



Wind Energy and the Military Mission

**Desert Managers Group
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Mission

- Maintain our capability to fulfill national security obligations
 - Military Readiness
 - Training and Testing Ranges
 - Installations and Facilities
 - Military Training Routes and Special use Airspace
- Promote highest level of environmental stewardship consistent with national security mission requirements

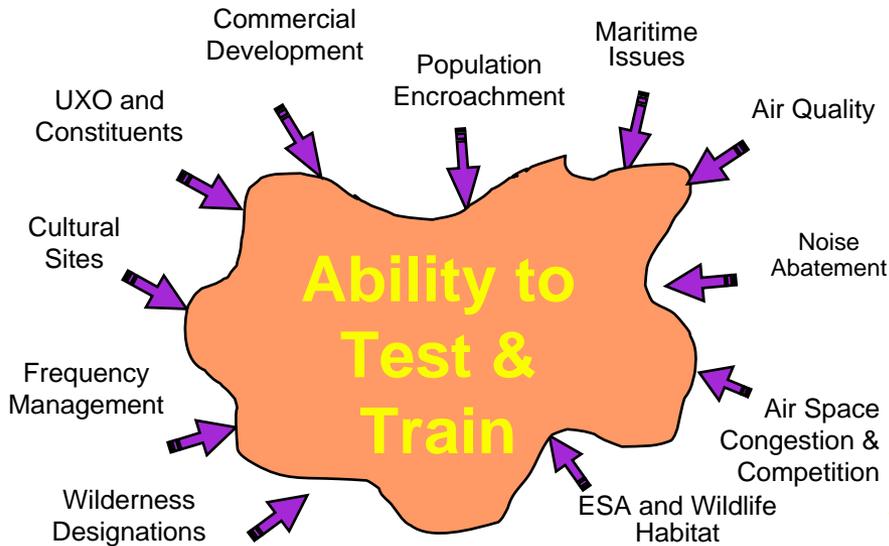




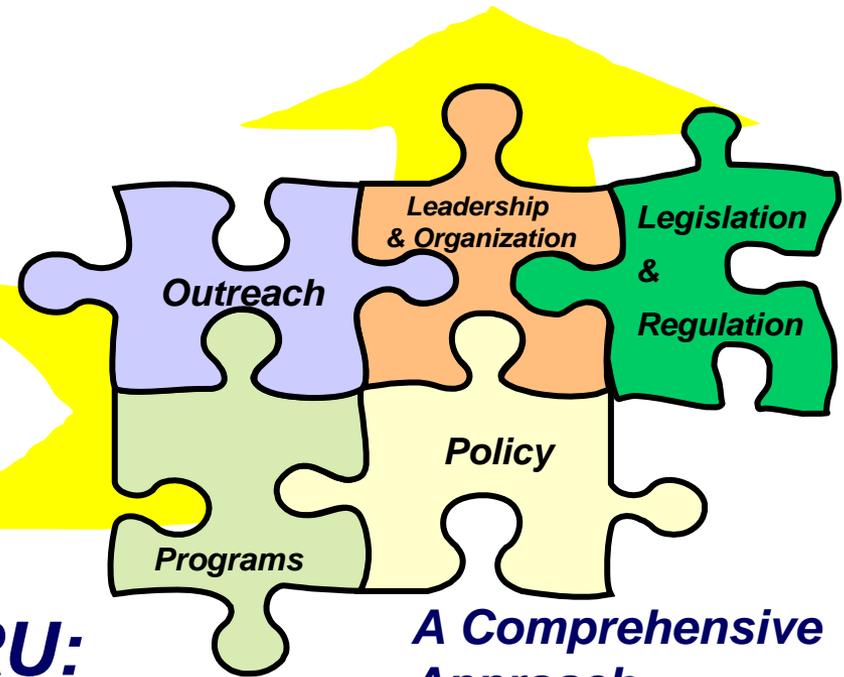
SUSTAINABLE RANGES

**A SHIFT
FROM:
Encroachment and
Reduced Flexibility**

**TO:
Sustainable
Training
and
Testing**



THRU:



**A Comprehensive
Approach**



WGEF's & Military Ops

Some things just don't mix!!



