WRP REGIONAL ASSESSMENT

Report to Address WRP 2016-2017 Priority

Presented by WRP Committee Co-Chairs to WRP Steering Committee

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Introduction

This document details Western Regional Partnership (WRP) efforts to fulfill the 2016-2017 Priority to complete a WRP Regional Assessment.

At each WRP Principals' Meeting, Principals meet to share information, network and formally adopt strategic priorities governing collaborative staff-level efforts for the following year. In 2016, the WRP Principals adopted the priority of a WRP Regional Assessment. This assessment, at WRP's decennial anniversary, ensured WRP remains focused on issues most important to its Partners. Recent changes in federal personnel and policies make this exercise especially well-timed.

This report prepared by WRP Committees (with contractor support) summarizes WRP efforts between 2016-2017 and documents 2017-2018 priorities to be completed for the Tenth WRP Principals' meeting.

WRP History and Overview of the Region

In 2007, representatives of Federal agencies and State and Tribal leadership in Arizona, California, Nevada, New Mexico and Utah partnered with the Department of Defense to establish the Western Regional Partnership. At the 2015 WRP Principals' Meeting, Colorado was added to the WRP Region.

WRP provides a proactive and collaborative framework for senior-policy level Federal, State and Tribal leadership to identify common goals and emerging issues in the states of Arizona, California, Colorado, Nevada, New Mexico and Utah and to develop solutions that support WRP Partners and protect natural and cultural resources, while promoting sustainability, homeland security and military readiness.

The WRP Region has 18% of the U.S. population, 19% of the U.S. land mass, considerable state, federal and Tribal lands and various land management processes. These factors and the fact that many land use issues are regional means that unintended land use conflicts may result among WRP Partners' interests. Long range, sustainable planning is essential to accommodate growth, sustain the economic and environmental health of the region and protect public health and safety while securing the viability of WRP Partners' missions. To more effectively work together across geopolitical boundaries, common and emerging issues in the WRP region must be identified, along with potential conflicts and solutions.

Within the six-state region, there are:

- Significant amounts of Federally managed lands (Federal land ownership in these states ranges from 34.1% - 84.9%)
- Extensive Training Ranges, Premier Testing Facilities, Unmatched Military Air Space

- Approximately 172 Federally recognized Tribes
- Significant State Trust Landholdings

State	% of Federal Land (not including DoD managed lands)	% of DoD Managed Land	% of Indian Trust Land	Private Land	State Trust Land	Size of State in square miles and ranking by area
Arizona	35.5%	6.6%	27.6%	17.5%	12.7%	114,000; 6th largest state
California	40.2%	4.0%	.5%	50.3%	2.5%	160,000; 3rd largest state
Colorado	38.9%	0.7%	1.1%	54.9%	4.4%	104,100; 8th largest state
Nevada	78.8%	6.1%	1.42%	13.03%	.15%	110,561; 7th largest state
New Mexico	29.7%	4.4%	10.2%	43.9%	11.6%	121, 593; 5th largest state
Utah	63.6%	3.4%	4.5%	21%	7.5%	84,904; 13th largest state

The benefits of participating in WRP are numerous. WRP has strong leadership and provides:

- A forum to engage with states, federal and Tribal entities across WRP Region
- Opportunities to enhance situational awareness of policy and emerging issues
- Enables interagency dialogue for identifying, addressing, and avoiding these potential conflicts
- Recommendations and innovative solutions in the gap between real time problems and long-term policy development
- Access to tools and WRP Deliverables

WRP's legacy of success suggests it can continue to assist its Partners in resolving complex solutions to yet more difficult challenges in the years ahead.

WRP Structure

WRP's Charter delineates the mission and goals of, and responsibilities for, the WRP collaborative process. The membership of the Steering Committee is composed of senior staff members representing WRP Principals; it coordinates with WRP Committee Co-Chairs. WRP Committees work to better improve regional and interagency cooperation among Federal agencies, Tribal leadership, States, and non-governmental organizations on critical Western regional issues. WRP Committees provide a forum for information exchange, issue identification, problem solving and recommendations across the WRP region. Committees are continually reviewed to maintain a resilient and dynamic organization. Committee work intends to move from knowledge gathering to collaborative action. Issues of common concern are addressed through the following Committees:

- Energy
- Military Readiness, Homeland Security, Disaster Preparedness and Aviation
- Natural Resources

A GIS Support Group works with the WRP Steering Committee to assist all Committees.

Executive Summary

Background

At the Eighth WRP Principals' Meeting in 2016, the Principals adopted the priority to complete a WRP Regional Assessment to:

- Identify results of top Partner issues and needs within the WRP Region,
- Conduct relevant Committee efforts and document exploration of survey results on Partners' top issues and needs,
- Identify state and regional planning efforts that will be initiated in 2017-2020,
- Identify authoritative geographic information system (GIS) data layers/web mapping services supportive of WRP planning efforts and initiatives, and
- Make further recommendations for WRP Principals' consideration related to identified gaps and possible areas for future action.

The Regional Assessment included three phases: initial survey, detailed analysis of survey results by the Committees, and final report.

Findings

The top three regional issues identified during the survey were:

- Partnering/relationship building –improving information and data exchange, tribal engagement, and state-federal relations to better facilitate partnering/relationship building. Issues of specific coordination also included: disaster planning/fire response and cybersecurity.
- Land Use –improving coordination on land use planning efforts, large-scale energy and infrastructure project planning/coordination, and threatened and endangered species planning and proactive mitigation.
- Airspace –improved awareness and coordination on future military requirements, unmanned aircraft systems (UAS), and airspace usage (better coordination and awareness of changes in designations, policy and potential land use impacts.)

The top three needs as identified through the survey results are:

- Better coordination and communication – WRP is a forum that helps to expedite efforts and share best practices and communication of relevant updates.
- Assistance with "e-harmony" – helping agencies find others with similar issues to work on efforts together/leverage resources.
- Better situational awareness of upcoming agency changes or efforts – current information on upcoming planning and policy issues and grant opportunities.

Recommendations:

The WRP Regional Assessment outlines the efforts conducted since the last WRP Principals' Meeting and Committee findings in 2016-2017. In 2017-2018, it is recommended that WRP continue efforts to move towards implementation in the next phase, to be called "Advancing Regional Priorities." Specific recommendations are identified on page 27.

Highlights of the WRP Regional Assessment include:

- Numerous regional planning efforts will be conducted in the WRP Region over the next several years. Several land use planning-related efforts may be addressed collaboratively:
    - Species-related – finalize criteria to identify and address species/habitat, focusing on a multi-state regional approach to build resilience for wildlife (preclude listing or delist) while enhancing Partner missions; develop a strategy for acknowledgment of existing management practices to avoid listing.
    - Energy: Identify large-scale energy projects in the Region and upcoming policy changes; capture mission impacts and develop recommendations to address impacts.
    - Other: Recommendations for WRP Partners to more proactively address planning issues at the landscape level, such as opportunities for further engagement in Sentinel Landscape projects in the WRP region.
- Opportunities exist to foster partnering and relationship building through;
    - identifying mechanisms to improve federal/state/tribal partnering efforts;
    - leveraging new website to improve communications across the WRP; and
    - improving DoD coordination with WRP Partners.
- Airspace continues to be an important element for WRP Partners. It is recommended WRP continue to serve as a forum for aviation users by sharing information on changes to airspace use within the WRP region, including developments in new technology, weapons platforms, the integration of UAS into the National Airspace System and highlighting potential impacts.
- Survey results indicated that WRP Partner organizations have a wide range of available GIS and mapping tools. These tools will be consolidated and posted to the new WRP website (www.wrpinfo.org) and the WRP SC Subcommittee on GIS will evaluate whether data gaps exist in these tools and recommend how best to fill those gaps in the coming year.

WRP Regional Assessment

Introduction

At the Eighth WRP Principals' Meeting, the 2016-2017 Priority on a Regional Assessment was adopted. During 2016-2017, WRP worked through the Steering Committee and Committee Co-Chairs (the Survey Participants) to better understand the agencies' current priorities and the continuing or emerging issues impacting them; and to identify and recommend potential available resources to address these issues. To assess this Priority, Survey Participants were first asked to consider four possible survey questions. Then, in November and December 2016, the WRP Coordinator interviewed the over 35 Survey Participants to seek input on the survey. From these interviews, the initial survey questions were modified and an additional four questions were developed.

This task included three main phases: survey, further examination (Committees more fully explore survey results) and drafting the report. The purposes of this assessment are to:

- Survey results of top Partner issues and needs within the WRP Region,
- Conduct relevant Committee efforts documenting exploration of survey results on Partners' top issues and needs,
- Identify state and regional planning efforts that will be initiated in 2017-2020,
- Identify authoritative geographic information system (GIS) data layers/web mapping services supportive of WRP planning efforts and initiatives, and
- Make further recommendations for WRP Principals' consideration related to identified gaps and possible areas for future action.

The survey was finalized during the December 2016 WRP Steering Committee and Committee Co-Chair call and circulated to the Survey Participants January 26 through March 9 for response. The Survey asked:

- What are your top three issues for which WRP may help facilitate a solution?
- What are your top three needs as related to the top issues?
- Does your agency have any federal/state/regional planning efforts that are expected to take place in 2017-2020?
- What existing web mapping tools or GIS data do you or your agency use in regional/planning efforts that could assist other WRP Partners
- What three words come to mind when you think of WRP?
- What are the benefits you derive from WRP?
- How can WRP best communicate efforts and successes?
- Do you have any recommendations for states, federal agencies or Tribes to better work with your agency? Any recommendations for WRP?

In support of this effort, WRP Partners receive regular updates on Partner-related efforts relevant to the WRP Mission to create greater awareness of current WRP Partner actions.

Survey Responses

Thirty-three Survey Participants from the following agencies provided their input on the WRP Regional Assessment Survey:

- States (Governor's Offices and agencies): AZ, CA, CO, NM, NV, UT
- Federal Agencies: Army, BIA, BLM, BuREC, DOE, EPA, FAA, FEMA, FHWA, NPS, NRCS, NOAA, USAF, USFWS, USFS, USGS, USMC
- NASAO, The Hopi Tribe

Top Issues, as Ranked

The top three issues, as ranked by Survey Participants, for which WRP may assist to facilitate a solution are:

Ranking	Score (1-5)	Issue	Details
1	4.45 (18 identified as top priority)	General Partnering/Relationship Building	• Improving information and data exchange, tribal engagement, and state-federal relations to better facilitate partnering/relationship building. • Issues of specific coordination also included: disaster planning/fire response and cybersecurity.
2	3.87 (6 identified as top priority)	Land Use (Regional, Landscape Focus)	• Better coordination on land use planning efforts, large-scale energy and infrastructure project planning/coordination, and • Threatened and endangered species planning and proactive mitigation.
3	2.93 (4 identified as top priority)	Airspace	• Improved awareness and coordination on future military requirements, unmanned aircraft systems (UAS), and • Airspace usage (better coordination and awareness of changes in designations, policy and potential land use impacts).

