

Western Renewable Energy Zones Initiative Environment & Lands Working Group – Phase 1 Report

The purpose of this report is to provide an accurate account of the efforts of the WREZ Environment & Lands (E&L) working group from June 2008 – June 2009.

Charge

The Environment and Lands working group was charged with categorizing the resource potential of qualified resource areas based on land use, wildlife, and other environmental considerations. The goals and objectives of the group were to:

- Categorize the development potential of Renewable Energy Zones based on environmental, land use, and wildlife criteria in Phase 1 of the WREZ process.
- Facilitate the development of renewable energy in the Western Interconnection by providing timely information about sensitive lands and options for avoiding, minimizing, and mitigating impacts from development in those areas.

Specific tasks for the working group included compiling GIS data for areas with development constraints based on statute, regulation or policy, and working with the Western Governors' Wildlife Council (WGWC), who represent the state fish and wildlife agencies, to assist them in the development of categorization of sensitive areas identified within the Qualified Resource Areas (QRAs).

Membership

Working group membership was limited to ensure participation from a balanced stakeholder group and to maintain a manageable size for decision-making. Membership consisted of approximately three members each from the utility industry, renewable energy industry, NGOs, state and federal agencies, and two Canadian government representatives. Conference calls and meetings were open to the public and over 100 interested parties signed-up as observers. Both members and observers received regular notices about conference calls and meetings, as well as relevant materials and work products to review. A roster of E&L members and observers can be found at the end of this report.

Core Premises

For every task E&L undertook, the following core premises applied. These are consistent with premises of the overall WREZ initiative.

- (a) Categorization of areas as “avoidance” does not represent a binding preclusion from future development. These areas are solely used to refine candidate study areas (identified by the Zone Identification and Technical Analysis working group) into QRAs and ultimately renewable energy zones targeted for utility-scale development of wind, solar, or geothermal energy.
- (b) Categorizations are not intended to replace, supplement, or reverse any project site specific placement or associated permit or other land use mechanism. Future projects, whether placed in renewable energy zones or not, will need to undergo the appropriate environmental and permitting reviews.

- (c) These categorizations will not directly apply to the placement of transmission lines, and another work process will be undertaken later in the WREZ process to determine which of these land type determinations also apply to transmission siting.
- (d) The categorization represents the Environment & Lands Working Group's understanding as of this point in time. The Environment & Lands Working Group recognizes these designations may change in the future from any new or revised ruling of a court with jurisdiction, or change in statute, regulation, executive order, or record of decision from a federal entity but has determined that the best knowledge of the state of protections that exist at the present time is appropriate for the renewable energy zone effort.
- (e) Environment & Lands Working Group identification of exclusion and avoidance areas has been focused primarily on utility-scale wind, solar, and geothermal resources.
- (f) Identification of lands was limited to:
 - a. the United States located in the Western Interconnection;
 - b. areas of Baja, Mexico within the Western Interconnection; and
 - c. Alberta and British Columbia, Canada.

Additionally, as with the entire WREZ initiative, E&L recognizes that many states and provinces have completed or are conducting their own assessments for renewable energy zones. While the final products of E&L may differ somewhat from state products, these state and provincial efforts and the WREZ initiative should be seen as complementary, each furthering the goal of cost effective and environmentally responsible renewable energy development locally and across the region.

Statutory/Regulatory Exclusions & Avoidance Areas

The E&L began their work by identifying those lands where renewable energy development is legally precluded, by statute or regulation. For federal lands, E&L relied on the U.S. Forest Service, U.S. Fish and Wildlife Service and the Bureau of Land Management to provide guidance on the lands they manage. For state/provincial lands, the WGA solicited information from state land management agencies. E&L sought similar information from the appropriate Canadian federal and provincial ministries as well as Baja, Mexico. E&L determined that areas where development is precluded by statute or regulation should be categorized as Exclusion Areas, and should not be included within any renewable resource potential estimates for WREZ QRAs or ultimate REZs.