***Two Primary
Safety Issues***

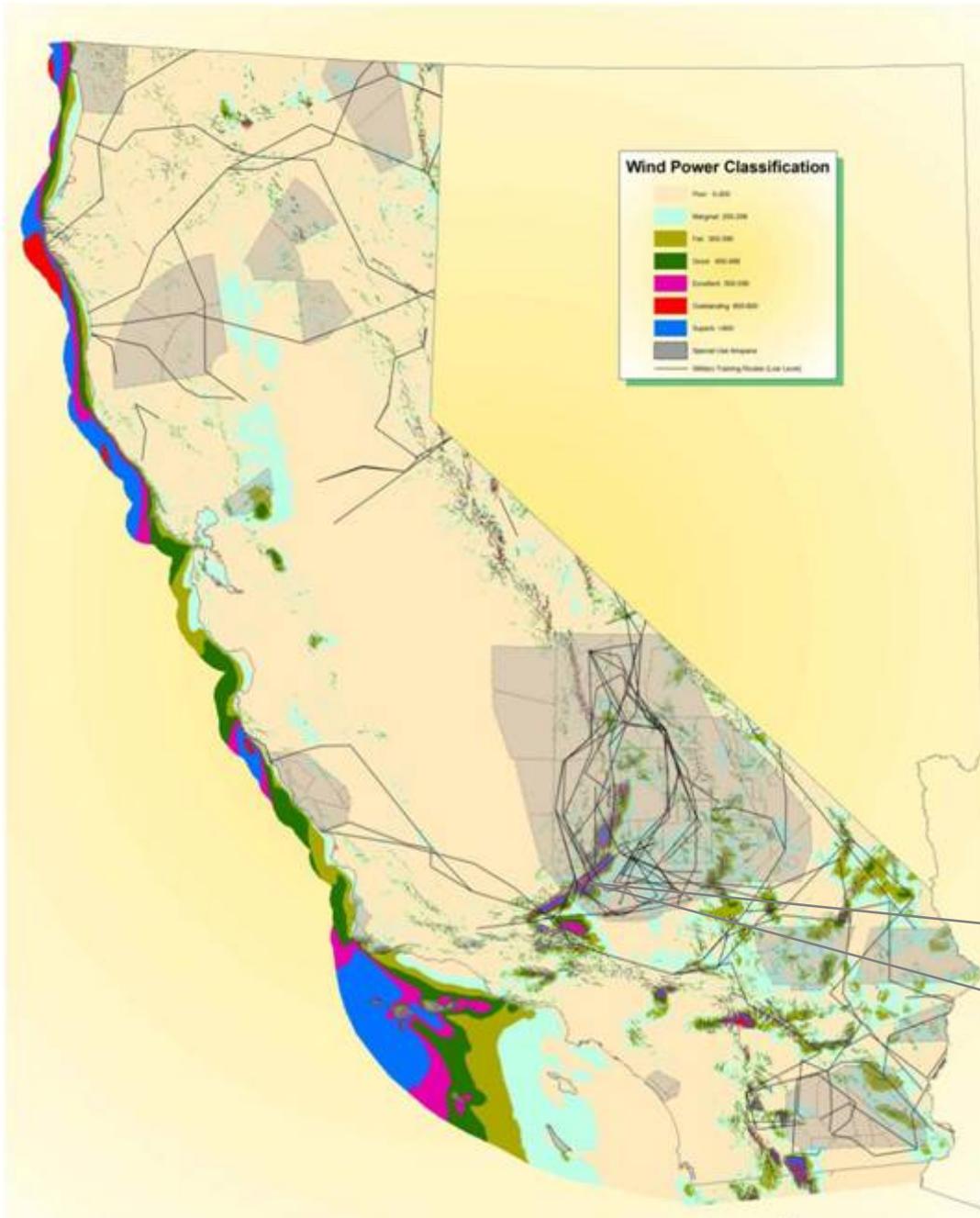
Obstruction

Radar Interference



Radar Interference

- Problems for radar flight test
- Windmill towers, generators and props reflect radar energy and are a source of interference to the radar
- Rotation of blades are a source of Doppler clutter
 - Degrades detection performance testing
 - Degrades false alarm testing
 - Degrades ground map testing
- Windmills don't have to be in the direct flight path of the aircraft or antenna pointing direction to be a source of interference
- Windmills can corrupt test environment



