Restoration Design Energy Project EIS

Summary of Conceptual Alternatives

April 15, 2011

Introduction

This document provides the working draft conceptual alternatives for the Restoration Design Energy Project (RDEP) Environmental Impact Statement (EIS). The BLM is soliciting public input on the approach, criteria, and general geographic allocations of the conceptual alternatives. The alternatives at this phase are general; more details, including acreages, will be included in the Draft EIS.

Project Overview

The United States (US) Bureau of Land Management (BLM) Arizona State Office is preparing an EIS to identify lands across Arizona that may be suitable for the development of renewable energy and to establish a baseline set of environmental protection measures for such projects. The RDEP, funded by the American Recovery and Reinvestment Act of 2009, would support the Secretary of the Interior's goals to build America's new energy future and to protect and restore treasured landscapes.

Implementation of the RDEP would result in the identification of areas suitable for renewable energy development. Emphasis will be on previously disturbed or developed lands where the impacts on sensitive resources would be minimized. The BLM intends to use the results of the RDEP EIS to amend its land use plans across Arizona so that the plans identify those BLM-managed lands that are considered to be most suitable for renewable energy projects. While these amendments will only apply to BLM-managed lands, the EIS will examine all lands in Arizona, regardless of ownership, and serve as a resource to the public, policy makers, and energy planners.

Purpose of and Need for Action

The goals of the RDEP are to foster environmentally responsible production of renewable energy and to allow the permitting of future renewable energy development projects to proceed in a more efficient and standardized manner. The RDEP would amend BLM land use plans for the appropriate land use allocations and land tenure decisions. It also would design a land reuse program identifying design features, best management practices, and remediation and restoration protocols to protect resource values and uses.

Considering the above, the objectives of the RDEP include:

- Obtaining broad consensus on the desired future renewable energy footprint on federal, Indian, state, and private lands in Arizona that may inform renewable energy developers in their siting of projects throughout the state;
- Designating BLM-administered public lands for renewable energy development with an emphasis on previously disturbed sites and areas with low resource conflicts; and
- Providing opportunities to sustainably reuse disturbed lands with renewable energy potential, recognizing the demand for renewable energy generation and potential remediation and restoration requirements.

The RDEP is needed because of the orders, mandates, and laws that require the BLM, as part of the Department of the Interior (DOI), to facilitate renewable energy development. Additionally, there is a need to address aging energy system infrastructure in Arizona, the projected needs and requirements for system reliability, and the desire to increase reliance on renewable energy sources, such as solar and wind.

Key Project Issues

The following project issues reflect concerns and questions raised by the public, cooperating agencies, and the BLM during the scoping process for the RDEP:

1. Stakeholders and Collaboration: How will the BLM work with stakeholders across the state to leverage local knowledge, secure data sources, and consider local needs?
2. Site Criteria: What criteria will be applied to the nominated sites to determine suitability for inclusion in the alternatives, such as proximity to population and energy development potential?
3. Transmission Lines: How will the BLM consider the need for new transmission lines or proximity to existing transmission lines in site selection and alternatives development?
4. Balancing Development: How will the BLM balance the development of renewable energy sites across the landscape?
5. Technology and Infrastructure: How can the BLM accommodate a diversity of technologies, existing infrastructure, and different scales of development?
6. Land Tenure Adjustments: Can the purpose of and need for the proposed action be addressed through land tenure adjustments (such as land exchange or disposal)?
7. Streamlining Future Analysis: How can this EIS streamline the process for permitting and performing site-specific environmental analyses for sites identified in the future?
8. Remediation: How will the BLM address the need for site-specific remediation?
9. Effects on Resources and Resource Uses: How will the BLM minimize the impacts of renewable energy development on resources and resource uses, including air, water, wildlife, wildlife habitat, wilderness, cultural and paleontological resources, visual resources, and recreation?
10. Socioeconomics and Environmental Justice: How can the BLM implement the project in a way that strengthens state and local socioeconomic conditions, provides local access to energy, ensures environmental justice, and protects human health and safety?
11. Cumulative Impacts: How will the BLM address the cumulative impacts of renewable energy development and its associated infrastructure on a landscape scale?

Alternative-development Process – Background and Approach

The National Environmental Policy Act (NEPA), the policy under which the EIS is being developed, directs the BLM to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources…" (NEPA Sec102(2)(E)). At the heart of the alternative-development process is the required development of a reasonable range of alternatives. Public and internal (within BLM) scoping has identified issues that present opportunities for alternative courses of action, while the purpose of and need for action provides side boards for determining "reasonableness."

The BLM has identified a need to respond in a more efficient and effective manner to the high interest in siting renewable energy development on public lands and to ensure consistent application of measures to avoid, minimize, or mitigate the adverse impacts of such development. The RDEP is designed to integrate, incorporate, and build upon the national efforts of the BLM to address renewable energy. In 2005, the BLM issued the Wind Energy Programmatic EIS (PEIS) (December 2005), which amended BLM land use plans throughout the western US but not Arizona, with protective measures for siting wind projects. The RDEP will incorporate and refine the decisions in the Wind Energy PEIS. The proposed Solar Energy Program, as analyzed in the recently released BLM Draft PEIS for Solar Energy Development in Six Western States (Solar Draft PEIS) (December 2010), has been designed to further the BLM's ability to meet the requirements for facilitating solar energy development on BLM-administered lands. The RDEP will build on the analyses in the Solar Draft PEIS and would, through the land use plan-amendment process, refine or prioritize additional areas in Arizona where solar energy development may occur.

Based on public and internal BLM scoping, five conceptual alternatives have been developed, in addition to the No Action Alternative. Four of the five alternatives focus on designating lands for renewable energy development and would incorporate the Solar Draft PEIS best management practices and stipulations as a starting point, and then refine them as needed for site specificity in Arizona. The fifth alternative emphasizes land exchanges with the State of Arizona for the purpose of enhancing revenue for the Arizona State School Trust. The alternatives illustrate the areas that the BLM views as being the best suited for renewable energy development. All other lands would still remain open for applications, unless the use is excluded in the current BLM land use plan; however, development on these lands would likely be more difficult due to known resource constraints.

The first alternative serves as the first screen of removing areas with sensitive resources from consideration (see Table 1, Areas with Known Sensitive Resources) and creates a "base map" of proposed Renewable Energy Development Areas (REDAs). Each subsequent alternative focuses on a key theme (such as proximity to transmission or water conservation), which is overlaid on the base map, thereby exploring the tradeoffs of further removing lands from consideration as a REDA. It is anticipated that using the suite of alternatives, the BLM will eventually create a "blended" alternative that incorporates elements from the other alternatives to best meet the purpose of and need for action. As envisioned, this "blended" alternative would represent the BLM's "preferred alternative" in the Draft EIS. In addition to the geographic designations, all alternatives will include stipulations and best management practices, which are currently being developed. The Draft EIS will also include a No Action Alternative that describes the current BLM allocations and management direction for renewable energy development. The alternative-development process used various data sources, which are provided in the reference section at the end of this report.

The alternatives are briefly described below. Figure 1 provides a graphic illustration of the differences between the alternatives, and Figure 2 provides the baseline data used in the development of the alternatives. Figures 3 through 7 provide a graphic illustration of each alternative statewide and on BLM lands. Figures 8 through 11 illustrate areas eliminated from consideration for each alternative.

Alternative 1: Maximum Renewable Energy Development Area (REDA)

The purpose of this alternative is to maximize the area designated for renewable energy development; therefore, it has the fewest constraints. Under this alternative, the BLM would allocate for renewable energy development the REDAs that intersect BLM-administered lands (Figures 1 and 3). The factors to initially determine which lands would be preferred for renewable energy development include RDEP-nominated sites, low sensitivity areas, and Solar Energy Zones as identified in the Draft Solar PEIS.

The BLM would take the following management actions in the REDA:

- Provide priority in processing actions for applications within the REDA;
- Place a priority on renewable energy development over other land uses;
- Focus BLM efforts on processing renewable energy development projects;
- Prioritize related electricity transmission projects and needs; and
- Implement standard mitigation measures and best management practices.

Layers used to generate the map, Figures 2 and 8, include:

- RDEP-nominated sites;
- Low sensitivity areas (areas with no known sensitive resources as noted in Table 1, Areas with Known Sensitive Resources); and
- Brenda, Gillespie, and Bullard Wash Solar Energy Zones as identified in the Draft Solar PEIS.

Alternative 2: Transmission Line and Utility Corridor REDA

Alternative 2 seeks to minimize environmental impacts by focusing renewable energy development on lands within reasonable proximity to designated utility corridors and existing or proposed transmission lines. Under this alternative, the BLM would allocate for renewable energy development the REDAs within transmission and utility corridors that intersect BLM-administered lands (Figures 1 and 4). For this alternative, the BLM started with Maximum REDA lands (Alternative 1), and then narrowed them further to only those lands within a 5-mile buffer around: (1) BLM-designated utility corridors; (2) existing transmission lines; and (3) reasonably foreseeable proposed transmission lines. There are a number of "proposed" transmission lines in Arizona. Only certified routes and the top three lines filed by the utilities to the Arizona Corporation Commission were brought forward and considered reasonably foreseeable (likely to be built in the reasonable future).