Water was ranked fourth, including drought resilience, water availability, water resources planning and sharing of water-related information.

Top Needs, as Ranked

The top three needs, as ranked by Survey Participants, for efforts that could be assisted by WRP Partners are:

Ranking	Score (1-6)	Need	Details
1	4.67 (9 identified as top priority)	Better Coordination and Communication	WRP to provide a forum, help to expedite efforts and share best practices and communication of relevant updates.
2	4.47 (10 identified as top priority)	Assistance with "e-harmony"	Helping to find agencies with similar issues to work on efforts together/leverage resources.
3	3.86 (3 identified as top priority)	Better Situational Awareness of Upcoming Agency Changes or Efforts	Current information on upcoming planning and policy issues and grant opportunities.

The fourth need identified was to have better information from DoD on issues of concern to them in a prioritized fashion, including identification of land use areas of most concern/focus areas and facilitating increased DoD engagement in planning efforts. DoD has focused its coordination efforts in response to regional assessment feedback. For more information please see Appendix D – DoD Issues of Importance

The fifth need was data information exchange/facilitating data collaboration.

Federal/State/Regional Planning Efforts

Twenty-Five Survey Participants (74% of responses) noted their agencies are expected to have federal/state/regional planning efforts in 2017-2020; nine (26%) do not. Many federal agencies noted that the Presidential transition and new Congress suggests they wait to share information on plans until those plans are reaffirmed, modified or cancelled.

Through the initial survey and the follow up committee efforts, WRP Partners were asked for their input on relevant planning efforts to highlight. The list of planning efforts are detailed in Appendix A.

Existing Web Mapping Tools or GIS Data

Survey Participants were asked what existing web mapping tools or GIS data their agency uses in regional/planning efforts that could assist other WRP Partners. The purpose behind this question was to determine what, if any, existing data collaboration tools/data are appropriate for WRP Partners' planning efforts. Responses fell into four general categories:

- Twelve (46%) have such tools to recommend;
- Seven (27%) have tools for internal use;
- Six (23%) were unsure whether their agency has such tools; and

- One (4%) referenced the WRP Web Mapping Application.

General Partnering/Relationship Building

The Survey identified general partnering/relationship building as the top issue and that WRP excels in this area.

Words that Best Describe the Western Regional Partnership

The word Survey Participants most identify with WRP is collaboration, followed by partnership, communication, information, coordination, military, effective, and sharing, A word cloud derived from the Survey responses follows.

Benefits of WRP

When Survey Participants were asked about the benefits they derive from participating in WRP, they responded as follows:

- 40%-information exchange/sharing
- 29%-networking
- 25%-collaboration
- 4%-new to WRP and not able to further respond
- 2%-results

WRP Communication

Survey Participants were asked for their recommendations on how WRP can best communicate efforts and successes. The top answers to this question:

- 19%-webinars as effective forms of communication
- 19%-annual WRP Principals' Meeting, providing briefings to partnerships outside of WRP, and interactions with agencies
- 17% -emails
- 12%-WRP website

- 13%-WRP effectively communicates and should continue to do the same

Recommendations on Collaboration

Survey Participants were asked for recommendations for states, federal agencies or Tribes to better work with their agency and recommendations for WRP. Like previous questions, the responses were varied and grouped together in categories:

- 26%-the effectiveness of networking (building personal contacts, engagement, etc.)
- 22%-WRP does a good job at collaboration with no other recommendations
- 13%-communication
- 13%-coordination
- 13%-the importance of Tribal engagement
- 4%-WRP should be strategic (importance of organization and its requirements, etc.)

Committee Efforts to more fully explore Regional Assessment Results

To augment Committee efforts, sixteen webinars were held, each dedicated to a single subject in order to more fully explore the Regional Assessment. Webinars and associated Committee sponsorship (E – Energy Committee; MRHSDP&A - Military Readiness, Homeland Security, Disaster Preparedness and Aviation Committee; NR – Natural Resources Committee and P – Principals) follow:

Date	Sponsor	Subject	Presenter
11/6/2017	E	Section 368 Regional Review Project	Georgeann Smale, Sec. 368 Program Lead, BLM Washington Office and Jim Kuiper, Principal Geospatial Engineer, Argonne National Laboratory
10/31/2017	NR	Water rights adjudications, federal reserved water rights and how to meet future water needs	Tony Willardson, Executive Director of the WSWC; John Simpson, Partner, Barker, Rosholt & Simpson, LLP; Arianne Singer, Deputy General Counsel, New Mexico Office of the State Engineer and Pat Lambert, SW Region Associate Director/Water Census Leadership Team, USGS
10/20/2017	E	Western Interstate Energy Board and regional energy efforts	Maury Galbraith, Executive Director of WIEB
10/18/2017	MRHSDP&A	State aviation perspectives	Gary Cathey, Chief, Division of Aeronautics, California Department of Transportation; David Ulane, Director, Colorado Division of Aeronautics; Kurt O. Haukohl, State Aviation Manager, Nevada Department of Transportation and Jared Esselman, Director, Utah Aeronautics Division

10/4/2017	E	U.S. Bureau of Ocean Energy Management (BOEM) current planning and coordination activities for possible future wind development in federal waters in the Pacific	Joan Barminski, Regional Director of the BOEM Pacific Region office
9/22/2017	E	Western Electricity Coordinating Council (WECC) and latest energy trends	Dr. Vijay Satyal, Senior Policy Analyst and Byron B. Woertz, Jr., Manager, System Adequacy Planning, WECC
8/31/2017	MRHSDP&A	National Telecommunications and Information Administration's (NTIA's) Office of Spectrum Management (OSM)	Peter Tenhula, Deputy Associate Administrator of NTIA for the Office of Spectrum Management.
8/29/2017	MRHSDP&A	Big-picture strategic view from the FAA, General Aviation and airlines on the future of airspace in the U.S. and, in particular, the western states	Elizabeth Lynn Ray, Vice President, Mission Support Services, FAA; Mr. Mike Cirillo, Managing Director, Air Traffic Management, Airlines for America (A4A); and Ms. Heidi Williams, Director, Air Traffic Services & Infrastructure, National Business Aviation Association (NBAA)
6/28/2017	NR	U.S. Forest Service land management planning and opportunities for engagement	John Rupe, Land Management Planning Specialist, Forest Service Washington Office, Ecosystem Management Coordination
5/22/2017	MRHSDP&A & NR	Wildfire and forestry	Chief Ken Pimlott, State Forester, CA Department of Forestry & Fire Protection, Mr. Mike Zupko, Executive Manager, Wildland Fire Leadership Council and Mr. Troy Timmons, Director of Strategic Initiatives, Policy Advisor, Western Governors' Association (WGA)
5/5/2017	E	Department of Energy's Office of Indian Energy Policy and Programs	Christopher Clark Deschene, (then) Director, Office of Indian Energy Policy and Programs
2/28/2017	NR	Mexican Wolf Recovery Program	Sherry Barrett, Mexican Wolf Recovery Coordinator, U.S. Fish and Wildlife Service

1/25/2017	E	BLM Competitive Solar and Wind Energy Leasing Regulations Webinar	John R. Kalish, BLM Program Manager, Office of Renewable Energy Coordination and Jayme Lopez, Program Lead, BLM Renewable Energy Coordination Office
12/8/2016	E	Section 368 Energy Corridors, Energy Policy Act of 2005 Webinar	James R. Gazewood, National Project Manager, Sec. 368 Energy Corridor Regional Review Project; Konnie Wescott, Project Manager and Jim Kuiper, Principal Geospatial Engineer, both from Argonne National Laboratory
12/1/2016	P	Immediate Threats to the West: Drought and Wildfires	Mr. Dave Duma, Principal Deputy Director, Operational Test & Evaluation, DoD; Ms. Ann Mills, (then) Deputy Under Secretary for Natural Resources and Environment, U.S. Department of Agriculture, Tom Iseman, (then) Deputy Assistant Secretary for Water and Science, U.S. Department of the Interior and Chief Ken Pimlott, State Forester, CA Department of Forestry & Fire Protection
11/1/2016	MRHSDP&A	FAA Southern California Metroplex Project	Robert (Rob) E. Henry, Manager, SoCal Metroplex, FAA

At the September 2017 WRP Steering Committee meeting, WRP Committees provided briefings on their efforts to more fully explore the Regional Assessment findings. Additionally, WRP SC members were asked to provide "around the room" updates on agency efforts relevant to the WRP mission, and those updates were in the following categories:

- 22.4%: Environmental/Species
- 14.5%: Working Together
- 14.5%: Energy
- 11.8%: Land Use
- 11.8%: Military
- 10.5%: Airspace
- 5.2%: Infrastructure
- 2.6%: Tribal
- 2.6%: Spectrum
- 2.6% GIS
- 1.3%: Cyber

Land Use (Regional, Landscape Focus)

Survey Participants identified land use (regional, landscape focus) as the top issue. This included two broad focus areas:

- Better coordination on land use planning efforts, large-scale energy and infrastructure project planning/coordination, and
- Threatened and endangered species planning and proactive mitigation.

The results of the Energy Committee and Natural Resources Committee efforts to address the two above land use items are summarized below.

Energy and Infrastructure

The WRP States (Arizona, California, Colorado, Nevada, New Mexico and Utah) are all quite large in area, ranging from the third largest state (California) to the thirteenth (Utah). The WRP Region's six states are home to 18% of the U.S. population and constitute 19% of the total U.S. land mass. The States are also somewhat similar in that each:

- Contain a great deal of Federal land, ranging from 34.1% in New Mexico to 85% in Nevada
- Have considerable State and Tribal lands
- With the exception to some degree of California, have concentrations of population surrounded by vast rural, nearly uninhabited spaces.

These characteristics impact infrastructure of all types, and energy is no exception. With respect to energy, the six States share other significant characteristics: they have climates that are conducive to alternative forms of energy, including wind, solar and geothermal, and they have significant hydroelectric resources, e.g., Hoover Dam.

There is considerable interest in the development of additional renewable energy projects and energy infrastructure. Federal and state agencies have set aggressive goals to increase the proportion of energy derived from renewable sources. Many energy projects are needed to address increases in renewable energy demand caused by population increases and renewable energy portfolio standards. Such projects are promoted to ensure better energy reliability and resiliency and help promote the economic well-being of a particular governmental jurisdiction. However, without collaborative planning, certain projects in some locations could impact military operations, be located on environmentally or culturally sensitive lands or impact water resources.