Conflicts

Significant Wind Resources

Critical military operating areas

Tehachapi Wind
Resource Area

700 → 4,000MW



DoD Regional Wind Work Group (Region IX)

- Established 2003 initially to address Kern County challenges
- Purpose of the Group
 - Familiarize each partner with respective missions, priorities, and processes relative to land planning and air space management
 - Share resources and information
 - Analyze, discuss, and resolve areas of concern
 - Implement and sustain effective implementation of each agencies' respective mission and operations



DoD Regional WWG (Region IX)

- Participants include:
 - Internal Region IX Military
 - Operators, Various Services, Air Space Coordinators, Sustainability Professionals, FAA/MILREPs, Local POCs, DoD Regional Environmental Coordinator Officers (Region IX)
 - Bureau of Land Management
 - State Representative
 - California Desert District
 - Various Field Offices
 - California Energy Commission



DoD Regional WWG Success Stories

- Interagency Coordination
 - Bureau of Land Management
 - California Energy Commission
- Wind Proposal Process and coordination with Wind Industry
- Extensive Outreach
 - Desert Managers Group
 - Other Wind Work Groups (i.e. State of Nevada)
 - American Wind Energy Association
 - Joint Military Affairs Committee/Arizona Commanders Summit
 - Arizona Governor's Military Affairs Commission
 - Legislative Staff



DoD Regional WWG Success Stories

GIS-Based Red-Yellow-Green (RYG) Mapping Tool

- Protects military CRITICAL Operating Areas
- Provides key communication tool to developers and land use decision makers
- Simplifies Issue
- Maximizes limited resources saving \$\$
- Provides Model for Other Counties and/or Regions



RYG MAPPING TOOL UPDATE

RED-YELLOW-GREEN STRATEGY MAP UPDATE

- Draft California Map – 8/9/05
- Draft Kern County Map – 2/05 (Now a part of zoning ordinance)
- Draft San Bernardino County Map – 5/24/05
- Draft Los Angeles County Map – 5/2/05
- Draft Ventura County Map – 7/15/05
- Draft BLM ROW Application Map (Southern CA) – 10/10/05
- Draft BLM ROW Application Map (Northern CA) – 10/10/05
- Draft Nevada (Fallon-input) RYG Map – 8/05
- Draft Nevada BLM ROW Application Map – 1/3/06