The BLM management actions in this alternative would be the same as those listed under Alternative 1.

Layers used to generate the maps, Figures 2 and 9, include:

- Alternative 1: Maximum REDA;
- Designated utility corridors in current BLM land use plans;
- Designated BLM West Wide Energy Corridors;
- Existing transmission lines (private data from Platts); and
- Proposed transmission lines.

Alternative 3: Water Conservation and Protection REDA

Alternative 3 focuses on avoiding impacts to sensitive surface watersheds, protecting ground-water supply, reducing consumptive use of water, and maintaining groundwater quantity, without causing unacceptable environmental, economic, or social consequences. Under this alternative, the BLM would allocate for renewable energy development the REDAs that intersect BLM-administered lands outside of areas with sensitive water concerns (Figures 1 and 5). This alternative started with Maximum REDA lands (Alternative 1), and then excluded BLM priority watersheds, US Environmental Protection Agency designated sole-source aquifers, Arizona Division of Water Resources Active Management Areas, and Arizona Division of Water Resources irrigation non-expansion areas. One option with this alternative is to limit renewable energy all together in these areas or another option is to limit only water-intensive technologies, such as wet-cooling.

The BLM management actions in this alternative would be the same as those described under Alternative 1 and would also:

- Provide extensive water quality/quantity design features and mitigation measures; and
- Require all applications with consumptive use to prepare and submit to the BLM a water mitigation and monitoring plan to sustain yield. Mitigation in these plans could include water retirement, use of recycled or waste water, vegetation treatments (such as tamarisk removal), and other water augmentation techniques.

Layers used to generate the maps, Figures 2 and 10, include:

- Alternative 1: Maximum REDA;
- US Environmental Protection Agency sole-source aquifers: Naco-bisbee and Upper Santa Cruz and Avra Basin;
- BLM priority watersheds: Agua Fria River, Big Sandy River, Bill Williams River, Hassayampa River, Kanab Creek, Lower Colorado River (below Imperial Reservoir), Lower San Pedro River, Santa Maria River, Upper San Pedro River, and Upper Gila River-San Carlos Reservoir;
- Arizona Division of Water Resources Active Management Areas: Pinal, Phoenix, Prescott, Tucson, and Santa Cruz; and
- Arizona Division of Water Resources irrigation non-expansion areas: Douglas, Harquahala, and Joseph City.

Alternative 4: Load Offset REDA

The purpose of this alternative is to minimize disturbance and environmental impacts by keeping energy generation near the point of demand. This alternative focuses on the following:

- Offsetting urban, rural, or industrial demand by serving both large and smaller loads;
- Reducing load required from the larger power grid, thereby allowing routing to other locations using existing transmission;
- Providing opportunities for utility-scale and distributed energy; and
- Promoting the development of renewable energy industrial parks near Palo Verde Nuclear Power Plant and the town of Gila Bend.

Under this alternative, the BLM would allocate for renewable energy development the REDAs that intersect BLM-administered lands (Figures 1 and 6). For this alternative, the BLM considered only those lands identified under Alternative 1 within a 10-mile buffer around all towns, a 5-mile buffer of the US Bureau of Reclamation Central Arizona Project area and center pivot irrigation systems, a 20-mile buffer around Palo Verde, and a 20-mile buffer around the town of Gila Bend.

The BLM management actions in this alternative would be the same as those described under Alternative 1.

Layers used to generate the maps, Figures 2 and 11, include:

- Alternative 1: Maximum REDA;
- 10-mile buffer around Arizona towns and cities;
- 5-mile buffer around US Bureau of Reclamation Central Arizona Project reach;
- 5-mile buffer around center pivots; and
- 20-mile buffers around Palo Verde Nuclear Power Plant and the town of Gila Bend.

Alternative 5: Land Tenure REDA

This alternative emphasizes land exchanges with the State of Arizona for the purpose of enhancing revenue for the Arizona State School Trust through energy development and resource protection for federal lands. The primary objective would be to exchange BLM lands with allocated REDAs for state lands within the San Pedro and Las Cienegas National Conservation Areas or other areas of high conservation priority. The allocated REDAs for this alternative consist of lands identified for disposal under existing land use plans that do not have known sensitive resources. Implementation of this alternative would require a modification to the Arizona constitution to allow for exchanges between the state and federal governments.

The BLM management actions in this alternative would be the same as those described under Alternative 1.

Layers used to generate the map, Figure 7, include:

- Lands identified for disposal in existing land use plans, which do not have any known sensitive resources as noted in Table 1, Areas with Known Sensitive Resources;
- RDEP-nominated sites on BLM land; and
- Brenda, Gillespie, and Bullard Wash Solar Energy Zones as identified in the Draft Solar PEIS.

Table 1
Areas with Known Sensitive Resources (Eliminated from REDA Consideration)

Areas with Known Sensitive Resources	Source (see References at the end of this document)
BLM Areas of Critical Environmental Concern	BLM 2010
BLM Backcountry Byways	BLM 2010
BLM Designated Wilderness	BLM 2010
BLM Lands with Wilderness Characteristics	BLM 2010
BLM Lands with Wilderness Inventory	BLM 2010
BLM Visual Resource Management Classes 1, 2, and 3	BLM 2010
BLM Special Recreation Management Areas	BLM 2010
BLM Right-of-way exclusion or avoidance areas	BLM 2010
BLM Herd Management Areas	BLM 2010
Gila River Terraces	BLM 2010
National Monuments	BLM 2010
National Conservation Areas	BLM 2010
Wild and Scenic Rivers (either eligible or suitable for inclusion in the National Wild and Scenic Rivers System or rivers included in the National Wild and Scenic Rivers System)	BLM 2010
National Park System units, including Petrified Forest National Park Expansion Area	BLM 2010, SWReGAP 2011
National Park System National Historic Trails (0.25-mile buffer)	BLM 2010
Indian Lands	BLM 2010
Military Lands	BLM 2010
State Parks	Arizona State Parks 2010
State Wildlife Areas	BLM 2010
US Fish and Wildlife Service lands	BLM 2010
The Nature Conservancy conservation easements, Audubon Society land, and private conservation easements	SWReGAP 2011
US Forest Service Designated Wilderness	USFS 2010a
US Forest Service Established Research Natural Areas	USFS 2010b
US Forest Service Inventoried Roadless Areas	USFS 2010c
US Forest Service Heber Wild Horse and Burro area	USFS undated
US Forest Service Special Interest Management Areas	USFS 2010b
Airports (0.25-mile buffer)	National Atlas 2010
Urban areas	ALRIS 2010
Arizona Game and Fish Department crucial habitat	AZGFD 2011
Arizona Game and Fish Department big game	AZGFD 1988
Special status species, including threatened and endangered species	AZGFD 2010

Table 1

Areas with Known Sensitive Resources (Eliminated from REDA Consideration)

locations	
Arizona Game and Fish Department wildlife corridors	AZGFD 2010
US Fish and Wildlife Service critical habitat for threatened and endangered species	USFWS 2010
BLM sensitive species habitat	BLM 2010
Desert tortoise (*Gopherus agassizii*) habitat categories 1, 2, and 3	BLM 2010
National Wetland Inventory wetlands	NWI 2010
Water bodies (lakes and dry lakes)	BLM 2010
Federal Emergency Management Agency 100-year floodplains	FEMA 2010
Areas of known mineral deposits	AZGS 2008, Arizona Bureau of Geology and Mineral Technology 1983, Arizona Bureau of Mines 1993
Severe soils	BLM 2010, Description of Soil Series 2010
Greater than 5-percent slopes (or greater than 15-percent slopes for areas with wind potential)	USGS 2010, BLM 2010

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Arizona Bureau of Geology and Mineral Technology (now known as Arizona Geological Survey). 1983. Published map of Metallic Mineral Districts of Arizona, by Stanley B. Keith, Don Egest, and Ed DeWitt.

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_____. 2010b. Published Data on Established Research Natural Areas and Special Interest Management Areas. Internet Web site: http://www.fs.fed.us/r3/gis/datasets.shtml. Accessed on August 29, 2010.

_____. 2010c. Published Data on Inventoried Roadless Areas. Internet Web site: http://fs.usda.gov/Internet/FSE_DOCUMENTS/fsmrs_072343.pdf. Accessed on August 25, 2010.

_____. Undated. Published Map on Heber Wild Horses and Burros. Internet web site: http://www.fs.fed.us/r3/asnf/wildhorse/images/wildhorse-genmap. Accessed in August 2010.