After this first screening of Exclusion Areas, the working group had further discussion on land use restrictions that resulted in a consensus-driven categorization of lands that were not explicitly excluded from renewable energy development by statute or regulation, but which the E&L working group believed from a policy perspective should not be included in a renewable energy zone and/or would not be suitable for targeted utility-scale development. E&L identified this second category of lands as Avoidance Areas, which were also determined primarily by recommendations from the federal, state or provincial land management agencies. Among these lands are; BLM Visual Resource Management

Areas Class I and II, lands included in the Omnibus Public Land Management Act of 2009, state parks, and state wildlife management areas.

As development is not precluded through statute or regulation, the categorization of these areas as Avoidance Areas does not represent a binding preclusion from future renewable development. As such, they were designated separately from the Exclusion Areas. However, the designation of Avoidance Area does reflect a level of intent of the federal, state and provincial agencies to extend special protections to them. A detailed list of final **Exclusion and Avoidance Areas** is available on the E&L page of the WGA WREZ website.

Exclusion and Avoidance Areas were approved by the WREZ Technical Committee in January 2009, and for those areas with available GIS data, Black & Veatch mapped them and removed them from any QRA. Exclusion and Avoidance areas became another screen applied to the renewable resources in the Western Interconnection that the WREZ process used to help identify QRAs.

Finally, E&L also identified a number of areas of interest to renewable energy development, but which were not appropriate to map in this effort, either because the GIS data were unavailable in the appropriate timeframe or because the specific issue is more appropriately handled at the project-specific level. A chart listing the **significant areas of consideration** and the appropriate contacts for gathering more information about these areas is available on the E&L page of the WGA WREZ Web site. This chart is intended to be a resource for developers, NGOs, planners and other interested parties to assist in addressing siting considerations for renewable energy development.

Incorporating Wildlife Sensitivity

The E&L working group was charged with categorizing the development potential of QRAs based on important wildlife habitat, sensitive ecosystems and other sensitive lands. To accomplish this goal, the working group coordinated its efforts with the Western Governors' Wildlife Council (WGWC), whose members represent state wildlife agencies.¹

The WGWC appointed state wildlife agency staff to a State Task Group (STG), and this group served as a liaison between the WGWC and the E&L working group. STG members developed, with input from E&L, a data request soliciting wildlife and rare plant data from the 11 state wildlife agencies and two provinces in the Western Interconnection, relevant federal agencies, the private sector, and other data sources. The data submitted was to be compiled and analyzed in order to characterize wildlife and habitats on a broad scale within QRAs and ultimate REZs. The request was sent out in December 2008, and data was requested at the end of January 2009. The **wildlife data request** is available on the E&L page of the WGA WREZ Web site.

¹ For information on the members see the Western Governors' Wildlife Council Web site at www.westgov.org.

Data were submitted by state/provincial agencies to NatureServe, a technical consultant hired to undertake the data compilation and mapping effort. Although the request was sent primarily to state and provincial fish and wildlife agencies, relevant data from federal agencies, NGOs, industry and others were also considered by the agencies. Non-state data were submitted directly to the appropriate STG member, and it was up to the agency to determine whether or not they were able to include that data in their submission to NatureServe. In some cases, the agency representative instructed various partner agencies and organizations to submit their data directly to NatureServe.

Along with the actual datasets, states were asked to categorize their data into three different levels of sensitivity related to renewable energy development; the ultimate designations were high sensitive, sensitive, and insufficient data, and specific definitions for those categories were developed. The categorization effort was intended to provide a prioritization of wildlife sensitivity within each state or province, related to the impacts from renewable energy generation. Some states and provinces applied the criteria themselves. For those states that did not provide a categorization, NatureServe initially categorized the datasets by applying the WGWC's criteria. Any categorization applied by NatureServe was sent back to the state agency for review, and necessary changes were made. **Definitions and criteria for each category** that were agreed upon by the WGWC are available on their Web site.