California RYG Map

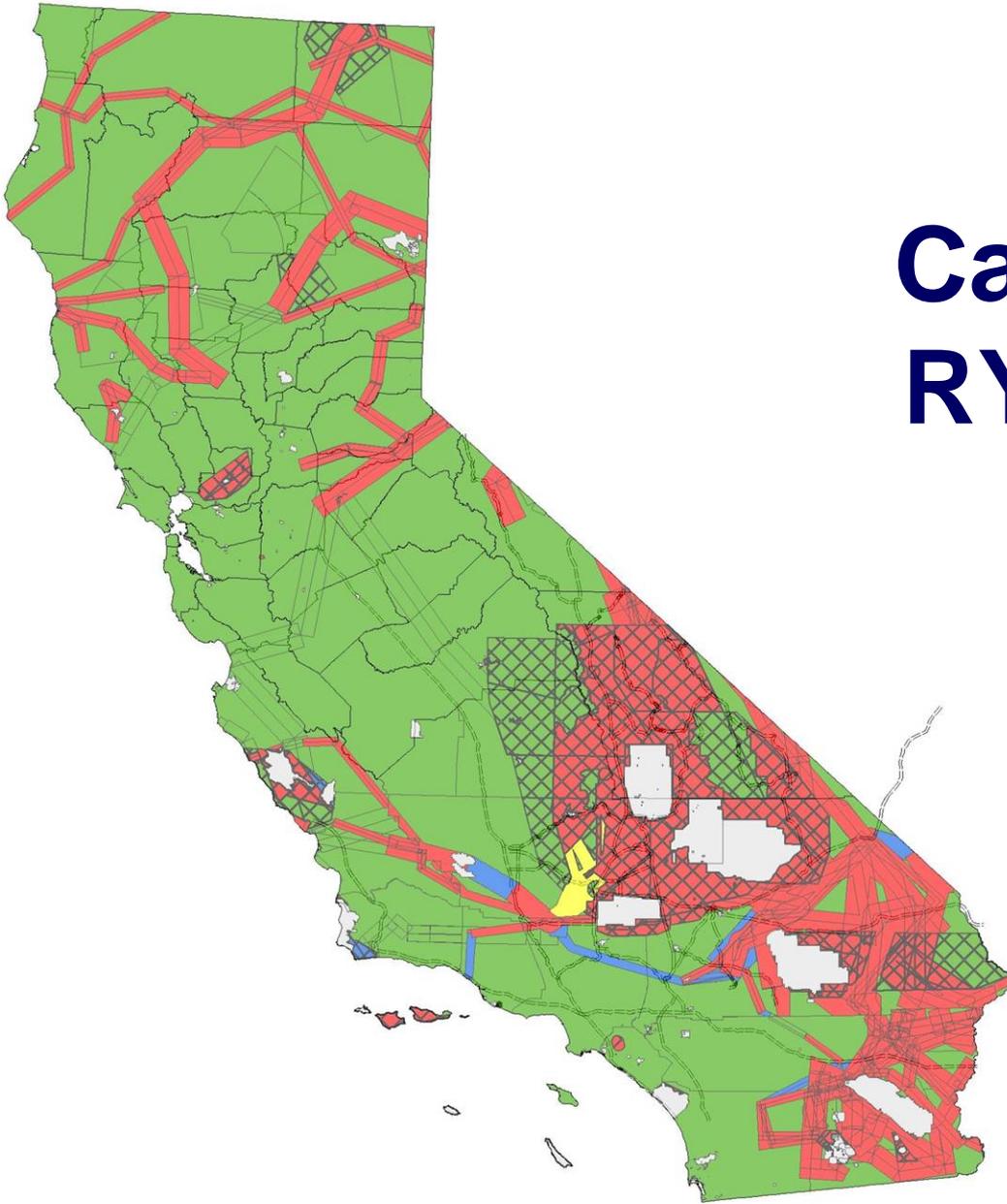