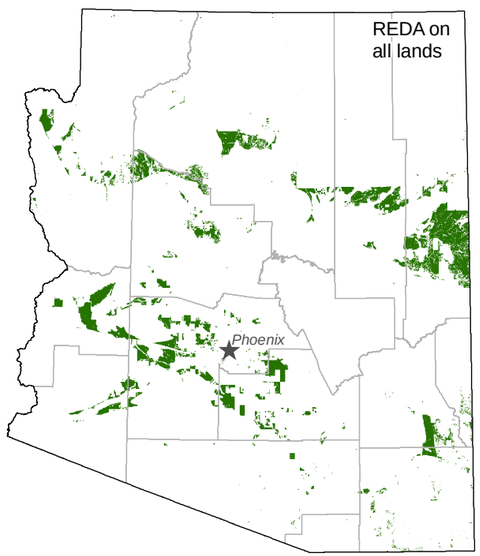
USFWS (United States Fish and Wildlife Service). Undated. Published Data on Critical Habitat for Threatened and Endangered Species. Internet Web Site: http://criticalhabitat.fws.gov/. Accessed on August 31, 2010.

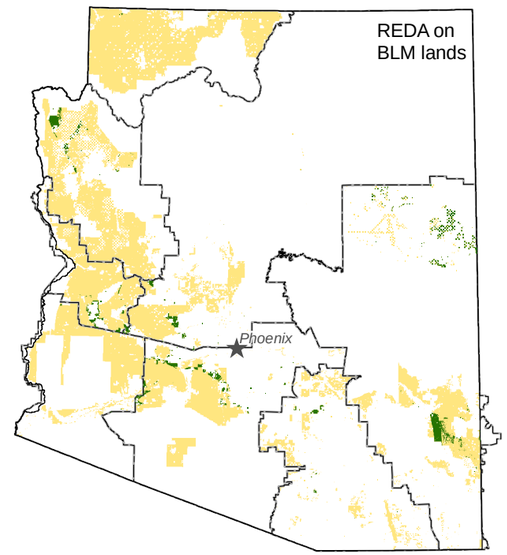
USGS (United States Geological Survey). 2010. Digital elevation model of the state of Arizona. Acquired via BLM Arizona State Office eGIS server.

Arizona Bureau of Land Management (BLM) Restoration Design Energy Project (RDEP) Conceptual Alternatives
Renewable Energy Development Areas (REDA): Comparison of Alternatives

Alternative 1: Maximum REDA

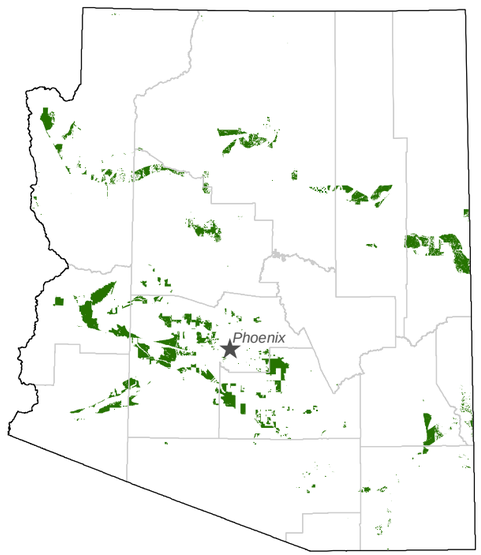
Includes low sensitivity sites, RDEP-nominated sites, and BLM Draft Solar Programmatic Environmental Impact Statement Solar Energy Zones.

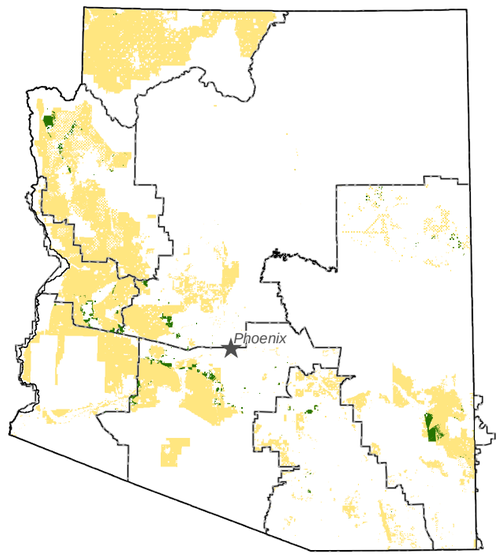




Alternative 2: Transmission Line and Utility Corridor REDA

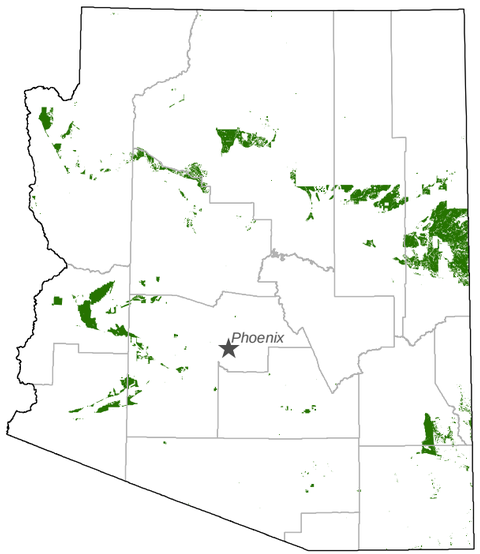
Same as Alternative 1, but includes REDA within 5 miles of an existing or proposed transmission line, within 5 miles of designated Arizona BLM Utility Corridors, and designated BLM West Wide Energy Corridors.

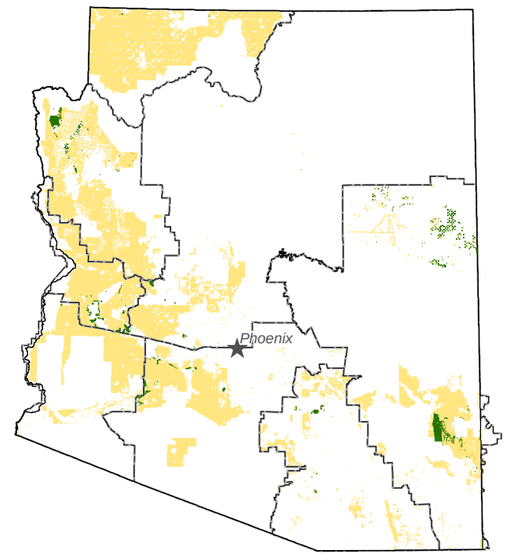




Alternative 3: Water Conservation and Protection REDA

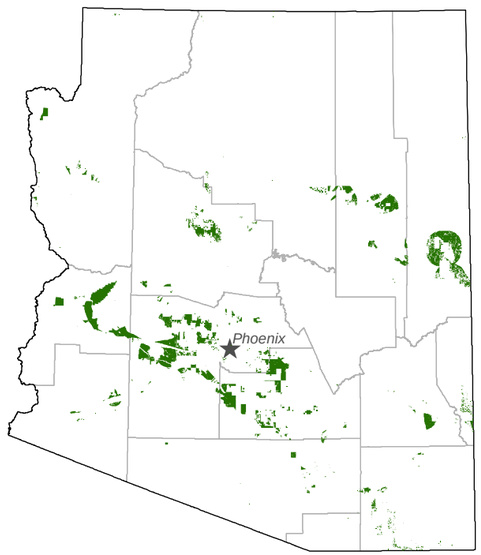
Same as Alternative 1, but includes REDA outside BLM Priority Watersheds, Arizona Division of Water Resources (DWR) Active Management Areas, DWR Irrigation Non-expansion Areas, and US Environmental Protection Agency Sole Source Aquifers.

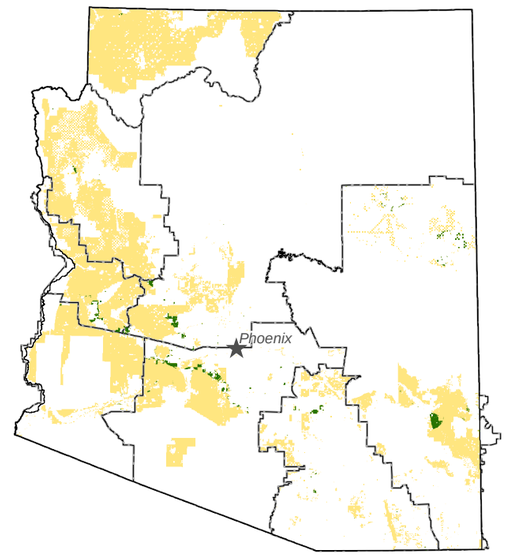




Alternative 4: Load Offset REDA

Same as Alternative 1, but includes REDA within 10 miles of towns and cities in Arizona, 5 miles of US Bureau of Reclamation Central Arizona Project and irrigation pumping sites, and 20 miles of Palo Verde Nuclear Power Plant and the town of Gila Bend.