In addition, there were regional wildlife datasets that were submitted for consideration from the following agencies / organizations: U. S. Bureau of Land Management, The Nature Conservancy, U.S. Fish and Wildlife Service, Western Association of Fish and Wildlife Agencies, Wildlife Conservation Society, and Playa Lakes Joint Venture. The decisions about inclusion and categorization of these external datasets were determined by each individual state or province. NatureServe also provided a regional (U.S. portion only) data layer that depicted natural/semi-natural ecological systems of moderate to high ecological integrity that was synthesized from federal data sources.

For all QRAs, consultants prepared a calculation of available megawatt renewable resource potential. This calculation only counted areas within QRAs that remained after E&L statutory and regulatory Exclusion and Avoidance Areas had been removed. NatureServe received from Black & Veatch a GIS layer for these QRAs.

Since the wildlife sensitivity analyses applied only to the QRAs, the first step performed by NatureServe was to “clip” all GIS layers to the QRAs. The “clip” tool is used to create a new GIS layer that is a subset of the features in the original data layer, based on another data layer that serves as the “cookie cutter.” All of the data attributes (fields) from the original data layer are retained in the new “clipped” layer. During this process, NatureServe documented all wildlife datasets that do not intersect the QRAs.

In preparation for the wildlife analyses, standard attributes were added to all wildlife data layers. This ensured that the final products would contain information identifying the state or province and the wildlife categorization assigned to that data layer. To facilitate the review of the draft categorization output maps by the states and provinces, a field was also created with the name of the original data source and/or the original input data layer filename. Due to data sensitivity constraints, identification of data inputs was removed from the final wildlife data layers. The list of data sources and categorization for each state or province will be available on the WGWC website. Additional details describing data processing steps are available in a **report prepared by NatureServe**, available on the WGWC website.

Using the data that were submitted, NatureServe developed a map for each state, and categorized the data layers based on the WGWC categorization criteria. As stated above, some states and provinces applied the criteria themselves, while others allowed NatureServe to apply the criteria for initial categorization. Once the first round of mapping was completed, wildlife agencies reviewed them for accuracy, and before sending them to the governors or premiers' offices for approval. As of May 2009, many of the state wildlife maps have received approval from their respective Governors' and Premiers' offices, but some await additional reviews by other state agencies. The WGWC wildlife maps identify the level of wildlife sensitivity within the QRAs, and those **wildlife maps that have been approved by Governors** for use in the WREZ are available on the WGWC website, along with the **accompanying data categorization information**. Ultimately, the state Governors' offices and provincial Premieres were asked to approve the wildlife map for their state². There was not time in the process to for states to discuss coordinating any of their data categorizations.

The work to date to incorporate wildlife sensitivity data represents a broad screening-level assessment of renewable resource development potential within QRAs. The wildlife sensitivities were based on the best available data and the best professional judgment of the state wildlife agencies. Categorizations do not represent a binding action on development; the mapping effort by the WGWC was intended to indicate a prioritization of lands relative to wildlife in order to guide, from an overarching regional policy perspective, regional transmission investments to the areas with not only the best renewable resources, but also the fewest environmental conflicts. In addition, WREZ stakeholders expect this type of wildlife information will encourage appropriate and corresponding levels of mitigation when eventual development in an identified zone is proposed.

Public Comment Periods

Two separate comment periods were held for E&L work products during Phase 1. The first comment process took place in October 2008 and included only work products from

² The wildlife sensitivity maps reflect a state specific product and not a product of the WREZ initiative.

the E&L working group. The process solicited comments on the Exclusion and Avoidance Area lists, as well as a number of lands identified as “sensitive.” These sensitive areas are areas where some conflicts exist between public use, wildlife habitats and/or environmental benefits and utility-scale development of wind, solar, or geothermal energy. E&L decided that these “sensitive” lands would be further discussed, based on public comments, to determine the appropriate mechanism for including them in the final renewable energy zone identification process (i.e. exclusion, avoidance or other). Those sensitive lands that did not ultimately become Exclusion or Avoidance areas helped to create the significant areas of consideration list mentioned above.