Past WRP products related to this topic include:

- WRP Energy Guide
- Renewable Energy Development on Tribal Lands
- Renewable Energy and Transmission Siting Coordination and Potential Impacts to the Military Mission

Energy Infrastructure in the Six State WRP Region

Western Electricity Coordination Council (WECC) 2015 Nameplate Capacity (MW)[1]

[1] Source: https://www.wecc.biz/epubs/StateOfTheInterconnection/Pages/State-Summary.aspx

2015 Nameplate Capacity (MW)		WRP State						WRP Total	WRP Percent of WECC (US)
Energy Type	**WECC (US)**	**UT**	**NM**	**CO**	**AZ**	**NV**	**CA**		
Natural Gas	94,776	3,241	3,878	7,376	16,091	8,625	45,581	84,792	89%
Hydro	54,598	262	82	1,170	2,912	1,052	13,795	19,273	35%
Geothermal	3,761	84	-	-	-	702	2,917	3,703	98%
Coal	33,795	4,994	3,741	5,575	6,418	1,104	-	21,832	65%
Wind	19,812	324	1,062	2,969	267	150	5,741	10,513	53%
Solar	10,243	166	312	194	1,516	979	7,057	10,224	100%
Other	4,339	76	82	246	165	-	2,436	3,005	69%
Nuclear	7,733	-	-	-	4,210	-	2,323	6,533	84%
Total	229,057	9,147	9,157	17,530	31,579	12,612	79,850	159,875	70%

WECC 2015 Electricity Generation and Electric Sector Natural Gas Consumption[2]

		WRP State						WRP Total	WRP/ WECC (%)
WECC (US)		**UT**	**NM**	**CO**	**AZ**	**NV**	**CA**	**Total**	
Net Generation (GWh)	725,800	40,886	32,576	52,299	112,991	38,628	179,304	456,684	63%
Natural Gas Consumption (MMcf)	1,747,541	55,797	77,947	92,757	249,477	207,145	816,787	1,499,910	86%

[2] Source: https://www.wecc.biz/epubs/StateOfTheInterconnection/Pages/Generation/Natural-Gas.aspx

EIA 2016 Renewable Electricity Generation[3]

Renewable Generation (GWh)	UT	NM	CO	AZ	NV	CA	WRP Total
Wind	827	3,614	9,425	543	344	13,698	28,451
Solar	874	804	548	3,753	2,546	19,030	27,555
Geothermal	530	16			3,848	12,469	16,863
Biomass	84	18		219	26	6,066	6,413
Other	175		50			801	1,026

Energy Transmission (Miles) [4]

State	Electric Transmission > 115kV[5]	Natural Gas	Crude Oil	Refined Petroleum Products
Arizona	8,931	6,671	0	574
California	21,054	12,388	3,575	3,373
Colorado	8,073	7,803	1,195	1,037
Nevada	6,095	2,051	0	276
New Mexico	7,113	6,565	2,172	2,138
Utah	4,718	3,123	598	719
Total – WRP Region	55,984	38,601	7,540	8,117

Infrastructure

The WRP states also contain various types of infrastructure to connect the region to the U.S. economically and for moving goods and people. Given the increase in population in the region[6], these states will need additional infrastructure. The Council on Environmental Quality (CEQ) published a list of actions it will undertake to enhance and modernize environmental review and infrastructure permitting processes including developing One

[3] Source: U.S. Energy Information Administration, Electricity Data Browser

[4] Source: Except as noted, DOT Pipeline Miles and Facilities 2010+, https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?Portalpages

[5] Source: WECC

[6] Of the WRP States, from 2010 through 2016, only New Mexico is estimated to have grown by percentage change in population more slowly than the U.S. as a whole. Utah, Colorado, Nevada Arizona, and California are the third, fourth, sixth, seventh and seventeenth fastest growing states by this measure respectively, according to the U.S. Census Bureau. https://www2.census.gov/programs-surveys/popest/tables/2010-2016/state/totals/nst-est2016-02.xlsx

Federal Decision; identifying high priority infrastructure projects; reviewing existing CEQ regulations regarding the National Environmental Policy Act (NEPA) for update and clarification; and forming an interagency working group to review agency regulations that slow down environmental reviews and permitting decisions.

Snapshot of the Six State WRP Region

State	Area (sq. mi.)[7]	State Ranking by Area[8]	Population[9]	Roads (mi)[10]	Bridges[11]	Freight rail (mi)[12]
Arizona	113,990	6	6,931,071	66,441	8,031	1,643
California	163,695	3	39,250,017	174,989	25,315	5,295
Colorado	104,094	8	5,540,545	88,565	8,666	2,662
Nevada	110,572	7	2,940,058	40,139	1,896	1,192
New Mexico	121,590	5	2,081,015	70,772	3,951	1,837
Utah	84,897	13	3,051,217	46,254	3,014	1,343
Total – WRP Region	698,838		59,793,923	487,160	50,873	13,972

Involvement with large scale energy projects:

The Survey indicated that federal and state agencies and tribes had varied involvement in large scale energy projects, ranging from acting as the lead agency on such projects to providing input as appropriate. Numerous challenges for these projects were also identified by Survey Participants. Specific responses are consolidated in Appendix B.

Top Energy or Infrastructure Projects within WRP Region by Energy Type:

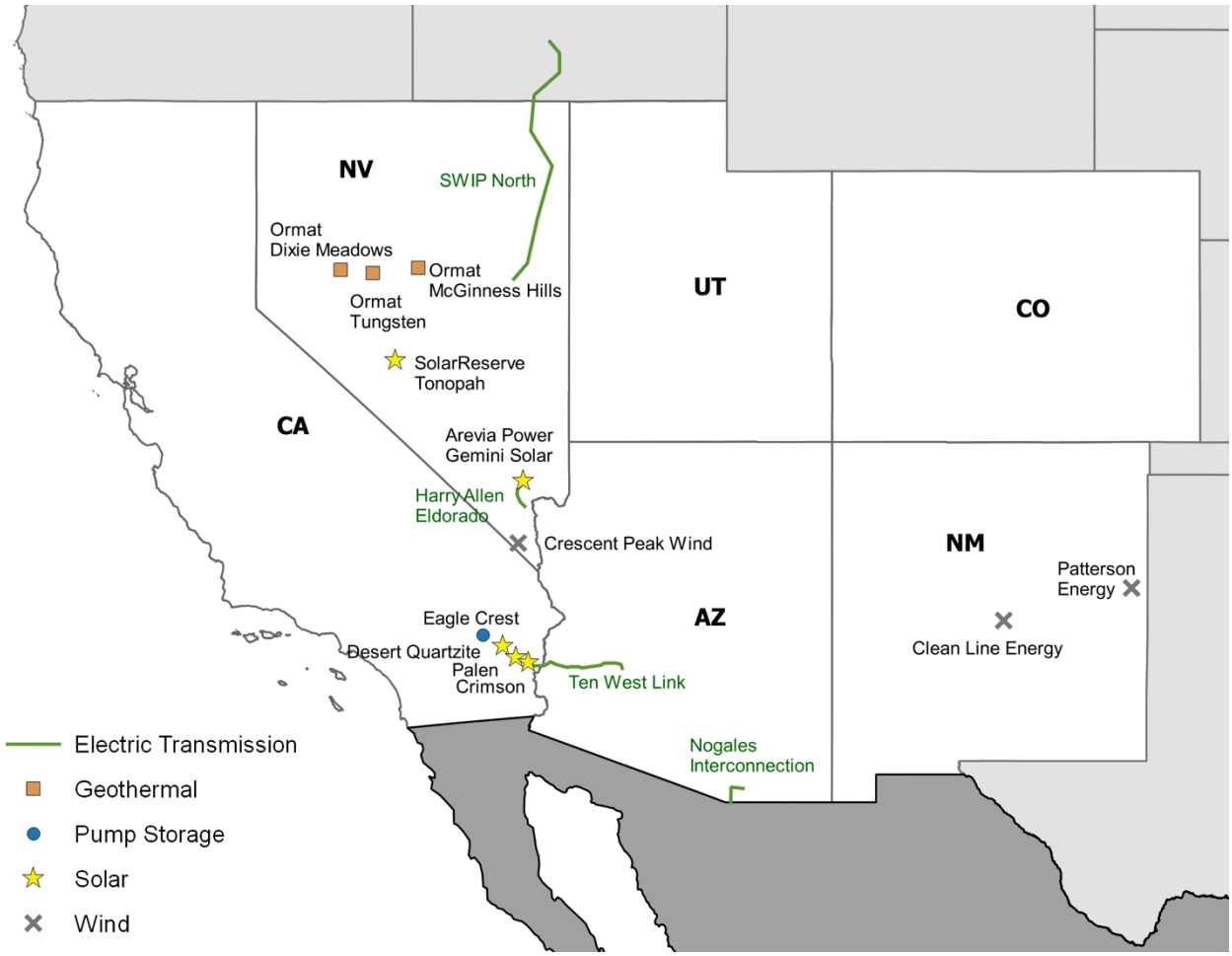
A number of large energy or infrastructure projects were identified in the WRP Region:

Type	State	Project	Details
Electric Vehicles	CO, NV, NM, UT	REV West Plan MOU	Framework among these states (and ID, MT and WY) to create regional electric vehicle plan providing for the electrification of more than 5,000 miles of Interstates 10, 15, 25, 40, 70, 76, 80, 84, 86, 90 and 94

[7] Source: US Census Bureau, https://www.census.gov/geo/reference/state-area.html
[8] *Id.*
[9] Source: US Census Bureau, 2016 Estimates, https://www2.census.gov/programs-surveys/popest/tables/2010-2016/national/totals/na-est2016-01.xlsx
[10] https://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/STS_2015.pdf
[11] *Id.*
[12] *Id.*

