy Report. The Nature Conservancy is one of the world's leading conservation organizations. Our mission is to conserve the lands and waters on which all life depends. We have a staff of 3500, including 400 scientists. We work in all 50 states and in 33 countries and are celebrating our 60th anniversary this year.

The Nature Conservancy believes that we can develop the clean, renewable energy that is essential to our future health and prosperity while protecting our iconic California landscapes and ecology. To help meet these goals, we would like to offer to the California Energy Commission the analyses and mapping contained within our ecological assessments for California. The Nature Conservancy's Ecoregional Assessments identify ecologically core areas (also referred to as "portfolio sites") that should be avoided when identifying and prioritizing geographic areas in California for the development of renewable energy.

The Nature Conservancy and partner agencies and organizations have created Ecoregional Assessments and Plans for eleven of California's twelve ecoregions; only the South Coast Ecoregion is not covered. These documents and their accompanying maps provide spatially explicit information about areas of high ecological and conservation value based on the distribution of species, communities and vital ecological processes they depend upon as well as the presence of large unfragmented blocks of land as well as corridors between these blocks and other protected areas. Ecoregional Plans can supplement but in no way replace endangered species recovery plans or other protected area systems, and they do not provide clear maps of where development should occur. They can, however, be used to inform efforts to identify and prioritize geographic areas in California for the development of utility-scale renewable energy generating facilities by directing attention away from areas where

development is likely to have significant harmful effects on broad measures of biological diversity.

The Conservancy uses the approach and methodology outlined in *Designing a Geography of Hope: Guidelines for Ecoregion-Based Conservation* (The Nature Conservancy 1997, 2000), described in more detail by Groves (2003) and further refined in the process of developing other regional conservation frameworks (e.g. Conservation Biology Institute 2009) in recent years. These methods are based on the principles of systematic conservation planning (SCP), as originally described by Margules and Pressey (2000), and currently broadly adopted by government agencies and non-governmental organizations worldwide as a framework for prioritizing conservation investments.

One of the primary components of SCP is the use of a transparent method to select areas as conservation priorities and the definition of criteria used to evaluate the effectiveness of the regional network in maintaining long-term ecological viability. These criteria are based on broad principles of conservation biology meant to apply to multiple levels of biological organization (genes, species, populations, ecosystems) and to provide opportunities for successful adaptation to rapid environmental change. One key component common to the development of Ecoregional Plans starting in the early 2000s is the use of software tools with reserve selection algorithms to generate multiple configurations of areas that meet conservation objectives. This allows planning teams to quickly generate reasonable solutions and test various assumptions regarding suitability, inclusion of existing conservation efforts, and goal levels. Most Ecoregional Plans created by the Conservancy after 2001 used the conservation planning software tool Marxan, which has been the tool of choice for many projects around the world over the past decade (Ball et al. 2009). Also employed by many other organizations and governments, Marxan has been used in a total of 110 countries and is the most widely adopted conservation planning tool in the world. Hundreds of assessments and plans that employed Marxan have been published in peer-reviewed scientific publications (Watts et al. 2009). It also has an active and connected user community and a peer-reviewed "Good Practices Manual" that discusses appropriate and effective methods for integrating Marxan in to conservation planning processes (Ardron et al. 2008).

Ecoregional Plans completed by the Conservancy across the US and around the world have been adopted for use by a wide variety of federal (national), state and local agencies and non-governmental agencies. The approach and methods used have also been widely adopted by government agencies and organizations. Most are designed specifically to identify a set of sites (a "portfolio of sites"; site are areas of thousands to millions of acres) which it is hypothesized would preserve the ecoregion's full suite of biodiversity if they were all protected. The Mojave Desert Ecoregion Assessment completed in 2010 yielded a comprehensive synthesis of the distribution of biodiversity conservation values across the Ecoregion, and presented a vision for the effective protection and management of those values.

Ecoregional Plans for seven of the eleven completed ecoregional plans are easily available on the Conservation Gateway http://www.conservationgateway.org/content/ecoregional-reports (California North Coast; Columbia Plateau; East Cascades – Modoc Plateau & West Cascades; Great Basin; Klamath Mountains; Sierra Nevada). In addition, our Mojave Desert Ecoregional Assessment is available on ConserveOnline: http://conserveonline.org/workspaces/cbdgateway/search?site=ConserveOnline&q=Mojave+Ecoregional+assessment&image.x=0&image.y=0 and the Colorado Desert Assessment (Framework for Effective Conservation Management of the Sonoran Desert in California) is available on the CBI website: http://consbio.org/products/reports/a-framework-for-effective-conservation-management-of-the-sonoran-desert-in-california. We encourage you to contact our South Coast and Deserts science lead, John Randall jrandall@tnc.org, if you would like copies of Ecoregional Plans for the Central Coast and the Central Valley.

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