The second comment period included each working group in the WREZ, and was held from February 2 to March 2, 2009 to receive feedback on a number of draft work products from each working group, including the wildlife data request that was sent out by the WGWC, and the data categorization criteria also developed by the WGWC, with input from E&L. These documents were posted on the WGA WREZ Web site. Extensive outreach to tribal and local governments and relevant interest groups was conducted. Stakeholders were advised by e-mail and web posting of the opportunity to comment and WREZ participants were asked to inform their constituencies.

More than 80 comments were received, some of which addressed multiple WREZ work products. WGA staff reviewed comments relevant to their working group or other facets of the initiative and proposed responses and adjustments to the draft materials based on the topics raised by the public. For the E&L group, comments focused on additional areas for exclusion and the need to identify already disturbed lands that would be more appropriate for development. E&L members considered the comments at a meeting in March 2009 and identified responses and/or necessary edits to work products. All of the materials available for public comment, along with the comments received, and the approved responses are posted on the WGA WREZ Web site at:

<http://www.westgov.org/wga/initiatives/wrez/comments.htm>.

Future Work

After all of the state wildlife agencies, through the WGWC, have provided categorized wildlife sensitivity data for the QRAs, the E&L working group will review these categorizations with the WGWC and other WREZ stakeholders to clarify and, if appropriate, refine them. The WREZ Technical Committee will then consider how to incorporate the wildlife sensitivity information in the forming of future Renewable Energy Zones.

Working Group Roster

- Utilities
 - Brian Weber, MidAmerican Energy Holdings’ Company (**Co-chair**)
Proxy - Shay LaBray, PacifiCorp
 - Dan Belin, Walsh / E&E
 - Mark Murray, Tri-State Generation/Western Utility Group
- NGOs

- Pam Eaton, The Wilderness Society (**Co-chair**)
Proxy - Nada Culver, The Wilderness Society
- Carl Zichella, Sierra Club
- Brian Rutledge, Wyoming Audubon
- Renewable Energy Industry
 - Arthur Haubenstock, BrightSource Energy
Proxy – Kim Fiske, Iberdrola Renewables
 - Laurie Jodziewicz, American Wind Energy Association
 - John McCaull, Geothermal Energy Association
- State Agencies
 - Jim Bartridge, California Energy Commission
Proxy – Joseph Merrill, California Energy Commission
 - Laura Canaca, Arizona Game & Fish Department
 - Celia Greenman, Colorado Division of Wildlife
- Federal Agencies
 - Kate Winthrop, Bureau of Land Management
Proxy – Danielle Flynn, Bureau of Land Management
 - Stefanie Stavrakas, U.S. Fish and Wildlife Service
Proxy – Christy Johnson-Hughes, U.S. Fish and Wildlife Service
 - Joseph Burns, U.S. Forest Service
- Local Government
 - John Prinkki/John Martin, National Association of Counties
- Canadian Representatives
 - Sue Bonnyman, British Columbia Ministry of Energy, Mines & Petroleum Resources
 - Audrey Murray, Alberta Department of Energy
Proxy – Hilary Faulkner, Alberta Department of Energy

Technical Advisors:

- Mary Klein, NatureServe

Observer Roster

Name	Title	Company
Adler, Lin		Citizens for Dixie's Future
Amirali, Ali	VP Transmission	LS Power Development, LLC
Arenson, Steven	Environmental Planner	OSD Sustainability Office
Argentine, Michael	Director, Transmission Devel.	FPL Energy
Aringhoff, Rainer	CEO	Solar Millennium LLP
Atwood, Amy	Public Lands Energy Director	CENTER FOR BIOLOGICAL DIVERSITY
Beck, Amanda		
Benjamin, Charles	Director, Nevada Office	Western Resource Advocates
Bernosky, Gregory	Transmission & Facility	APS