Geothermal	NV	Ormat- McGinness Hills Phase III	48.5 MW geothermal plant located in Lander County, NV
Geothermal	NV	Ormat- Tungsten geothermal project	33 MW geothermal plant located in Churchill County, NV
Geothermal	NV	Ormat- Dixie Meadows geothermal project	30 MW geothermal plant located in Churchill County, NV
Pumped Storage	CA	Eagle Crest	1,300 MW project in a former mine in Eagle Mountain, Riverside County
Solar	CA	Desert Quartzite Solar	450 MW near Blythe
Solar	CA	Palen Solar Project	500 MW, Riverside East Solar Energy Zone (SEZ), Riverside County
Solar	CA	Desert Quartzite Solar Project	300 MW Riverside East SEZ, Riverside County
Solar	CA	Crimson Solar Project	450 MW solar photovoltaic project, Riverside East SEZ, Riverside County
Solar	NV	SolarReserve	Eight solar towers on 22,000 public acres near Tonopah that, if built, would be the world's largest solar energy project
Solar	NV	Arevia Power/Gemini Solar	440 MW planned; 25 miles NE of Las Vegas along I-15
Transmission	AZ	Nogales Interconnection Project	230kV line crossing the border near the Mariposa Port of Entry
Transmission	AZ/CA	Ten West Link	500kV, 114-mile line between Tonopah, Arizona and Riverside County, California
Transmission	NV	Harry Allen – Eldorado Transmission Project	500kV, 60-mile line between NV Energy's ON-Line and SCE's Eldorado substation
Transmission	NV	SWIP North-LS Power	500kV, 275-mile line from Midpoint substation in Idaho to Robinson Summit substation in Nevada,
Wind	NV	Crescent Peak Wind	175 to 500-megawatt (MW) wind generation facility near Searchlight

Wind	NM	Clean Line Energy	Up to 1,000 MW generated by approximately 400 wind towers near Corona, Lincoln County
Wind	NM	Patterson Energy	Additional 600 wind towers, to a total of 1,000 wind towers, north and east of WSMR



Above map assembled by EIA to help illustrate projects within the WRP Region

Changes in policies contemplated:

Some Partners identified possible policy changes; caution was suggested in light of the change in administration and personnel that have occurred and are occurring:

- BLM:
  - Possible changes to NEPA review process
- DOE:
  - DOE publishes triennial national-scale studies of electric transmission congestion in the nation's electric transmission networks. The next such study was to begin in 2017.

    - DOE may designate a geographic area as a "national interest electric transmission corridor" if the Secretary finds that it would serve the national interest to facilitate construction of a congestion-easing transmission project.
    - FAST-41 implementation and compliance
    - August 2017 Infrastructure Executive Order
    - Guidance on IIP implementation
- Nevada:
    - In 2016, voters passed a ballot measure to deregulate electricity supply in the state; this will require further voter approval in 2018. The Governor established a Committee, its mission and timeline. Meetings with stakeholders have been held.
- California Energy Commission:
    - Current law requires reduction in overall greenhouse gas emissions of 40% and a RPS of 50% by 2030; the latter is expected to increase before 2020.

Species

Early conservation efforts targeting sensitive species and at-risk habitats (prior to a listing of a species and/or loss of habitats) can maximize management options, reduce costs and ultimately eliminate the need for listing. WRP Partners spend significant resources to assist with environmental planning. Through enhanced collaboration among WRP Partners, it may be possible to more effectively support species and habitat-based management in a non-regulatory environment.

To best support the results from the WRP Regional Assessment survey, the WRP Natural Resources (NR) Committee Co-Chairs focused Committee efforts on species of concern, to assist efforts to preclude or delist species through conservation efforts and to relieve the regulatory burden for WRP Partners.

Species in the WRP Region

The accompanying Excel spreadsheet highlights current USFWS efforts to address Endangered Species Act (ESA) listing and critical habitat decisions. Within the WRP Region, there are:

- 532 listed species believed to or known to occur in WRP Region
- 117 species that are part of the seven-year work plan
- 35 species that are part of the FY17 workload
- 23 unscheduled listing actions for species
- 18 Downlisting and Delisting Species

This information is from this USFWS site: https://www.fws.gov/endangered/what-we-do/listing-workplan.html, tailored for the WRP region, and then coordinated with USFWS to ensure it was the most accurate list at this time. Tab four of the spreadsheet highlights WRP Partner input on species of concern in 2015.

The Committee Co-Chairs asked WRP SC and other Committee leaders for their input on species of concern. The top results are highlighted below.

Species	Status	Location	2017 Input	2015 Input
Little brown bat	Not listed	CO	Tied for first	
Monarch Butterfly	Under Review (90 Day Findings on 2 petitions 12/31/2014)	AZ, CA, CO, NM, NV, UT	Tied for first	Tied for third
Western spadefoot toad	Under Review (90 Day Findings on 31 petitions 7/1/2015)	CA	Tied for second	
Yellow-billed cuckoo	Threatened (11/30/2014)	AZ, CA, CO, NM, NV, UT	Tied for second	Tied for fifth
Least bell's vireo	Endangered	CA	Tied for second	
Mountain yellow legged frog	Endangered	CA	Tied for second	

In 2017-2018, the Committee will continue to enhance collaboration among WRP Partners to assist in precluding the listing of or in delisting species through conservation efforts and to relieve the regulatory burden for WRP Partners. The Committee developed the following recommended criteria:

- Multi-state region (at least 2 states)
- Maximizes mission interest of WRP Partners (supports many members' missions)
- Coordinates with existing efforts
- Builds resilience for wildlife and enhances Partners' missions
- Increases habitat/precludes listing/delist species

The Committee will explore lessons learned and best practices from current efforts such as DoD's (Southeast) Gopher Tortoise Conservation and Crediting Strategy

Additionally, prior to focusing on a species or habitat, the Committee will first determine if there is a gap in existing efforts and, if there are efforts under coordination, whether there is a way that WRP might assist/leverage and not be duplicative. The specific next steps are:

1. Finalize Committee criteria on which species/habitats to address (draft criteria above)
2. Provide briefing at WRP Principals' Meeting and confirm species of interest and Partner involvement
3. Take "top" species and develop data overlays, with habitat and range (species synopsis)

4. By Tenth WRP Principals' Meeting, work to identify threats and opportunities and quick successes and work to leverage existing and ongoing efforts (maximize efficiencies)

Complete responses for this section are in Appendix C. Past WRP products related to this topic include:

- WRP Partner Input on Species of Concern
- Overview of Water-Related Resources Available to WRP Partners
- WRP SoAZ/NM Project Report and WRP SoAZ/NM Project GIS Suitability Report
- Mojave Project Report

Airspace

Per survey results, airspace was identified as the third most important issue. Airspace was defined to include:

- Future military airspace requirements;
- Better coordination among users;
- Unmanned aircraft/RPA/drone;
- Connecting land use planning with impacts to airspace; and
- Awareness of changes in airspace designations and policy

Past WRP actions include numerous related Committee webinars and discussions during WRP Plenary Sessions at annual Principals' Meeting. The most recent report providing a brief overview of Aviation Sustainability Concerns, Aviation Coordination Best Practices and Aviation Resources is the WRP Airspace Sustainability Overview and accompanying fact sheet on Meteorological Towers MET Tower Fact Sheet

WRP Region's Aviation Users and Activities:

Airspace is a finite resource and competition for its use is increasing. Within the WRP region there are significant numbers of aviation users (military, business and general aviation, commercial, etc.) with diverse missions. The WRP region appreciates nearly year-round fair weather, enabling all types of flying missions. Within this region are some of the nation's busiest airports in terms of passenger boardings and passenger traffic (Los Angeles, Denver, San Francisco, Las Vegas and Phoenix Sky Harbor). The region is very important for the DoD mission, since it contains 75% of DoD Special Use Airspace and the military's interconnected airspace supports air-to-air, air-to-ground, ground-to-ground and air-to-sea operations.

Special Use Airspace Statistics in the WRP Region[13]:

- No Prohibited Areas in Region
- All States have Restricted Areas and Military Operations Areas

[13] Source: Presentation to Western Regional Partnership by Elizabeth L. Ray, Vice President, Mission Support Services, Federal Aviation Administration, August 29, 2017

- California is the only State with Warning Areas
- Arizona, California, Colorado and Nevada have Alert Areas
- All states (except Utah) have Controlled Firing Areas
- California, Colorado and Utah have National Security Areas

Aviation Encroachment/Sustainability Challenges:

Changes in aviation operations and types of users along with changes in land use patterns can impact aviation missions. Aviation sustainability challenges may be categorized as follows:

- Land Encroachment/Development
- Changes in Aviation Operations
- Electromagnetic Interference
- New Technologies

Land Encroachment/Development

Issue: Changes on the ground, such as increased development (including commercial and urban) and tall structures may impact aviation users by affecting flight safety. Such development concerns could be immediately adjacent to an airport (such as development of a tall structure impacting the ability to safely transit to and from a runway) or under a low-level flight path impacting the military's ability to train pilots or an agricultural pilot's mission to spray crops. Vertical structures (such as Meteorological Evaluation Towers and transmission lines) are being built more frequently and at an increasing height. Many structures are built under 200 feet to avoid the FAA rule requiring coordination of any structure 200 feet or taller. In many areas, such development does not require notification, which may result in a pilot first learning of the new structure while flying.

Of particular note are METs, which are temporary structures that are portable, constructed in a matter of hours and erected to determine if a geographic area is a viable location for the installation of wind turbines. METs are very hard to discern from the air and are of special concern to low level aviation users such as agricultural, first responders, medical transport, and military. The continued construction of these towers within the national airspace system without any marking will increase the possibility of additional accidents and fatalities. This led Congress, in July 2016, to direct the FAA within one year to develop marking standards for MET towers and establish a database of locations.

Changes in Aviation Operations

There are various types of manned flight operations, such as government (federal, state and local, Tribal and law enforcement) and commercial and general aviation. According to the FAA Aerospace Forecast Fiscal Years 2015-2035, U.S. commercial airline traffic will grow at an average of 2% per year, from 775 million passengers in 2015 to 1.14 billion in 2035. The FAA also forecasts that both airports and general aviation will continue to grow. It is expected that additional airports and expansion of existing airports will be needed to

supplement the existing system in order to move more people and cargo. Additional and expanded airports can have both positive and negative impacts for aviation users: while providing more aviation options and economic growth, it may also congest the airspace as more operations are conducted in the same airspace. New technology such as NextGen is being developed to better utilize airspace and enable more aviation operations in the same area safely and efficiently.