0 50
Miles

REDA | BLM land outside of REDA | county boundary | BLM field office boundary

Source BLM 2010

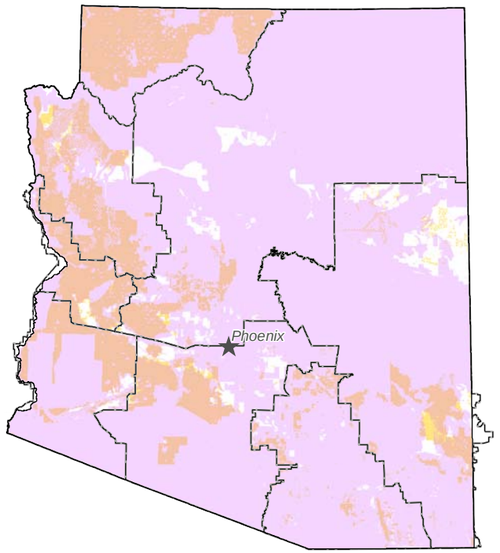
Figure 1

WORKING DRAFT

Arizona Bureau of Land Management (BLM) Restoration Design Energy Project (RDEP)
Areas Eliminated from Consideration from Renewable Energy Development Areas (REDA):
Comparison of baseline data used in alternatives development

Alternative 1: Maximum REDA

Areas of known sensitive resources are eliminated from consideration, see Table 1 for full list.



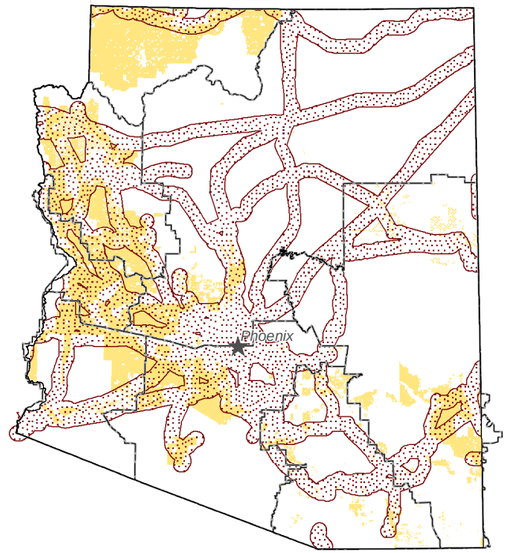
- Sensitive resource area
- BLM land inside sensitive resource area
- BLM land outside sensitive resource area
- BLM field office boundary

See references for full list of sources for sensitive resource areas.

0 50
Miles

Alternative 2: Transmission Line and Utility Corridor REDA

Same as Alternative 1, but excludes REDA further than 5 miles from existing or proposed transmission lines, designated Arizona BLM Utility Corridors, and designated BLM West Wide Energy Corridors.

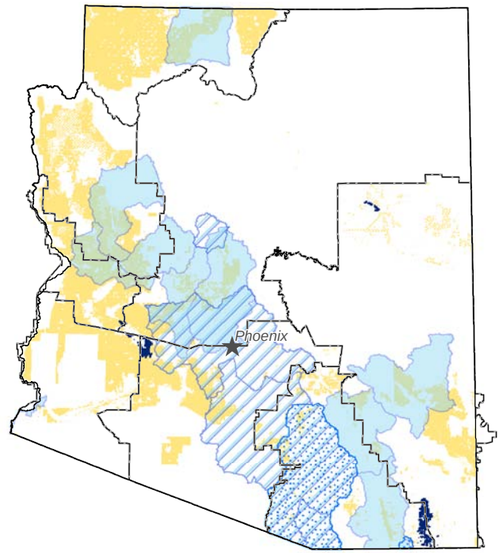


- Transmission line and utility corridor 5-mile buffer
- BLM land

Source: BLM 2010, POWERmap, powermap.platts.com @2008 Platts, A Division of the McGraw-Hill Companies. Transmission line data verified with assistance from Arizona Public Service Company, Salt River Project, and Bing Maps.

Alternative 3: Water Conservation and Protection REDA

Same as Alternative 1, but excludes REDA within BLM Priority Watersheds, Arizona Division of Water Resources (DWR) Active Management Areas, DWR Irrigation Non-expansion Areas, and US Environmental Protection Agency (EPA) Sole Source Aquifers.

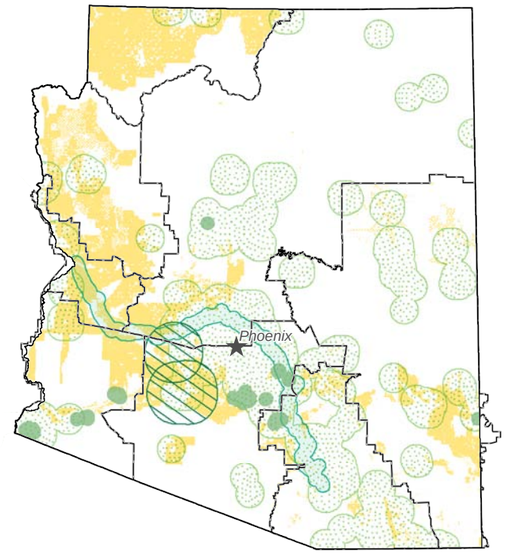


- BLM Priority Watershed
- DWR Active Management Area
- EPA Sole Source Aquifer
- DWR Irrigation Non-expansion Area

Source: BLM 2010, DWR 2010, EPA 2010

Alternative 4: Load Offset REDA

Same as Alternative 1, but excludes REDA further than 10 miles around towns and cities in Arizona, 5 miles of the US Bureau of Reclamation (BOR) Central Arizona Project area and irrigation pumping sites, and 20 miles around Palo Verde Nuclear Power Plant and the town of Gila Bend.



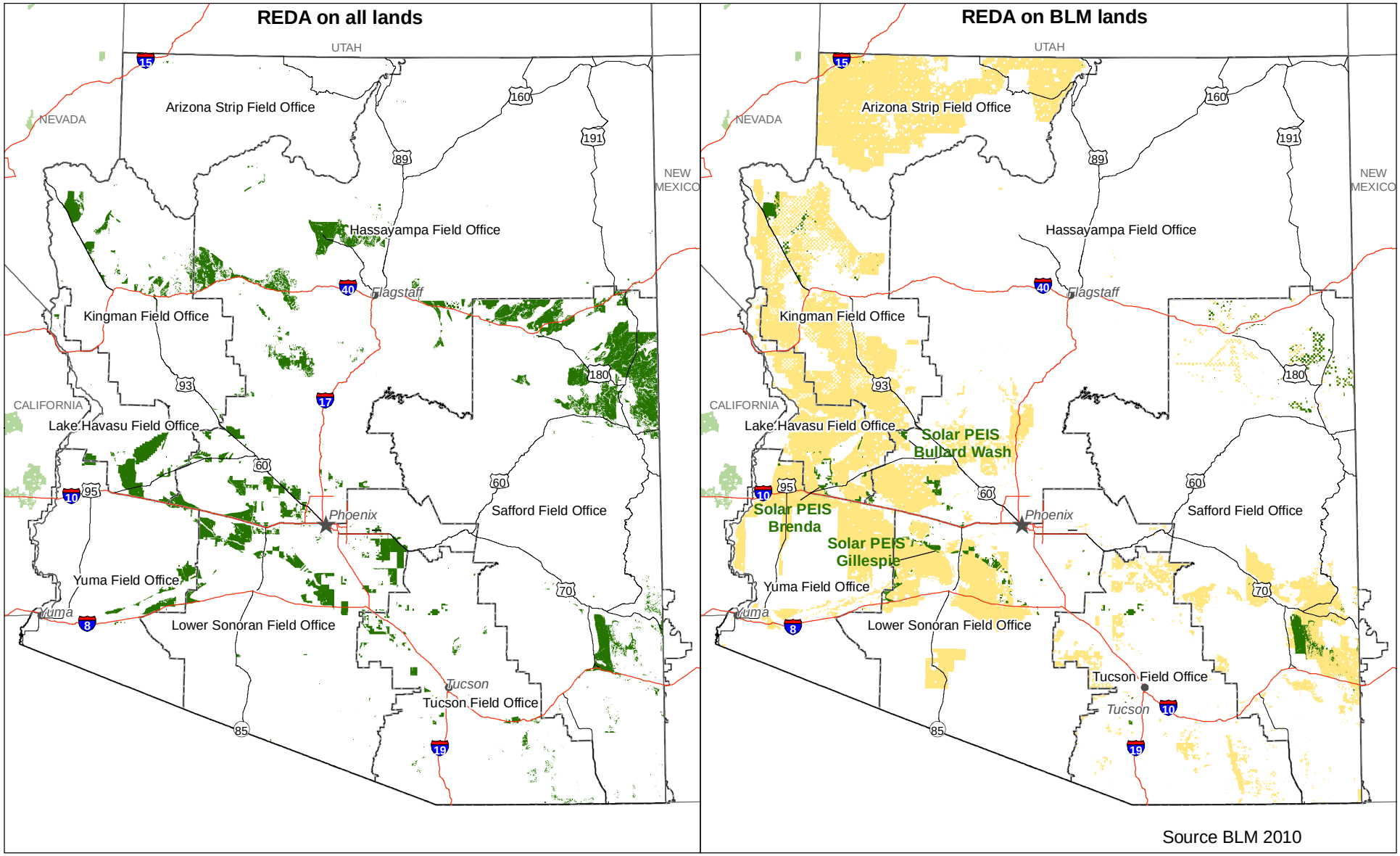
- Town or city 5-mile buffer
- BOR Central Arizona Project reach 5-mile buffer
- Center pivot 5-mile buffer
- Palo Verde Nuclear Power Plant or town of Gila Bend 20-mile buffer

Source: ALRIS 2010, BLM 2010, BOR 2010

Figure 2

Arizona Bureau of Land Management (BLM) Restoration Design Energy Project (RDEP)
Renewable Energy Development Areas (REDA)

Alternative 1: Maximum REDA
Includes low sensitivity sites, RDEP-nominated sites, and BLM Draft Solar Programmatic Environmental Impact Statement (Solar Draft PEIS) Solar Energy Zones.



