

MEMORANDUM

To: DRECP Independent Science Panel (ISP)
From: ICF/Dudek
Subject: Narrative Description of the DRECP Conservation Strategy Process Summary Diagram
Date: June 15, 2012

PURPOSE

The purpose of this memo is to describe the information, analysis, modeling, and outcome of conservation planning elements represented in the DRECP Conservation Strategy Process Summary diagram (Figure 1). The thirty ovals depicted in the diagram represent three phases in the conservation strategy process, 1) collection of data or other information represented by orange ovals; 2) analytical processing and modeling represented by purple ovals; and 3) analytical/modeling outcome and synthesis of results into key components of the DRECP conservation strategy represented by red ovals.

DIAGRAM STRUCTURE

The DRECP Conservation Strategy Process Summary diagram is organized to show the flow of information and analysis from data collection to completion of the conservation strategy. There are two main pathways in the diagram, the conservation strategy process, and the renewable energy development focus areas identification and impact analysis. Both pathways influence the final structure of the DRECP Conservation Strategy. The thirty ovals each represent a key component in the development process, and many of the components interact with several other components and affect both pathways in the process.

FLOW OF INFORMATION AND ANALYSIS

Conservation planning relies heavily on GIS data and analysis, therefore, it is not surprising that much of the conservation strategy process flows from the GIS data component (lower middle left side of the diagram). GIS data, along with expert knowledge and the scientific literature, support the identification of natural communities and covered species to be addressed by the DRECP, as summarized in the baseline biology and species profiles (left side of conservation strategy pathway [Top Arrow]). The GIS data also drive the gap analysis and the species habitat models. The species profiles and species habitat models are undergoing external science review by independent recognized species experts.

The species habitat models aid in the quantification of total available habitat in the plan area and assist in setting quantitative conservation acreage objectives. The information on species and natural community ecology, trends, threats, etc., as represented in the baseline

Memorandum

*Subject: Narrative Description of the DRECP Conservation Strategy Development Process
Diagram*

biology, in combination with the quantitative acreage objectives, are used to develop the plan-wide biological goals and objectives (BGOs). The plan-wide BGOs, along with information in existing land management and conservation plans, help identify the draft conservation actions for the DRECP (upper middle left of the top arrow). Conservation actions are specific actions implemented to help achieve the biological goals and objectives, and include but are not limited to conservation on public land, private land acquisition and conservation easements, enhancement and restoration, reduction/removal of stressors and threats. Monitoring and adaptive management are essential to ensure conservation actions are effective. The creation of a plan-wide biological reserve design context (center of top arrow) is driven by the BGOs, the gap analysis, systematic reserve selection using Marxan, and the draft conservation actions which help prioritize key areas for focused conservation attention. Additional drivers to create the plan-wide reserve design context include expert knowledge, ground-level reconnaissance and expertise from the field (agency biologists and other experts), and the results of large-scale wildlife movement corridor modeling. Climate change analysis of covered species and natural communities is also an input to the plan-wide biological reserve design context. The methods for development of the species habitat models, Marxan analysis, climate change analysis, and plan-wide biological reserve design context are included in the Independent Science Panel review.

The next steps in the development of the conservation strategy are highly iterative. The plan-wide biological reserve design context and the draft conservation actions are evaluated at the landscape, natural community, and species levels as a part of the conservation analysis (right middle of top arrow) in an iterative process with ongoing refinements of reserve design and conservation actions to arrive at a recommended conservation strategy.

GIS data representing the distribution of renewable energy resources (lower left corner) is integrated with the rest of the GIS database to develop models of the distribution of developable renewable energy (left side of Development Strategy and Impact Analysis pathway [Bottom Arrow]). The renewable energy models and distribution data are evaluated in relationship to the disturbed lands data to identify initial draft Development Focus Areas (DFAs).

The renewable energy development focus areas identification and impact analysis pathway (bottom arrow) occurs in parallel with the conservation strategy process pathway (top arrow). This pathway includes identification, analysis and refinement of development focus areas (DFAs). The potential effects of renewable energy and transmission development and operation for each DFA is compared with the plan-wide biological reserve design and with

Memorandum

Subject: Narrative Description of the DRECP Conservation Strategy Development Process
Diagram

the distribution of individual species, natural communities, wildlife movement corridors, and other important non-biological land uses (e.g., recreation, military use, cultural resources). The results of this evaluation are an understanding of the potential level of conflict with these resources (low, moderate, or high conflict). Refinements are made to each DFA to reduce the level of conflict to the extent possible while still achieving the purpose of the DFA. Conditions for avoidance and minimization are developed to further reduce the effects of covered activities within the DFAs (right middle bottom arrow) in potential high conflict areas. The results of the renewable energy DFAs identification and impact analysis process are the final DFAs (ride side bottom arrow).