Demand for Unmanned Aircraft Systems (UAS) for government (federal, including military, state and local, law enforcement), commercial and research purposes continues to grow, and is expected to be one of the fastest growing segments in aviation over the next ten years. Integrating UAS into the National Airspace System (NAS) impacts aviation users in many capacities. Challenges of integrating UAS include:[14]

- Pace of change – evolving faster than manned aircraft
- FAA Culture– change to how traffic has historically been managed
- No mandated design or performance standards
- Current regulatory framework assumes human pilot is present
- Detect and Avoid
- May require more rapid and precise control due to ops in closer proximity of people
- Privacy
- Security/Cyber-Security
- Environmental Concerns
- Public Acceptance

Electromagnetic Interference

Radiofrequency spectrum is a finite resource that is increasingly in high demand by many users including state and federal government and the private sector for such use as wireless broadband service (smart phones, laptops, tablets, e-readers, etc.). As data usage becomes more intensive (cell phones are used for more than talk service, but also for internet searches, etc.) more competition arises for spectrum that was previously used by aviators for radar and voice communication systems and for national security purposes such as by the Department of Defense. As UAS operations increase, so do demands on spectrum availability; UAS operations need spectrum for communications (to avoid mid-air collisions and to safely land). The National Telecommunications and Information Administration (NTIA) manages the Federal Government's use of the spectrum while the Federal Communications Commission (FCC) manages all other uses. This resource needs to be carefully managed so that multiple users have the spectrum they need to safely and securely accomplish their mission and not be impacted by other users especially with the increasing demand for spectrum. Not having sufficient use of spectrum at the time needed

[14] Source: Presentation to Western Regional Partnership by Elizabeth L. Ray, Vice President, Mission Support Services, Federal Aviation Administration, August 29, 2017

can result in the flight not occurring, safety issues and interference with navigation and communication.

New Technologies

As technology advances, aviation is improved. With these improvements, a few elements need to be worked through as aircraft are moving faster and consuming more spectrum and unmanned flights may be flying in what was previously considered manned-only airspace. Some of the new technology includes:

- Commercial space launch/private space flight; three sites currently in WRP region (California Spaceport, Mojave Air and Space Port and Spaceport America) and two proposed (Spaceport Tucson and Spaceport Colorado)
- Unmanned Aircraft Systems (UAS)
- New aircraft such as the Fifth-generation jet fighter (e.g. F-22 Raptor and F35 Joint Strike Fighter)
- "Energy kites" –airborne wind turbines that would enable more wind turbines to be sited in areas that at ground level do not provide sufficient amount of wind.
- Balloons, using new applications, such as un-crewed Stratolite flight vehicle, which can maintain position over specific areas for short durations to eventually months.

Agency Aviation Sustainability Impacts or Concerns:

DoD impacts:

- Wind turbines impact airborne radar by causing false returns (via Doppler shift) which could be an impact during military testing, training and operation missions. This Doppler effect significantly impacts validation of airborne radar systems. Siting is a critical component in securing clutter-free airborne radar test areas. In addition to energy infrastructure posing structure issues for low-level flying aircraft, such facilities may cause sustained electromagnetic and acoustic interference that can negatively affect ground-based, shipborne, airborne, and submarine-borne sensors, communications, and navigational aids.
- There are areas within the WRP Region, such as R-2508 Complex in California, where DoD has access to airspace but does not manage the land underneath the airspace; this can cause some confusion.
- There are training sites, such as R-2501/Twentynine Palms, in remote and sparsely inhabited areas where, despite the nature of training and live fire activities, may not seem impacted. However, when viewed in a three-dimensional landscape the airspace above those remote training areas is sometimes congested.
- Since 2013, State Legislatures have been passing laws to address the growing use of Unmanned Aircraft Systems (UAS.) Although the legal ability of States to regulate military activity of any kind, including the use of UAS, is highly doubtful. However, specific language in the legislation that clarifies that the State does not intend to regulate the use of UAS by the military would be a helpful addition to such legislation so that there is no uncertainty attached to state UAS regulation.

- New planes such as the F-22 Raptor and F35 Joint Strike Fighter are advanced aircraft and move at fast speeds, requiring more space to maneuver in a safe fashion; therefore, long-range airspace corridors may be needed.
- DoD is using new weapons systems that tend to need a higher data rate for spectrum. There is a vital need to have a secure communications network for new aircraft such as the JSF to ensure information security is protected.

WSMR:

- Increased testing by WSMR side-by-side with pilot training sorties from Holloman AFB.

BLM

- The BLM uses airspace mainly for fire-related flights (such as fire detection/reconnaissance, suppression and prescribed fire) but also for non-fire, resource management projects (e.g., slinging in fencing materials, burro surveys, etc.) The primary concern is aircraft flying into temporary flight restrictions (TFR) that are issued by the FAA over fire areas. This only happens occasionally but there has recently been an increase in the number of frequency of UAS intrusions every year, which may be addressed by continued public education and collaboration.
- There has also been additional UAS use for filming on public lands. BLM coordinates with FAA to ensure drone use meets FAA requirements.
- Tall structures on public lands, such as MET towers, wind turbines, high voltage transmission structures, solar power towers and communication towers are processed for permits so that they meet FAA standards, are coordinated with DoD, and added to BLM's Fire and Aviation group hazard maps. An official policy or protocols may be useful to ensure consistent application of standards.
- BLM coordinates with DoD to withdraw public lands for military purposes, which often includes airspace use.

NOAA:

- Expects significant increase in UAS usage.

Utah:

- Encroachment is certainly an airspace sustainability challenge pertaining to glide slope areas and runway protection zones. The most common challenges are from tall buildings, towers or poles penetrating approach paths (e.g., poles near Logan Airport) and attempted development in runway protection zone (e.g., proposed, but prevented, gas station near Heber Airport.) Solutions include requesting local jurisdictions to adopt zoning ordinances aligned with airport master plans before receiving state or federal grants or adopting Part 77 of FARs into State code, as Ohio and Iowa have.
- Noise shifting as NextGen is implemented, leading to noise complaints from newly impacted communities and requests to close airports, implement curfews, or readjust air lanes. Solutions include requiring real estate agents to disclose airway to prospective home buyers.

- Performs monitoring activities statewide through low level flying, and notes more air traffic in recent years but not immediate impact on day-to-day operations.

Agencies with Fire-Fighting Response:

- There have been occurrences of drones in flight areas causing grounding of fire suppressing aircraft until the drone can be identified/removed. It is important to note the aircraft go up as soon as the source of the drone is determined. There is a lot of effort being made to educate citizens of the hazard the drones can pose to fire fighting. Currently in Congress there is a bill in response to this, HR 1138 -The Wildfire Airspace Protection Act. An added complication related to drones is a Federal court ruling that FAA can no longer regulate hobby drones.

Advancing Regional Strategies

– Recommendations for next steps-

The Regional Assessment described in this report is in itself useful; however, to fully leverage the results of the Regional Assessment, the survey and the Partners' investment in producing the survey and the Regional Assessment, the logical next step is to put into practice those actions that WRP is particularly suited to perform in order to assist Partners in achieving the identified priorities. At the Ninth WRP Principals' meeting, the goal of "Advancing Regional Strategies" was adopted and directs WRP efforts to complete by the Tenth WRP Principals' Meeting. WRP Committees will convene during this period to develop and pursue actions that advance the identified priorities of the Partners. At the Tenth Principals' Meeting, Principals will be updated on the efforts made in addressing Partners' priorities and receive recommendations of further action that can and should be taken to continue to advance those priorities.

The WRP Steering Committee in 2017-2018, will:

- Work with WRP Committees and GIS Support Group to develop the Advancing Regional Strategies Report. This report will outline key regional priorities and actions
- Advance efforts for the 2018 Principals' meeting

The WRP Energy Committee in 2017-2018 will:

- Further explore energy-related findings from the 2017 WRP Regional Assessment and further summarize changes in policy, upcoming trends, and top energy projects within WRP Region
- Continue to share information on new renewable energy projects and transmission lines and highlight State, Federal and Tribal energy planning efforts and resources in the WRP Region
- Enhance WRP Partner awareness of new energy generation and transmission planning processes and opportunities for engagement to address/mitigate mission

impacts, especially those impacts on the military's ability to test and train, natural and cultural resources, and Tribal lands

The Natural Resources Committee in 2017-2018 will:

- Further explore related findings from the 2017 WRP Regional Assessment
- Continue to assist efforts to preclude or delist species through coordinated conservation efforts in order to mitigate regulatory restrictions. Identify potential gaps and leverage existing ongoing efforts to maximize efficiencies
- Serve as a resource for WRP Partners in their regional/landscape-level conservation efforts (e.g. Sentinel Landscape efforts, etc.)
- Assist WRP Partners in engaging in ongoing dialogue on Western water sustainability

The MRHSDP&A Committee in 2017-2018 will:

- Further explore related findings from the 2017 WRP Regional Assessment
- Support military readiness by enhancing awareness of the DoD mission in the WRP region and serving as a forum to address compatible land uses in the vicinity of military operations
- Assist WRP Partners' respective homeland security/disaster preparedness missions to foster awareness of the interdependence among Partners. Capture emerging issues and recommendations that foster disaster recovery as well as address instabilities and vulnerabilities such as cyber security. Highlight existing resources and tools to assist WRP Partners
- Serve as a forum for aviation users by sharing information on changes to airspace use within the WRP region, including developments in new technology and the integration of UAS into the National Airspace System and highlighting potential impacts

Appendices

Appendix A – Related Planning/Projects in the WRP Region A-1

Appendix B – Responses on Involvement with Large Scale Energy Projects B-1

Appendix C – Responses on Species of Interest C-1

Appendix D – DoD Issues of Importance D-1

Appendix E – GIS Resources..... E-1

Appendix A - Related Planning Efforts/Projects in the WRP Region

(Provided through Surveys)

Agency	Details
Aviation	
FAA	• The FAA has identified locations (Denver, Las Vegas, Northern California, and Southern California) within the WRP region for a Metroplex, an area containing multiple airports serving a major metropolitan area with diverse stakeholders. • FAA is developing NextGen to more efficiently, safely and optimally use airspace. The following airports within the WRP Region are slated to have NextGen: SFO, LAX, SAN, LAS, PHX, SLC and DEN.
DoD – 29 Palms, California	• The Marine Corps Air Ground Combat Center (MCAGCC) in Twentynine Palms, California, seeks additional Special Use Airspace (SUA) over recently acquired land to meet Marine Expeditionary Brigade (MEB) sustained, combined-arms, live-fire and maneuver training requirements, including MEB Building Block training. SUA is needed for the aircraft, aviation weapons systems, artillery, mortars, tanks and other ground-based systems that comprise the Marine Air-Ground Task Force.
DoD - WSMR	• Tests UAS systems and may use them in the future for surveillance, searching and fire. • Expects to increase airspace use as it moves to the use and testing of long-range systems, hypersonic and 5th generation weapons. • Working toward a Programmatic EIS to consider establishing six long range corridors over 5 states.
BLM	• BLM use of UAS varies across the west, due to the variety of needs and available resources. UAS operations are on the rise. BLM owns 77 3DR Solo quadcopters. Project types include cultural, recreation, wildlife, wildland fire, fuels management and T&E vegetation. BLM has flown UAS remote sensing projects in Arizona, California, New Mexico (and other non-WRP states). May UAS statistics for WRP region include: 18 flights and 145 minutes in flight in NM; and 61 flights and 550 minutes in flight in Utah. By way of example, below is NM BLM's description of its UAS operations: o *"We currently have three UAS deployed, and three UAS certified pilots, in the BLM New Mexico Organization. These systems are being used for multiple applications in both renewable resources and mineral resources field work, and we have additional applications planned for the future. Examples of projects include,*