0 20 Miles

REDA | BLM land outside of REDA | Solar Draft PEIS Solar Energy Zone outside of Arizona

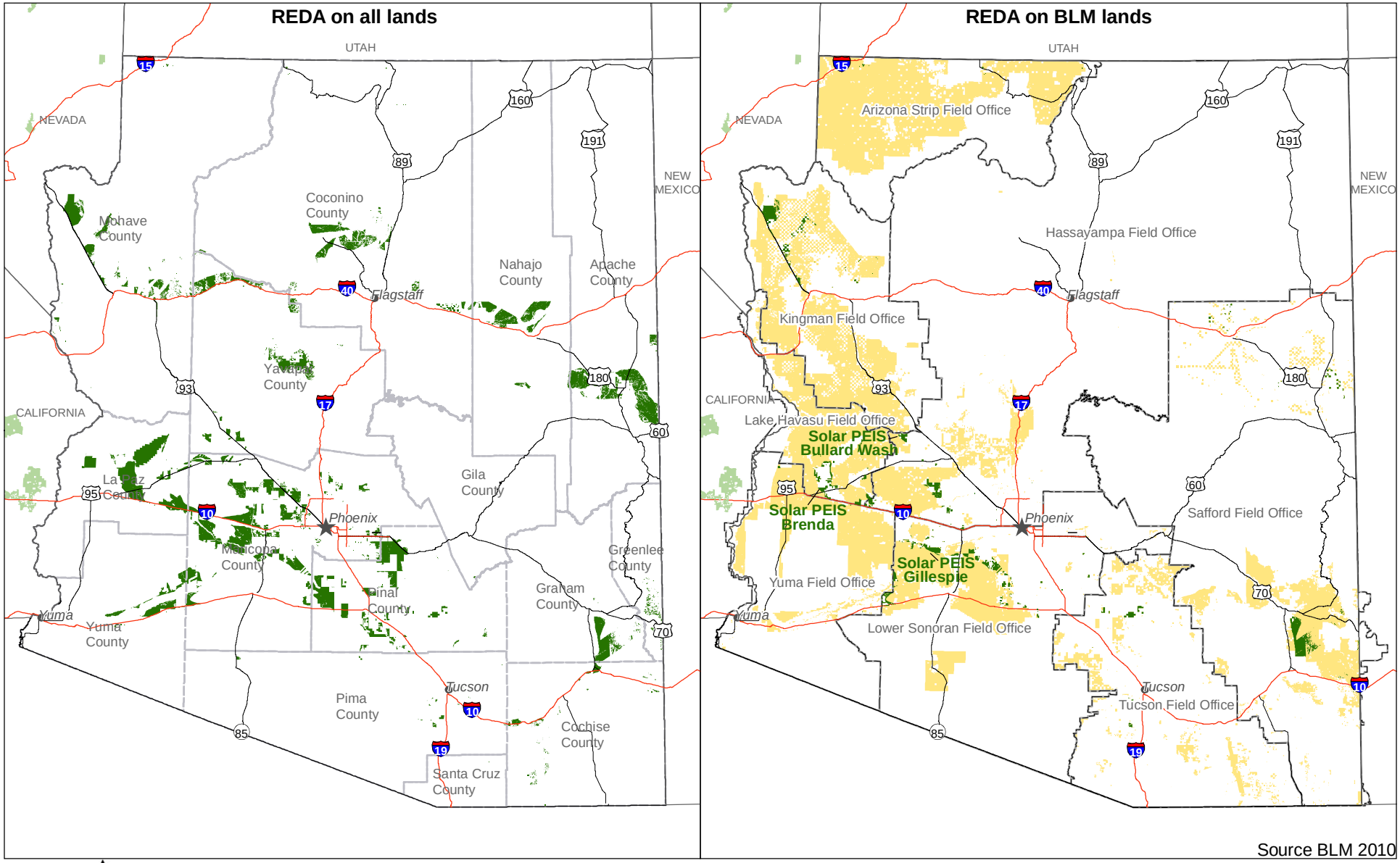
March 2011. No warranty is made for the use of the data for purposes not intended by the BLM.

Figure 3

WORKING DRAFT

Arizona Bureau of Land Management (BLM) Restoration Design Energy Project (RDEP)
Renewable Energy Development Areas (REDA)

Alternative 2: Transmission Line and Utility Corridor REDA
Includes REDA within 5 miles of an existing or proposed transmission line, within 5 miles of designated Arizona BLM Utility Corridors, and designated BLM West Wide Energy Corridors.



0 20
Miles

REDA | BLM land outside of REDA | Solar Draft PEIS Solar Energy Zone outside of Arizona

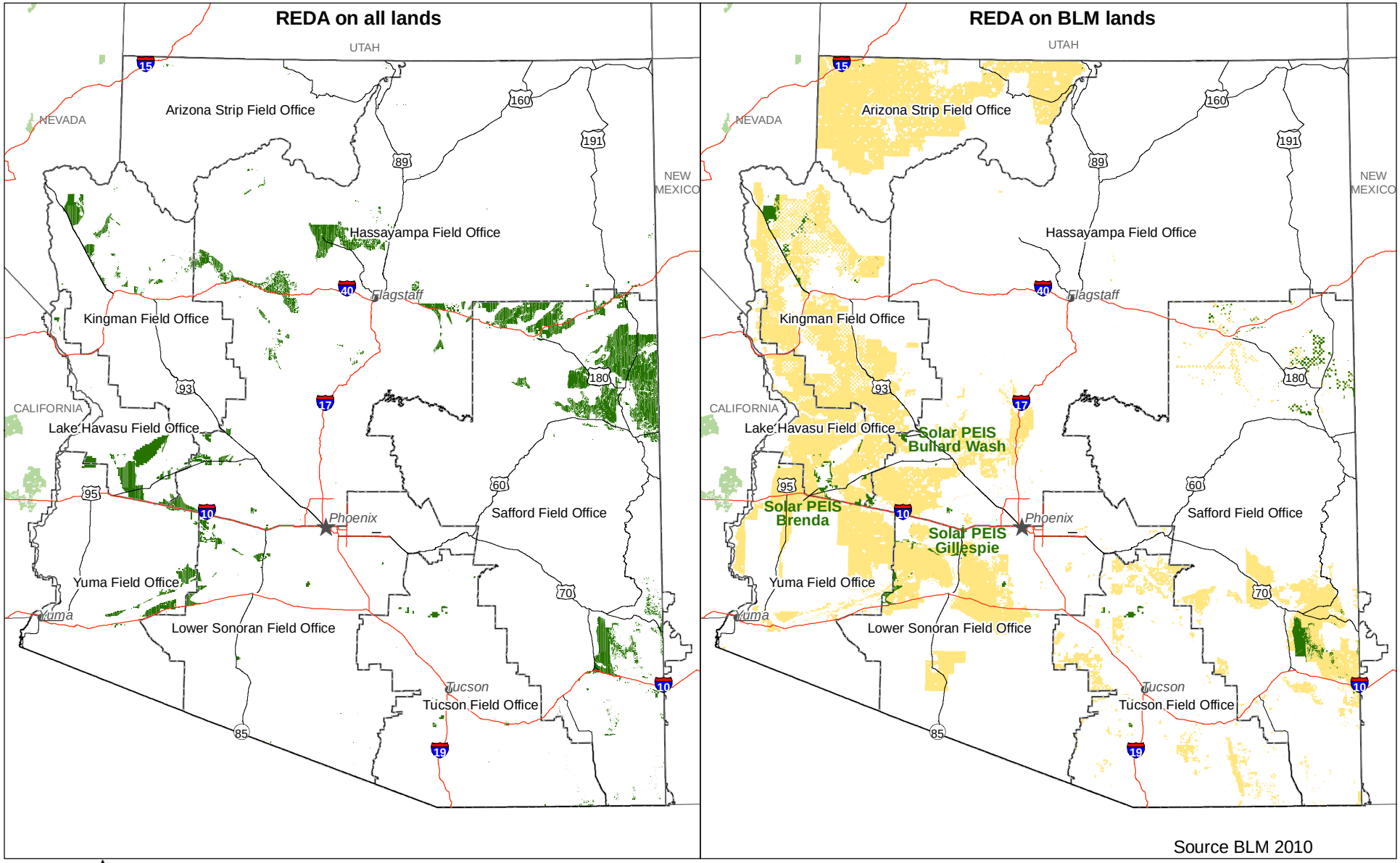
March 2010. No warranty is made for the use of the data for purposes not intended by the BLM.