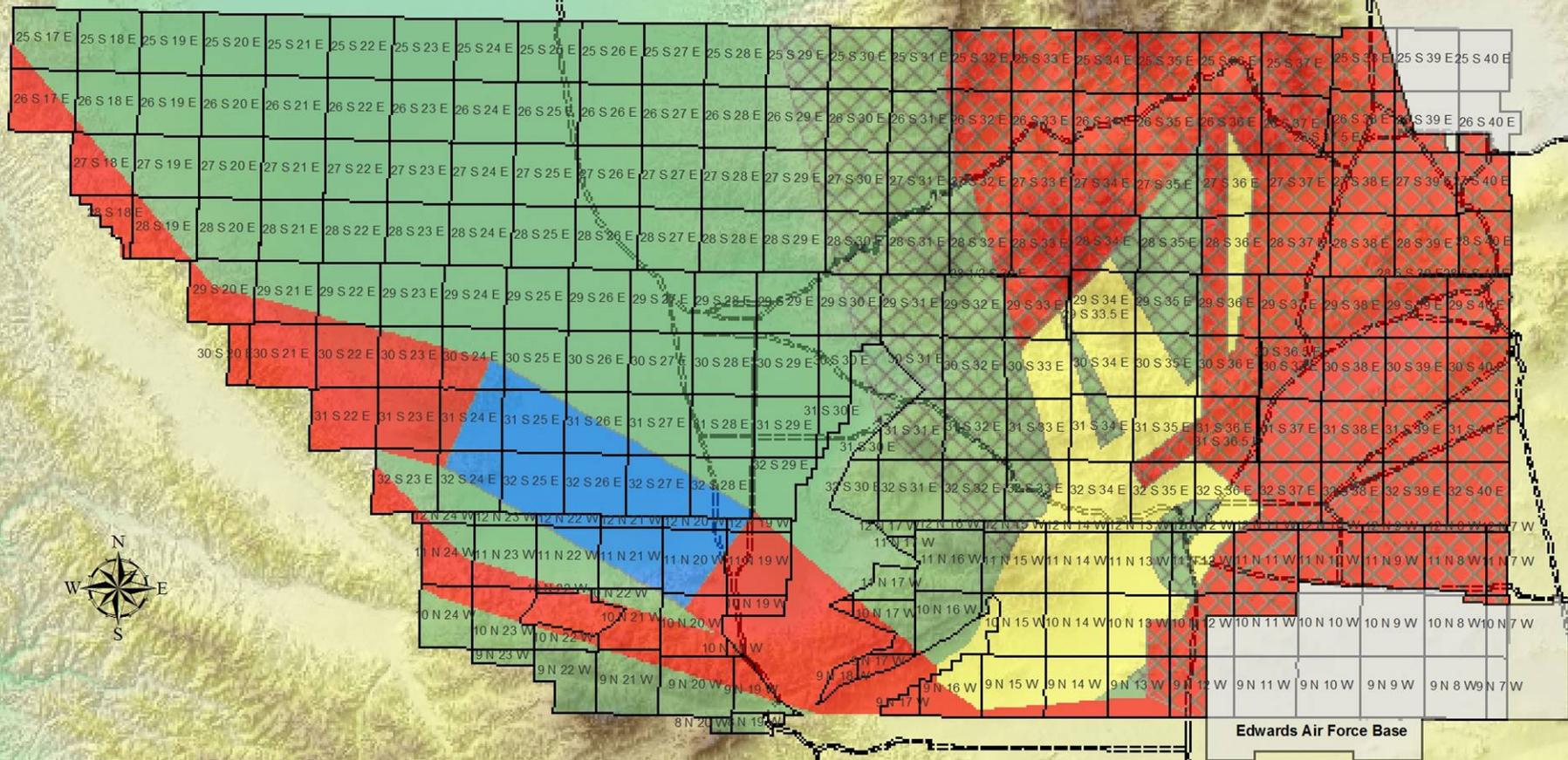