	attempting to identify cultural resources in the field using imagery analysis collected by the UAS, estimating salable mineral pit volumes using photogrammetry, performing wildlife surveys using UAS video, and we also see the potential for using these UAS for field reconnaissance in areas where personnel may not be able to safely travel (sinkholes, cliff-sides, etc.). Each of these UAS is currently equipped with both a still-imagery digital camera, a digital video camera, and we are looking at acquiring additional Lidar sensors." • BLM has experienced a dramatic increase in requests for drone use for filming on public lands and some other applications and it is anticipated that this trend will continue.
NOAA	• Fixed-wing aircraft used to gather meteorological information supporting operations or applied research (e.g., Hurricane Hunters that gather observations and information to support understanding and enhance modeling of tropical storms.) • Provides operation forecasting support to FAA to assist their management of National Airspace. • Uses UAS for surveillance of a variety of weather situations. • Will continue to conduct applied research, such as using aircraft to explore land-falling atmospheric rivers to better understand associated precipitation mechanisms.
Spaceports	Spaceports Actively Working on Launch Site Licenses within the WRP • Spaceport Tucson (Tucson Intl.) – Proposing to operate tourist balloon operations. • Spaceport Colorado (Front Range) – Proposing to operate spaceplanes that launch and land horizontally. Source: Presentation to Western Regional Partnership by Elizabeth L. Ray, Vice President, Mission Support Services, Federal Aviation Administration, August 29, 2017
UAS State Laws	• Unmanned Aircraft Systems (UAS.) A list of state legislation may be found here: http://www.ncsl.org/research/transportation/current-unmanned-aircraft-state-law-landscape.aspx
Utah:	• Uses UAS for photography and wildlife viewing, but does not anticipate increased use by the State itself. • Anticipates fewer but larger aircraft requiring growth at hub airports, possibly at the expense of medium to small airports. • General aviation may see increased innovation/research and development in aircraft manufacturing because of FAA rewrite of Part 13 of FARS.

Cyber Security	
DHS	• DHS Critical Infrastructure Cyber Community (C^3) Voluntary Program assists the enhancement of critical infrastructure cybersecurity and encourages the adoption of the National Institute of Standards and Technology's (NIST) Cybersecurity Framework.
States	• Arizona-Arizona Cyber Threat Response Alliance (ACTRA) provides for sharing cyber information among industry, academia, law enforcement and intelligence interests, allowing for real time intelligence to respond to cyberthreats. • California-Cyber Security Integration Center (Cal-CSIC) allows state and federal government partners to address threats and vulnerabilities to California's infrastructure. • Colorado-National Cybersecurity Center (in partnership with the University of CO and worked closely with DHS) provides collaborative cybersecurity response services. • Nevada-State's first cyberdefense center to detect, prevent, and respond to cyber-attacks and partner with local governments and the private sector to minimize cyber risks. • Utah-capacity/expertise with subject-matter experts to think about issues like cybercrime jurisdiction. The Utah DPS Cyber Unit partners looks at critical infrastructure, gather information and build resiliency against cybercrime.
Energy	
BLM	BLM has many energy project requests by private companies including eight more substantial solar plants.
BOEM - CA	Planning with State of California for offshore wind energy (OSW) development offshore CA, with emphasis on Central Coast
Federal Permitting Dashboard	The Permitting Dashboard is an online tool for Federal agencies, project developers, and interested members of the public to track the Federal government's environmental review and authorization processes for large or complex infrastructure projects, part of a government-wide effort to improve coordination, transparency, and accountability.
Section 368 Corridors	Section 368 Energy Corridors: Section 368 of the Energy Policy Act of 2005, directed the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to designate corridors on federal land in 11 Western States, including the six WRP states, for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities. In 2009, Bureau of Land Management and the U.S. Forest Service designated 131 corridors for review consisting of approximately 6,000 miles. The corridors are being reviewed in six regions, with Regions 1, 2 and 3 pertaining to WRP states. The review for Region 1 (Southern California, Southern Nevada and Western Arizona) is

	anticipated to be complete by Spring 2018; for Regions 2 (Eastern Arizona, New Mexico and Southern Colorado) and 3 (Eastern Nevada, Utah and Northern Colorado) by December 2018. The reviews will provide recommendations to add, alter or delete corridors to be carried out through subsequent land use planning actions. A website has been developed for public information on the designated corridors.
Toolkit	Regulatory and Permitting Information Desktop (RAPID) Toolkit offers one location for agencies, developers, and industry stakeholders to work together on federal and state renewable energy and bulk transmission regulatory processes by using a wiki environment to share permitting guidance, regulations, contacts, and other relevant information.
MOU-DOI and California	Signed on December 12, 2016, calls for continued coordination on renewable energy planning and permitting. Specific work areas include cooperation to achieve land-based renewable energy objectives and offshore renewable energy projects.
State -NV	In 2016, voters overwhelmingly passed a ballot measure to take efforts to deregulate electricity supply in the state; however, this will require voter approval in 2018. The Governor signed an executive order establishing a Committee along with its mission and timeline. They have had many meetings with stakeholders; for more information http://energy.nv.gov/Programs/TaskForces/2017/EnergyChoice/
Natural Resources	
BLM	BLM's Land Use Plans, called Resource Management Plans (RMPs): • Arizona • California • Colorado • Nevada • New Mexico • Utah Additional information available on page A-8.
BuRec	Reclamation's waterSMART webpage: www.usbr.gov/watersmart
CWPRI	Collaborative Wildlife Protection and Recovery Initiative (CWPRI) is exploring the potential to work collaboratively to protect or recover species where organizations' priorities intersect and when their collaboration increases the protection or recovery of wildlife. Organizations involved to date include: Office of the Secretary of Defense, National Fish and Wildlife Foundation, Natural Resources Conservation Service, Bureau of Land Management, U.S. Forest Service, U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service.
DoD – REPI	FY18 REPI Challenge RFP will provide up to $15 million to one or more projects that either (1) leverage species crediting approaches to relieve current or anticipated environmental restrictions, (2) conserve lands within

Challenge FY18	watersheds important to the safe and adequate supply of water to DoD installations and ranges, or (3) acquire water rights that directly sustain or enhance military mission activities as a key element of a land protection project. The REPI Challenge will be conducted in accordance with the process and criteria described in the attached request for proposals, and funded projects will be chosen in coordination with Service representatives. Pre-proposal submissions are due by 26 January 2018. Additional information on the REPI Challenge is now available on the REPI website,www.repi.mil and the US Endowment for Forest and Communities website, http://usendowment.org/news.html.
MCIWest	• Desert Tortoise Relocation efforts in support of Large-Scale Exercises, MCAGCC 29 Palms • Updated CPEN INRMP (2017)
NOAA	• NOAA Marine Fisheries initiates reviews regarding the status of certain species and issues opinions to support determinations on whether to list those species.
NPS	• Notices of current planning efforts at specific park system units through the NPS Planning, Environment and Public Comment website • Staff in the regional offices can help coordinate between agencies and individual park units. https://www.nps.gov/aboutus/contactinformation.htm
USACE	• Most USACE efforts involve implementation of Civil Works projects and stewardship obligations, including operations for navigation, flood risk management, hydropower and ecosystem restoration. • Planning efforts include increased emphasis on Invasive Species management as foundation for ecosystem restoration and sustainability, and Conservation Planning under Section 2(a)1 of the Endangered Species Act to focus efforts on species recovery as well as impact avoidance and compensation to extent supported by USACE authorities.
USFS	The National Forest Management Act (NFMA), requires that the Department of Agriculture develop a land management plan for each national forest and grassland, revise the plans every 15 years, and amend them as necessary. Plans are developed by each individual unit with participation by local and national interests. The plans provide direction for individual projects, such as why, how, and where timber may be harvested; recommendations for wilderness lands; where ecosystems need restoration; how fuels and wildland fire should be managed; and the types of recreation that may be conducted on different lands. A forest plan does not authorize action or compel any use; it makes a broad strategic assessment but does not authorize any leasing, which is different from other management plans. This allows some public discussion on any given plan and to focus on broad set of issues. Plans make recommendations to Congress on potential special

	areas, inclusion of streams, or any other special designations. Projects must conform to the land management plan. The 2012 Planning Rule describes a process consisting of three major phases: assessment, plan development, and monitoring. Public participation is a key part of the US Forest Service Planning Process. Within the WRP Region, there are currently 15 National Forests where land management plans are being revised. A Land Management Plan Revision Story Map and status of plans for Forests in the WRP region was highlighted. Forest Plan Revision Status shows the status of forest plans in the WRP region.
USFS, San Bernardino National Forest	• Renewal of Special Use Permits (SUP) – NEPA, including the following: Southern California Edison Master Permit Renewal; Double Powerline re-alignment and pole replacement; Fontana Union Water Permit NEPA and Recreation SUP for trails, outfitter guides, etc. • Federal Energy Regulatory Commission (FERC) Permit Renewals and studies: Lake Silverwood and Devil's Canyon facilities; and Banning Decommission • Implementation of the ESA listed species Recovery Actions: Santa Ana sucker HCP/Relocation efforts; Mountain yellow-legged frog translocations and re-introductions; Quino checkerspot butterfly monitoring and Land Management Plan On-going Activities TE species monitoring • Hazardous Fuels Reduction Projects: NEPA and Implementation for watershed restorations • Grazing Allotment: Re-authorizations/NEPA and Administration • Off Highway Vehicle Program – trail relocations, un-authorized route decommissioning and restoration and trail maintenance and compliance patrols/monitoring • Sand to Snow Monument Plan, with the BLM
USFWS	• The Mexican Wolf revised recovery plan and related documents were released on November 29, 2017. For more information please visit the Service's Mexican wolf website at: https://www.fws.gov/southwest/es/mexicanwolf/ • The Lesser Prairie Chicken draft plan has been sent to stakeholders for review and comment, then a 12-month finding on the petition to list the species will be completed in 2018. • The peer review of the draft Monarch Butterfly Species Status Assessment (SSA) will be completed in Spring 2018; in early summer 2018 information will be collected from states on formal conservation efforts for use in listing analysis and listing decision is due in June 2019. For more information please see monarch joint venture: https://monarchjointventure.org/news-events/news/partnering-for-monarch-conservation-the-mjv-2017-annual-partnership-meeting

WSMR	• White Sands Pupfish: In 1994, WSMR signed on to a multiagency cooperative agreement and conservation agreement to conserve the species and prevent ESA listing. Successful at avoiding impacts to pupfish habitat without compromising missions. Completed habitat improvement projects to ensure persistence of the species. For upcoming planning efforts, contact Patrick Morrow (575) 678-7095. • Todsen's Pennyroyal: The WSMR Integrated Natural Resources Management Plan addresses the management and conservation of Todsen's Pennyroyal. The Biological Assessment for the WSMR Rangewide EIS also outlines the conservation and management of the species. WSMR avoids impacts to the populations by restricting activity at/near the populations. These restrictions have not impacted missions because populations are located on very steep slopes on the western edge of WSMR. No future conflicts with WSMR missions anticipated. Funding DNA and ecology/phenology research in order to better manage and conserve the species.