Figure 4

WORKING DRAFT

Arizona Bureau of Land Management (BLM) Restoration Design Energy Project (RDEP)
Renewable Energy Development Areas (REDA)

Alternative 3: Water Conservation and Protection REDA
Includes REDA outside BLM Priority Watersheds, Arizona DWR Active Management Areas
(AMA), DWR Irrigation Non-expansion Areas (INA), and US EPA Sole Source Aquifers (SSA).



0 20
Miles

REDA | BLM land outside of REDA | Solar Draft PEIS Solar Energy Zone outside of Arizona

March 2011. No warranty is made for the use of the data for purposes not intended by the BLM.

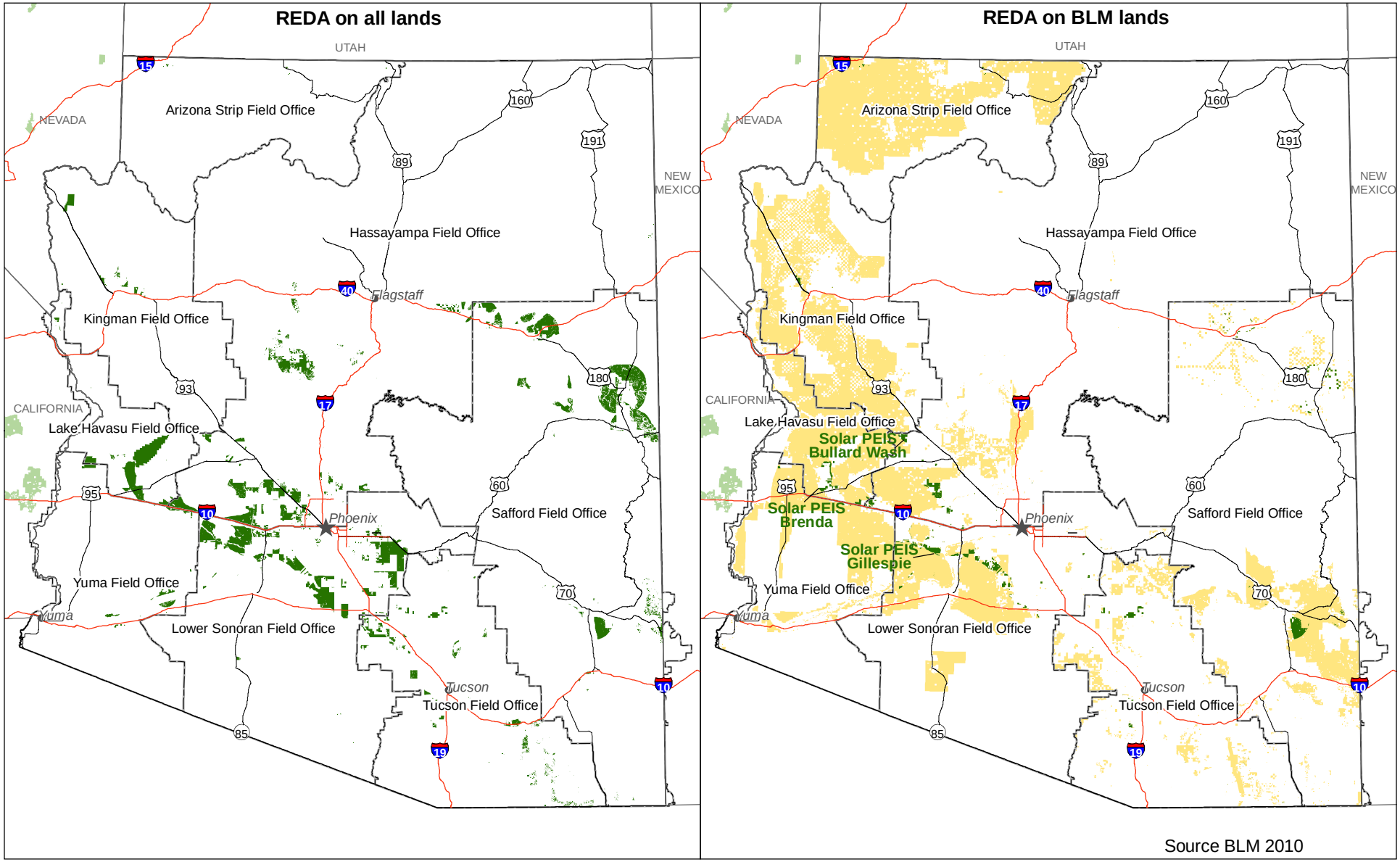
Figure 5

WORKING DRAFT

Arizona Bureau of Land Management (BLM) Restoration Design Energy Project (RDEP)
Renewable Energy Development Areas (REDA)

Alternative 4: Load Offset REDA

Includes REDA within 10 miles of towns, 5 miles of US Bureau of Reclamation Central Arizona Project area and irrigation pumping sites, and 20 miles of Palo Verde Nuclear Power Plant and the town of Gila Bend.



0 20 Miles

REDA | BLM land outside of REDA | Solar Draft PEIS Solar Energy Zone outside of Arizona

March 2011. No warranty is made for the use of the data for purposes not intended by the BLM.

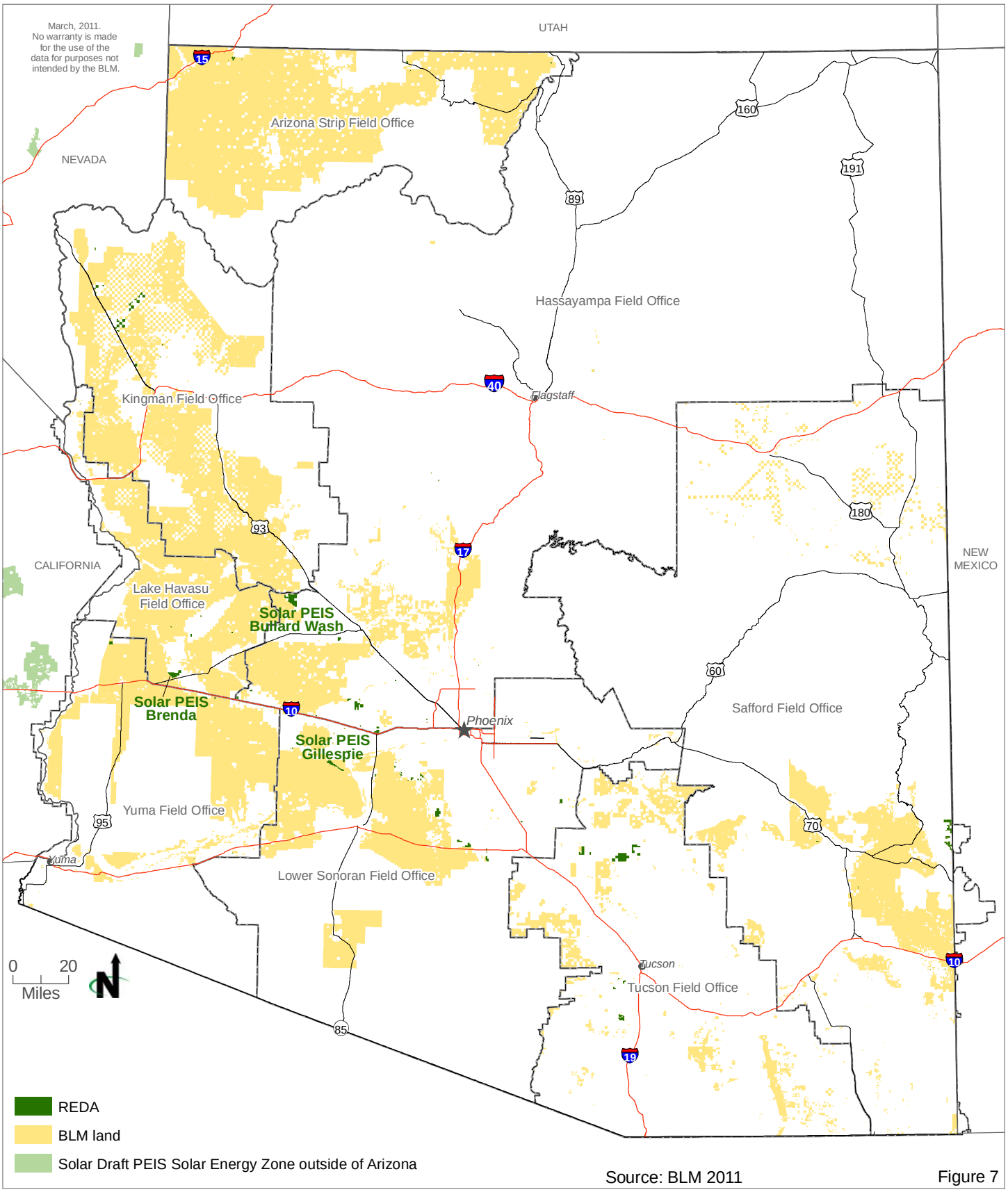
Figure 6

WORKING DRAFT

Arizona Bureau of Land Management (BLM)
Restoration Design Energy Project (RDEP)
Renewable Energy Development Areas (REDA)

Alternative 5: Land Tenure REDA

Emphasizes exchange of public lands with renewable energy potential for lands of high conservation potential. Includes REDAs that have lands identified for disposal under land use plans.