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Braud, Rene	Director Permitting & Environmental Affairs	Horizon Wind Energy Renewable Energy Systems Americas
Bredt, Jennifer		Arizona Game & Fish
Brosheid, Bob	President	ibLaunch Energy Inc
Bundele, Hemant	Director Environmental Sustainability	PNM Resources
Burks, Jeff	Environmental Manager	Horizon Wind Energy
Calabrese, Christina	VP Northwest Region	PBSJ
Callahan, Paul	Executive Director Dine Env Institute	Dine College, Navajo Nation
Carroll, Marnie	Energy and Climate Policy Coordinator	Governor's Energy Office (Utah)
Cohen, Lis	Senior Engineer	NREL
Coles, Lynn	Public Utility Speciality - Special Projects Lead	Bonneville Power Administration
Collins, Darby		PGN
Concannon, Greg	Director, Conservation Planning and Ecosystem Management	NaturesServe
Crist, Patrick		The Wilderness Society
Culver, Nada		Western Resource Advocates
Darin, Tom		The Wilderness Society
Daue, Alex		U.S. FWS
Diamond, David		Western Environmental Law Center
DiGiorgio, Monique	Conservation Strategist	Black & Veatch
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duvall, Shina		Consultant
Everett, Kevin	Executive, Renewable Energy Program	Nevada Power Company
Fair, Thomas		Oregon Natural Desert Association
Fenty, Brent	Executive Director	Black & Veatch
Finn, Josh	Corporate Development Manager	REDD Engineering & Construction
Francis, David	Project Developer	Third Planet Wind
Frees, Amy	Staff Lawyer	West Coast Environmental Law
Gowe, Greg		Tri-State Generation and Transmission Association, Inc
Grage, Sonia	Senior Planner	BC Sustainable Energy Association
Hackney, Tom		

Harrington, Sheila		Land Trust Alliance of BC
Heap, Nick		David Suzuki Foundation
Helinski, Ron		AWWI
Hevel-Mingo, Karen	Senior Program	National Parks Conservation
Higginbottom, Ed	Coordinator	Association
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	Gov't Relations	National Renewable Energy
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Hurshman, Tom		
	Director of Conservation	Nature Conservancy of Canada
Iachetti, Pierre	Science & Planning	SkyFuel Inc.
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Johnson, Brenda		TransCanada
Jones, Bart		Renewable Northwest Project
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	Environmental Policy	Builders
	Analyst	California Energy Commission
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Kling, Carey		Western Area Power
Komatsuzaki, Amy		Administration
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	global warming	
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Lewis, Cindy	Chairman	Wyoming Public Service
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Lombard, Cheryl	Director	The Nature Conservancy
	Director, Policy and	
Lynch, Kevin	Regulation	Iberdrola Renewables
Maddox, Mark	Senior Vice President	Arcadian Networks
Marlow, Joe	land and resource	Sonoran Institute
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Martin, John	Chairman	Garfield County Commission
Mason, Tim		Black & Veatch
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		Biodiversity Conservation
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	Director of Agency	Trout Unlimited
Powelson, Michael	Relations	The Nature Conservancy
Pratt, Bill		USTAR
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Rhees, Scott	Director Transmission	Raser Technologies
	Director of Governmetn	
Roberts, Mike	Relations	The Nature Conservancy
Robinson, Robby	Economist	center for applied research
	Extension Program	
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Sandvig, Nate		Horizon Wind Energy
Schaffer, Mark	Environmental Planner	
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Thomson, Perry		USTAR
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Tull, John	Conservation Director	Nevada Wilderness Project
Van Dam, Paul	Executive Director	Citizens for Dixie's Future
Van Dame, Kathy	Policy Coordinator	Wasatch Clean Air Coalition
VanNorman, Janine		U.S. FWS

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Wong, Kathy		KR Saline & Associates
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Wright, Mary Ann		Utah Clean Energy
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Yates, Ryan		