Western Regional Partnership - Resource Management Plans (In-Progress or Potential) - November 2017						
Resource Management Plan	**District/Field Office(s)**	**Ongoing**	**Planned**	**FY2018 Target**	**Expected ROD (Record of Decision)**	**ePlanning Link**
ARIZONA						
Sonoran Desert National Monument Target Shooting RMP Amendment	Phoenix DO, Lower Sonoran FO	X		PRMPA/FEIS & ROD	2018	link
San Pedro River National Conservation Area	Gila DO, Tucson FO, San Pedro Riparian NCA	X		DRMP/DEIS	2020	link
Kingman RMP	Colorado River DO, Kingman FO		X	Prep Plan	2022	n/a
Safford FO and Gila Box NCA	Gila DO, Safford FO		X	Evaluate LUP	2023	n/a
CALIFORNIA						
California Desert Conservation Area (CDCA) Plan (specifically, the West Mojave Route Network Plan, Supplemental)	CA Desert DO	X		EIS-Level RMP Amendment	2018	link
South Coast RMP	CA Desert DO, Palm Springs FO	X		PRMP/FEIS	2019	link
Northwest California Integrated Plan	Arcata FO, Redding FO	X		-	2021	link
Central Coast RMP Amendment for Oil and Gas Leasing and Development	Hollister FO	X		PRMPA/FEIS & ROD	2018	link
Bakersfield RMP (Amendment)	Bakersfield FO	X		DRMP-A/DEIS	2019	n/a
Sand to Snow Natl Monument Plan (CDCA Amendment)	CA Desert DO		X	EA-Level RMP Amendment	2019 (Decision Record)	n/a
Mojave Trails Natl Monument (CDCA Amendment)	CA Desert DO		X	EA-Level RMP Amendment	2019 (Decision Record)	n/a
Berryesa Natl Monument (Ukiah RMP Amendment)	Ukiah FO		X	EA-Level RMP Amendment	-	n/a
COLORADO						
Uncompahgre RMP	Uncompahgre FO	X		PRMP/FEIS	2019	link
Eastern Colorado RMP	Royal Gorge DO	X		DRMP/DEIS	2020	link
Tres Rios Field Office Areas of Critical Environmental Concern (ACEC) RMP Amendment	Tres Rios FO	X		-	-	link
White River Travel Management Plan Amendment	White River FO	X		-	-	link
Browns Canyon Natl Monument RMP	Royal Gorge DO	X		Scoping/Planning Criteria	2021	link
Gunnison RMP	Gunnison FO		X	-	-	n/a
San Luis Valley RMP	San Luis Valley DO		X	-	-	n/a
White River RMP	White River FO		X	-	-	n/a
NEVADA						
Basin and Range National Monument RMP	Ely DO	X		DRMP/DEIS	2021	link

Western Regional Partnership - Resource Management Plans (In-Progress or Potential) - November 2017						
Resource Management Plan	**District/Field Office(s)**	**Ongoing**	**Planned**	**FY2018 Target**	**Expected ROD (Record of Decision)**	**ePlanning Link**
Southern Nevada DO RMP	Southern NV DO	X		-	2021	link
Battle Mountain DO RMP	Battle Mountain DO	X		Prep Plan	2021	link
Battle Mountain DO RMP Amendment (EA, fluid mineral leasing stipulations)	Battle Mountain DO	X		Prep Plan	2019 (Decision Record)	n/a
Carson City DO RMP	Carson City DO	X		PRMP/FEIS	2019	link
Elko DO RMP	Elko DO		X	Prep Plan	2021	n/a
NEW MEXICO						
Rio Puerco RMP	Rio Puerco FO	X		-	2021	link
Carlsbad RMP	Carlsbad FO	X		DRMPDEIS	2020	link
TriCounty RMP Revision (formerly called Las Cruces RMP; revises the existing White Sands RMP & amends the Mimbres RMP for Dona Ana County)	Las Cruces DO	X		-	2020	link
Oklahoma, Kansas Texas (OKT) RMP	Oklahoma FO	X		-	2021	link
Farmington RMP Amendment: Mancos-Gallup Formations	Farmington FO	X		DRMP-A/DEIS	2019	link
Taos RMP Amendment: Rio Grande del Norte National Monument Plan	Taos FO	X		-	2019 (Decision Record)	link
Organ Mountains Desert Peaks NM RMP	Las Cruces DO	X		-	2022	link
Taos RMP Amendment: Verde Transmission Line	Taos FO	X		DRMP-A/DEIS	2019	link
Mimbres RMP: Five-year LUP Evaluation	Las Cruces DO	X		Evaulate LUP	-	n/a
Taos RMP Amendment: Ohkay-Owingeh Land Exchange	Taos FO		X	-	2020 (Decision Record)	n/a
UTAH						
Cedar City RMP	Cedar City FO	X		DRMP/DEIS	2020	link
San Rafael Desert Master Leasing Plan	Price FO, Richfield FO	X		-	-	link
Grand Staircase Escalante National Monument Grazing Plan Amendment	Grand Staircase FO	X		-	-	link
Gunnison Sage-grouse Rangewide Plan Amendments		X		PRMPA/FEIS	2018	link

Appendix B – Responses on Involvement with large scale energy projects

BLM:

- Routinely a lead or cooperating agency for permitting renewable energy, high-voltage transmission and energy pipelines.
- Designates transportation and energy corridors in land use plans.
- Challenges include:
    - Multiple permits required from Federal, state and local agencies and inconsistent permitting processes/requirements between Federal and state agencies.
    - Private land owners desire to site projects primarily on public lands.
    - Visual impacts from solar, wind and transmission projects.
    - Potential impacts to military test and training operations.
    - Increasing restrictions on potential siting areas (e.g. protected lands, protected species, conservation easements etc.)
    - Extremely aggressive timelines proposed by project developers.
    - Losses of experienced agency personnel due to retirements and normal attrition.
    - Insufficient incentives for siting (e.g. siting projects that pass through one state but "serve" another).
- Recommendations include:
    - Improving functionality of energy corridors and availability of preferred siting areas across multiple land ownership jurisdictions.
    - Improving siting and permitting incentives.
    - Improving support for hiring, training and retaining sufficient agency staffs to support expedited reviews.
    - Modifying permitting processes to better harmonize federal and state processes.
    - Improving inter- and intra-agency coordination from pre-application through final permitting.
    - Improve efficiency of NEPA reviews.

DOE Office of Energy Efficiency and Renewable Energy (EERE):

- Through its renewable power portfolio, focuses on early-stage research to enhance the affordability and reliability of renewable energy technologies: https://energy.gov/eere/about-office-energy-efficiency-and-renewable-energy.
- EERE's Water Power Technologies Office (WPTO) advances technology to modernize the U.S. hydropower fleet, drive U.S. leadership in ocean and river energy, and accelerate market adoption of pumped storage, the only commercially available utility-scale energy storage technology: https://energy.gov/eere/water/water-powertechnologies-office.

- HydroNEXT initiative. EERE is pursuing a comprehensive technology research, development, demonstration, and deployment strategy across three resource classes: existing water infrastructure, undeveloped streams, and pumped-storage hydropower. Two WRP state companies were selected to advance these technologies:
    - Natel Energy, Inc. of Alameda, California
    - Obermeyer Hydro Accessories Inc. of Wellington, Colorado

  https://energy.gov/eere/water/articles/energy-department-awards-98-million-nextgeneration-hydropower-technologies.
- Wind Energy Technologies Office (WETO) focuses on early-stage innovations to reduce cost and increase reliability of wind energy systems of all wind applications: land-based utility-scale, offshore, and distributed wind; see https://energy.gov/eere/wind/wind-energy-technologies-office. The National Renewable Energy Laboratory (NREL)'s National Wind Technology Center (NWTC) in Boulder, CO is the nation's premier wind energy, water power, and grid integration research facility. Wind energy research at the NWTC has pioneered wind turbine components, systems, and modeling methods.
- SunShot initiative: EERE is leading a national effort to support solar energy adoption by making solar energy affordable through research and development efforts in collaboration in photovoltaics, concentrating solar power, and systems integration with public and private partners: https://energy.gov/eere/sunshot/sunshot-initiative.
- The Geothermal Technologies Office (GTO) is working to develop the country's first dedicated site where scientists and engineers can develop, test, and accelerate breakthroughs in enhanced geothermal system (EGS) technologies and techniques – the Frontier Observatory for Research in Geothermal Energy (FORGE: https://energy.gov/eere/geothermal/geothermal-energy-us-department-energy). FORGE's second phase of funding went to two teams to enable them to fully instrument, characterize and permit candidate sites for this underground laboratory
    - Sandia National Laboratory with a site in Fallon, Nevada
    - The University of Utah with a site in Milford, Utah

  https://energy.gov/eere/geothermal/whatforge

<u>EPA:</u>

- Reviews and provides written comments on energy/infrastructure projects, primarily during scoping phase and public review period for Draft and Final EIS. Serves as Cooperating Agency on some projects, enabling EPA to provide input on administrative draft versions of NEPA documents, participate in early coordination, etc.
- Attempts to assist other federal agencies in ensuring that development of projects is expeditious, well-planned and protects resources. The following practices by lead agencies facilitate many issues arising in siting and developing energy projects:
    - "Kick-off Workshops" with state and federal agencies, local governments, tribes and other stakeholders.

- Early creation of stakeholder committees for major planning efforts with regular meetings to address major issues.
- Monthly coordination calls with cooperating agencies to discuss substantive comments and issues.
- Detailed resource analyses made as early as possible (e.g., pre-scoping) to facilitate siting, viability determination and avoid project delays.
- Multi-agency site visits with key natural resource agencies (e.g., FWS, USACE, EPA, State agencies) to identify and discuss critical concerns pre-Notice of Intent.

National Park Service:

- Generally, projects conducted on lands near NPS properties, referred to as "external projects." NPS's involvement is to ensure protection of park resources and values from impacts of the proposed project.