Source: BLM 2011

Figure 7

WORKING DRAFT

Arizona Bureau of Land Management (BLM) Restoration Design Energy Project
Alternative 1: Maximum Renewable Energy Development Areas
Areas Eliminated from Consideration

Areas of known sensitive resources. These areas are eliminated from consideration, see Table 1 for full list and references for sources.

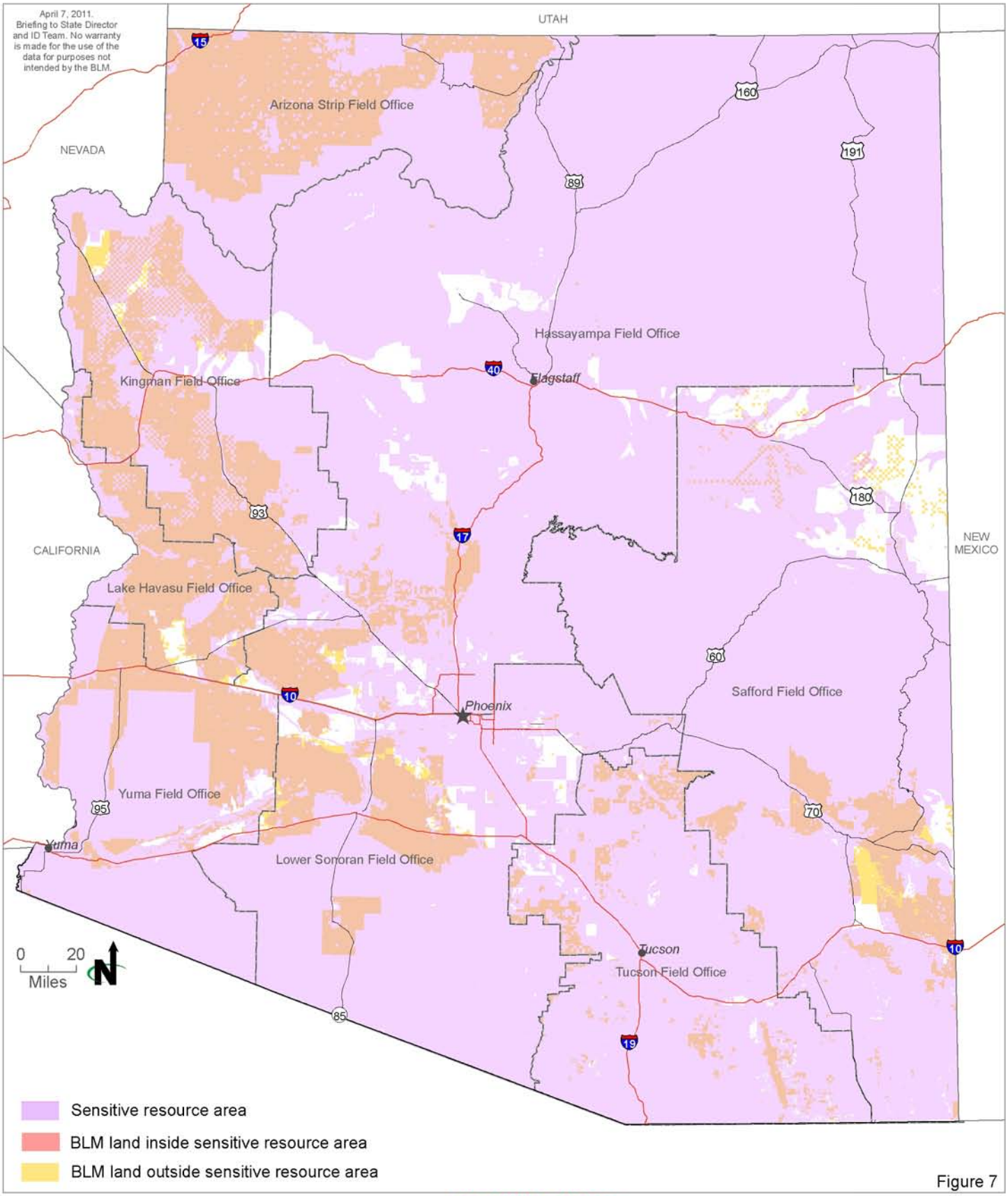
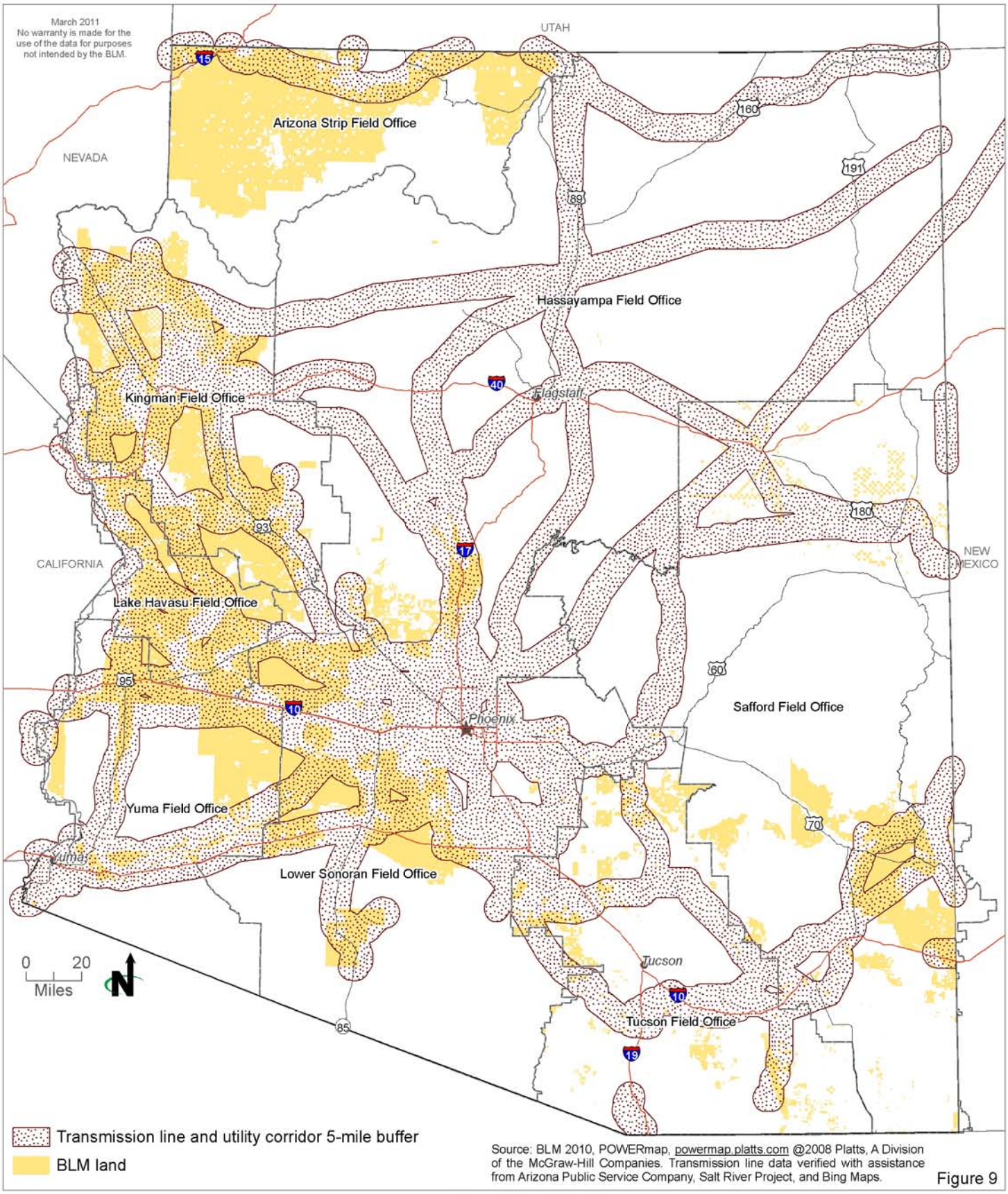


Figure 7

WORKING DRAFT

Arizona Bureau of Land Management (BLM) Restoration Design Energy Project
Alternative 2: Transmission Lines and Utility Corridors
Areas Eliminated from Consideration

Excludes REDA further than 5 miles of an existing or proposed transmission line, 5 miles of designated Arizona BLM Utility Corridors and designated BLM West Wide Energy Corridors.