Both pathways are necessary to complete the DRECP conservation strategy. The final plan-wide biological reserve design and final conservation actions are an outcome of the conservation analysis. During implementation of the DRECP, adaptive management and monitoring (the framework for which is also included in the Independent Science Panel review) will ensure that the reserve design and conservation actions are successful by testing management approaches, monitoring the status and trends of species, tracking existing and new threats, and monitoring the response to climate change. The development of DRECP covered activities will trigger mitigation and conservation contribution as an important element of the conservation strategy implementation.

The thirty key components of the DRECP Conservation Strategy Process Summary represented in the diagram represent the substantial data assembly and analysis used to develop the DRECP. The methods and results supporting each of these components are documented in DRECP work products assembled to date and documentation will continue throughout the DRECP planning process. Table 1, is a more comprehensive list of the components and the location in the DRECP documentation where each is or will be described.

Table 1
Comprehensive List of the Components of the DRECP Conservation Strategy Development Process

Conservation Strategy Development Component	Location in DRECP Documentation*
<i>Outside information sources</i>	
• Principles of Conservation Biology	Ch. 3
• Tenets of Reserve Design	Ch. 3
• Scientific Literature and Expert Knowledge	BBR, CC App., App. B
• Land Cover Data (including new west Mojave mapping)	BBR
• Species Occurrence Data	BBR
• Other Physiographic GIS Data	BBR

Memorandum

Subject: Narrative Description of the DRECP Conservation Strategy Development Process Diagram

Conservation Strategy Development Component	Location in DRECP Documentation*
• Land Use and Ownership	BBR
• Existing Land Management and Conservation Plans	App. B
• Existing Landscape and Corridor Modeling	BBR, Ch. 3
• Climate Data and Global Climate Models	Ch. 3, CC App
• Renewable Energy Resource Distribution Data	Chapter 3, App. B
Information Summarization and Synthesis	
• Species Profiles	BBR
• Development of Draft Conservation Actions	BGO Memo, Ch. 3 – 4 (In Process)
• Gap Analysis	BBR, Ch. 3
• Plan-wide Biological Reserve Design	Ch. 3, App. B
• Development Focus Areas	Development Scenarios 1-6 (April stakeholders) and Ch. 6 (In Process)
• Covered Species Selection	BBR
• Identification of Natural Communities	BBR
• Plan-wide Biological Goals and Objectives	BGOs Memo, Ch. 3 – 4 (In Process)
• Quantitative Conservation Acreage Objectives	Ch. 3, App. B
DRECP Analytical Modeling	
• Species Habitat Models	BBR
• Climate Change Analysis	CC App
• Marxan Reserve Selection Algorithm	Ch. 3, App. B
• Disturbed Land Modeling	BBR, App. B
• Renewable Energy Resource Value Models	App. B
Iterative Evaluation Steps	
• Conservation Analysis	Ch. 3 - 4 (In Process)
• Iterative Refinement of Reserve Design and Conservation Actions	Ch. 3 – 4 (In Process)
• Iterative Refinement of Development Focus Areas	Ch. 6 (In Process)
Conservation Strategy	
• Final Plan-wide Biological Reserve Design	Ch. 4, (In Process)
• Final Conservation Actions	Ch. 4 (In Process)
• Mitigation and Conservation Contribution	Ch. 4 (In Process)
• Adaptive Management and Monitoring	Ch. 5
Development Strategy and Impact Analysis	
• Development Effects Analysis	Ch. 7 (In Process)
• Operational Effects Analysis	Ch. 7 (In Process),
• Final Development Focus Areas (DFAs)	Ch. 6 (In Process)
• Conditions for Avoidance and Minimization	Ch. 4 (In Process)
• Mitigation and Conservation Contribution	Ch. 4 (In Process), Ch. 7 (In Process)

*Key to abbreviations: Ch. (Chapter of the DRECP), BBR (Baseline Biology Report), App. B (Appendix B of the DRECP), BGO memo (Biological Goals and Objectives Memo), CC App. (Climate Change Technical Appendix to the DRECP)