Figure 19.08.160

Naval Air Weapons Station
China Lake

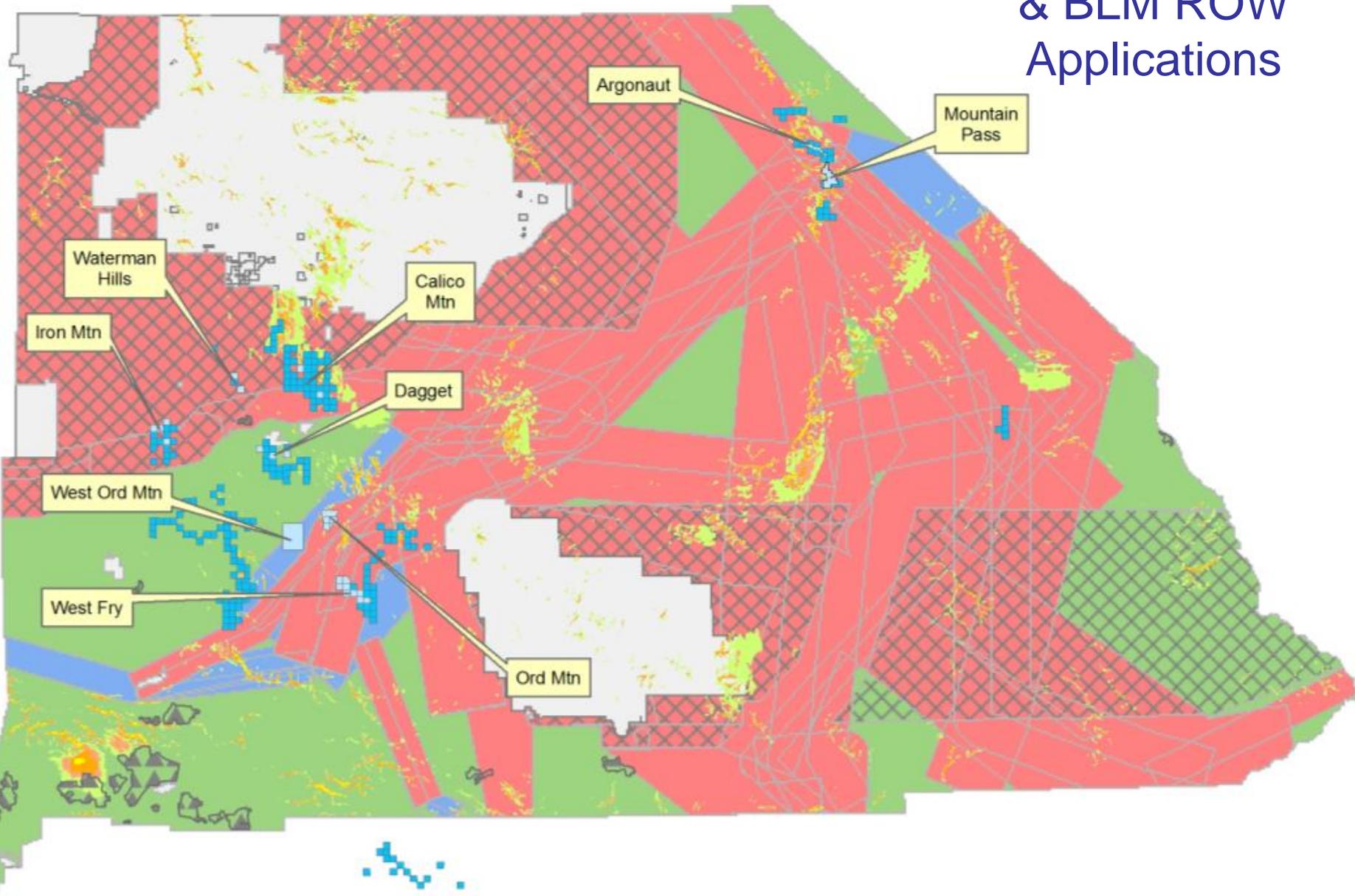


Edwards Air Force Base

Legend - Military Review Requirements

- | | | | | | |
|---|---|---|------------------------------|---|--|
|  | All wind turbines and communication towers over 80 feet
All other structures over 100 feet |  | All structures over 400 feet |  | No review requirement
County to provide building permit summary |
|  | All structures over 200 feet |  | All structures over 500 feet |  | No review requirement |

Proposed Projects & BLM ROW Applications





Lessons Learned

- Early engagement with project proponents & industry associations
- Robust GIS
- Regional engagement (joint DoD) with land use decision makers
- Dedicated DoD lead (physically located in the area)



Future Action Items

- Continue Outreach
- Continue Interagency Coordination
 - Work specific wind projects (ROW application and new proposals) with BLM
 - Participate on transmission corridor PEIS planning and coordinate projects with CEC
 - Introduce WWG to Forest Service and encourage participation
 - Introduce WWG to tribal representatives
- Continue to distribute Draft Red-Yellow-Green Maps to military, wind industry, and agencies
- Continue to coordinate with agencies to include military protection language in land management plans



Questions?