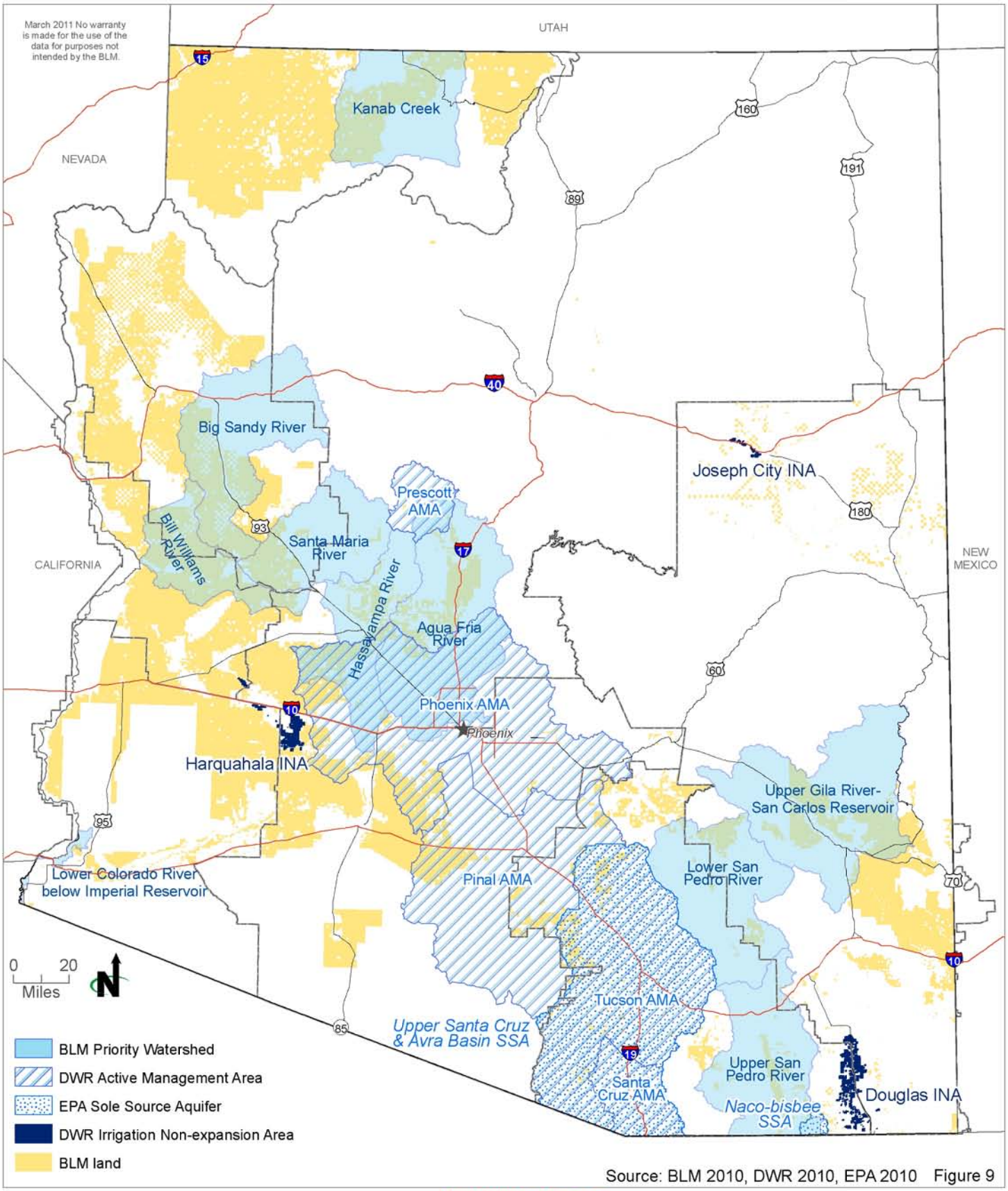
Source: BLM 2010, POWERmap, powermap.platts.com @2008 Platts, A Division of the McGraw-Hill Companies. Transmission line data verified with assistance from Arizona Public Service Company, Salt River Project, and Bing Maps.

Figure 9

WORKING DRAFT

Arizona Bureau of Land Management (BLM) Restoration Design Energy Project
Alternative 3: Water Conservation and Protection
Areas Eliminated from Consideration

Excludes REDA within BLM Priority Watersheds, Arizona DWR Active Management Areas (AMA), DWR Irrigation Non-expansion Areas (INA), and US Environmental Protection Agency Sole Source Aquifers (SSA).

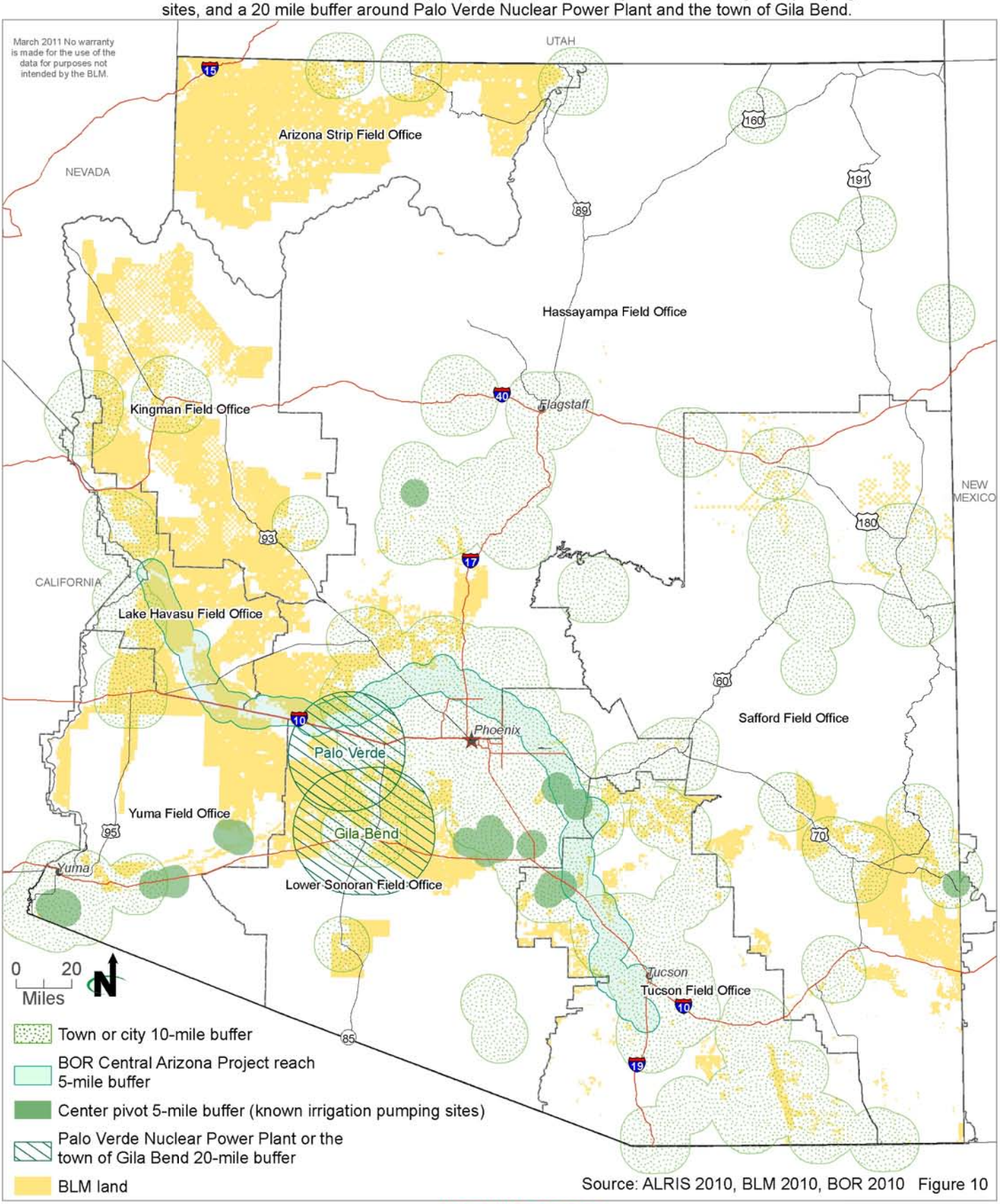


Source: BLM 2010, DWR 2010, EPA 2010 Figure 9

WORKING DRAFT

Arizona Bureau of Land Management (BLM) Restoration Design Energy Project
Alternative 4: Load Offset Data
Areas Eliminated from Consideration

Excludes REDA outside of a 10 mile buffer around all towns and cities in Arizona, a 5 mile buffer of US Bureau of Reclamation (BOR) Central Arizona Project area and irrigation pumping sites, and a 20 mile buffer around Palo Verde Nuclear Power Plant and the town of Gila Bend.



Source: ALRIS 2010, BLM 2010, BOR 2010 Figure 10

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