WSMR:

- Sun Zia 500kVA transmission line: Working with New Mexico State Land Office (SLO), the Bureau of Land Management (BLM) and fee simple land owners and have a signed Memorandum of Agreement with the Secretary of Defense and the Secretary of Interior to implement mitigation measures.
- Recommend the Agency becomes a partner during the EIS phase, look for win/win solutions. Realize both the Department of Defense and the Department of Interior have missions to complete.

California Energy Commission (CEC):

- CEC and State of California continue to work closely and coordinate with Federal partners (and other states) on a variety of energy issues and activities, including around the planning and permitting of energy projects, infrastructure, transmission corridors, and elated environmental issues and land use impacts.
- Working with BLM and DoD around potential projects, transmission lines and species/habitat concerns in DRECP area; and Section 368 Corridor Review, including energy planning work that follows from DRECP, San Joaquin Valley and RETI processes.
- Currently engaged with BOEM/California Intergovernmental Renewable Energy Task Force to identify suitable future areas for offshore wind energy. Coordinating with local communities and governments, DoD, Tribes and stakeholder groups.
- Recommends frequent listening, communication and coordination, including interactive data platforms to provide information and tools to all parties.

Utah:

- Many-all situational

Appendix C – Responses on Species of Interest

Top three species that would trigger need for regulatory compliance:

MCI West:

- TRI Color Blackbird (CPEN and Miramar)
- Western Spadefoot Toad (CPEN and Miramar)
- Western Pond Turtle (CPEN)
- 'Western' Yellow Billed Cuckoo (CPEN and Miramar)
- Hermes Copper Butterfly (CPEN and Miramar)
- Joshua Tree (also dependent which/if subspecies determined) (MCAGCC)
- Sierra Nevada Red Fox (MWTC)
- Yuman Desert Fringe Toed Lizard (MCAS Yuma)
- Little Brown Bat (Myotis lucifugus)

National Park Service, Intermountain Region:

- While the NPS is very supportive of efforts to prevent species from being listed through proactive species recovery efforts and habitat enhancement; we would not make decisions about which species should be the focus of those efforts based on which might pose the greatest regulatory burden on the bureau. It is NPS policy to survey for, protect, and strive to recover all species native to national park system units that are listed under the ESA.
- NPS Management Policies direct the Service to work cooperatively with the FWS and other agencies to support the recovery of endangered species native to national park system units. The NPS will cooperate with other agencies to ensure that the delineation of critical habitat, essential habitat, and/or recovery areas on park-managed lands provides needed conservation benefits to the total recovery efforts being conducted by all the participating agencies. The NPS will cooperate with other agencies, states, and private entities to promote candidate conservation agreements aimed at precluding the need to list species.

NOAA:

- Under the auspices of the Marine Mammal Protection Act and the Endangered Species Act, NOAA Marine Fisheries works to support recovery of protected marine species while allowing economic and recreational opportunities.

USACE South Pacific Division:

- Northern California:
    - Longfin Smelt
    - Monarch butterfly
    - Western bumble bee
- Southern California:
    - Monarch butterfly
    - Little brown bat
    - Yellow-billed cuckoo

    - 4 Southwestern pond turtles (splits of north from south pond turtle, and more DPS', NOT proposed but petitioned)
- New Mexico:
    - Rio Grande Chub
    - Wright's marsh thistle (similar habitat to Pecos sunflower)
    - Little Brown Bat (due to white nose syndrome spread)

San Bernardino National Forest, USDA:

- California spotted owl
- Southern rubber boa
- Monarch butterfly
- Western spadefoot

WSMR:

- White Sands Pupfish
- Desert Massasauga
- Monarch Butterfly or Little Brown Bat, but less so than first two. Little brown bat is uncommon, and have not surveyed for Monarchs.

Top three species that are already listed and having an impact

MCI West:

- CPEN, 18 species
- MCAS Miramar, 8 Species
- MCAGCC 29 Palms, Mojave Desert Tortoise
- MWTC Bridgeport, Mountain Yellow Legged Frog
- MCAS Yuma, Pronghorn, Sonoran (Antilocapra americana sonoriensis)

National Park Service, Intermountain Region:

- See above

USACE:

(Based on costs assembled for 2016 by the Engineer Research and Development Center)

	2016 Cost
Steelhead	$2,951,836
Salmon, Chinook	$1,613,872
Minnow, Rio Grande silvery	$1,360,130
Flycatcher, southwestern willow	$1,331,512
Salmon, coho	$1,208,281
Smelt, delta	$741,873
Vireo, least Bell's	$669,138
Sturgeon, Green	$551,833
Yellow-billed Cuckoo	$544,306
Beetle, valley elderberry longhorn	$344,251
Frog, California red-legged	$239,199
Plover, western snowy	$143,678

Salamander, California tiger	$110,799
Sucker, Santa Ana	$107,322
Woolly-star, Santa Ana River	$106,738

San Bernardino National Forest, USDA:

- Mountain yellow-legged frog – southern CA__DPS
- Quino checkerspot butterfly
- Southwestern willow flycatcher
- Least Bell's vireo
- Arroyo toad
- 13 listed T/E carbonate/pebble plain/meadow habitat plant species.

The San Bernardino NF has 21 ESA listed plant species and 14 ESA listed wildlife/fish species that we manage for. There are 13 Forest Service sensitive list plant species/most of which are currently proposed or candidate species. There are 38 FS Sensitive wildlife/fish species most which are proposed/candidate for ESA listing, such as the four listed above.

WSMR:

- None has much impact on mission or increases regulatory burden.
- Todsen's Pennyroyal- avoid activities at/near populations, but thus far has not impacted missions or increased regulatory burden (see information below on planning efforts)

Appendix D – DoD Issues of Importance

WRP DoD Management Team

The WRP DoD Management Team consists of representatives from OSD and the military services to coordinate issues and best support WRP efforts. This team serves as a resource to WRP members on DoD-specific issues.

DoD has focused its coordination efforts in response to regional assessment feedback

- Improve DoD input and coordination to WRP; ensure consistent messaging across DoD
- Working to strengthen and sustaining DoD engagement in WRP for the long-term
- Focused on developing and vetting DoD issues/topics for WRP consideration and action

DoD priority issues in the region, as presented at the 2017 in-person WRP Steering Committee meeting:

- Land Use – action
    - Enhance coordination focused on compatible land uses
        - Improved DoD coordination on land use planning efforts - federal (RMP) & state
        - Enhanced compatibility activity via legislative proposals to protect DoD mission
- T&E Species – action
    - Develop strategy to gain credit for existing management practices to avoid listing → eco-regional multi-species approach to management → western riparian eco-system focus
- Airspace – info/awareness
    - Emerging DoD Airspace Needs/Modernization
    - UAS Airspace/UAS Centers of Excellence
- Spectrum – info/awareness
    - What is spectrum and how does it impact DoD?
    - Appropriate siting

WRP Products Available When Working with DoD

Military installations and ranges provide the platform for testing and training so that military members are best prepared for times of war. Encroachment can impact DoD's use of land, sea, airspace, frequency spectrum and other resources; it is the cumulative impact of development that hampers DoD's ability to carry out its testing and training mission. For more information on issues of importance to DoD and other useful information please see WRP Guide to Working with DoD

Many tools have been developed to equip the military and communities to proactively work together on these issues. Tools developed in partnership at the state and local level can be very effective. For the states, military installations represent a sustainable benefit to their economies and their local communities, one that is typically consistent and unaffected by market forces and most economic cycles. In addition, the installations contribute to national security and military members tirelessly provide many volunteer hours each year in support of local communities.

WRP State Support for Military Testing and Training highlights WRP States' laws and executive-level administrative support of the military testing and training mission. It highlights state laws supporting military and aviation coordination as well as outlining DoD encroachment factors and best practices used by the states to address such issues. This document serves as a tool for policy makers to assist in supporting the military testing and training mission within their state in a proactive and collaborative fashion.

Military Asset Listing

Within the Western Regional Partnership (WRP) region, there are significant military testing and training installations and ranges. WRP developed Military Asset Listing (MAL) summaries from all of the Services and the National Guard, describing the history, missions, and importance of these assets. These summaries use only publicly available information and are written for the policy maker new to military issues and for the military-savvy person needing specific military information. These military summaries are for general planning purposes and were developed and updated through inputs and involvement with installation and Services-level contributors, including public affairs officers, intergovernmental liaisons, regional environmental coordinators, sustainability officers and community plans and liaison officers from Air Force, Army, Marine Corps, National Guard and Navy throughout the six-state region. WRP appreciates all the military's review, coordination and input to develop the following 80 MAL summaries:

By State

Arizona:	18
California:	29
Colorado:	9
Nevada:	9
New Mexico:	9
Utah:	6

By Service

Air Force:	23
Army:	16
Marine Corps:	9
National Guard:	20
Navy:	12

For information regarding specific military installations and ranges in the WRP area please see: http://wrpinfo.org/resources/dod-information/

Appendix E - GIS Resources
(Provided through Surveys)

Aviation:

- USGS Windfarm shows wind turbine sites throughout the US
- DoD DoD-Approved RAIMORA's
- DoD Low-Level Military Airspace
- BLM MET tower location data (in fire and aviation program hazard maps)
- BLM Milford Wind Farm Turbines
- Utah Airport and Aviation Layout and Data.

Energy:

- BLM
    - Solar Mapper Tool
    - ArcServer for AGOL
    - West-wide energy corridors and related corridor mapper tool
    - West-wide Wind Mapping Project (http://wwmp.anl.gov)
- CA Resources:
    - https://caoffshorewind.databasin.org/ and https://sjvp.databasin.org/
    - California Energy Commission Gateways Data
- DOE
    - DOE Energy Zones Mapping Tool
    - DOE Energy and Water Data Portal
    - DOE NatCarb Viewer
    - EIA State Energy Profile and Energy Estimates –
    - EIA U.S. Electronic System Operating Data
- WECC
    - WECC Environmental Data Viewer
    - WECC Interactive Transmission Project
- Renewable Energy Transmission Initiative (RETI) 2.0 Gateway
- Regulatory and Permitting Information Desktop Toolkit

Natural Resources:

- BLM:
    - BLM Landscape Approach Data Portal
    - BLM Navigator
- NPS:
    - NP Map
    - NPS repository of GIS and other relevant data and reports related to park lands.
    - Some NPS data
- Earth Explorer

- Integrated Resource Management Applications (IRMA) Portal
- The REPI Interactive Map
- USACE Engineer Research and Development Center Threatened and Endangered Species cost information
- GloVis
- www.gis.utah.gov
- www.wildlife.utah.gov
- Reclamation's WaterSMART Visualization tool