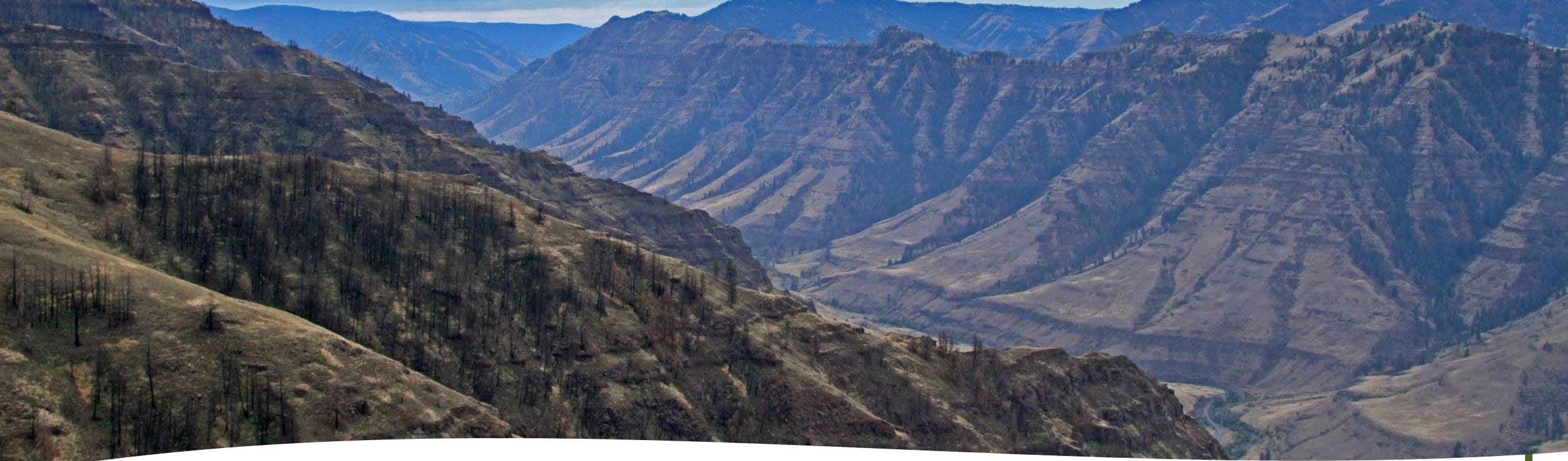




# Renewable Energy & Wildlife: Issues and Solutions

Sarah Reif, Habitat Division Administrator  
Michael Moore, Regional Habitat Biologist, Klamath Watershed  
District

Director's Report - Climate and Ocean Change Policy Update  
To the Oregon Fish and Wildlife Commission  
October 16, 2022, Coos Bay, Oregon



## **ODFW Climate and Ocean Change Policy**

- **OAR 635-900**
- **Climate and ocean conditions are undermining the ability of Oregon's lands and waters to support fish & wildlife**

# Renewable Energy Policy Drivers

## [Governor Brown EO 20-04](#)

- Sets target of 45% reduction in carbon emissions from 1990 levels by 2035, and 80% reduction by 2050

Office of the Governor  
State of Oregon



EXECUTIVE ORDER NO. 20-04

DIRECTING STATE AGENCIES TO TAKE ACTIONS TO REDUCE AND  
REGULATE GREENHOUSE GAS EMISSIONS

# Renewable Energy Policy Drivers

## Oregon Renewable Portfolio Standards

Requires large, investor-owned utilities to achieve 50 percent renewables by 2040





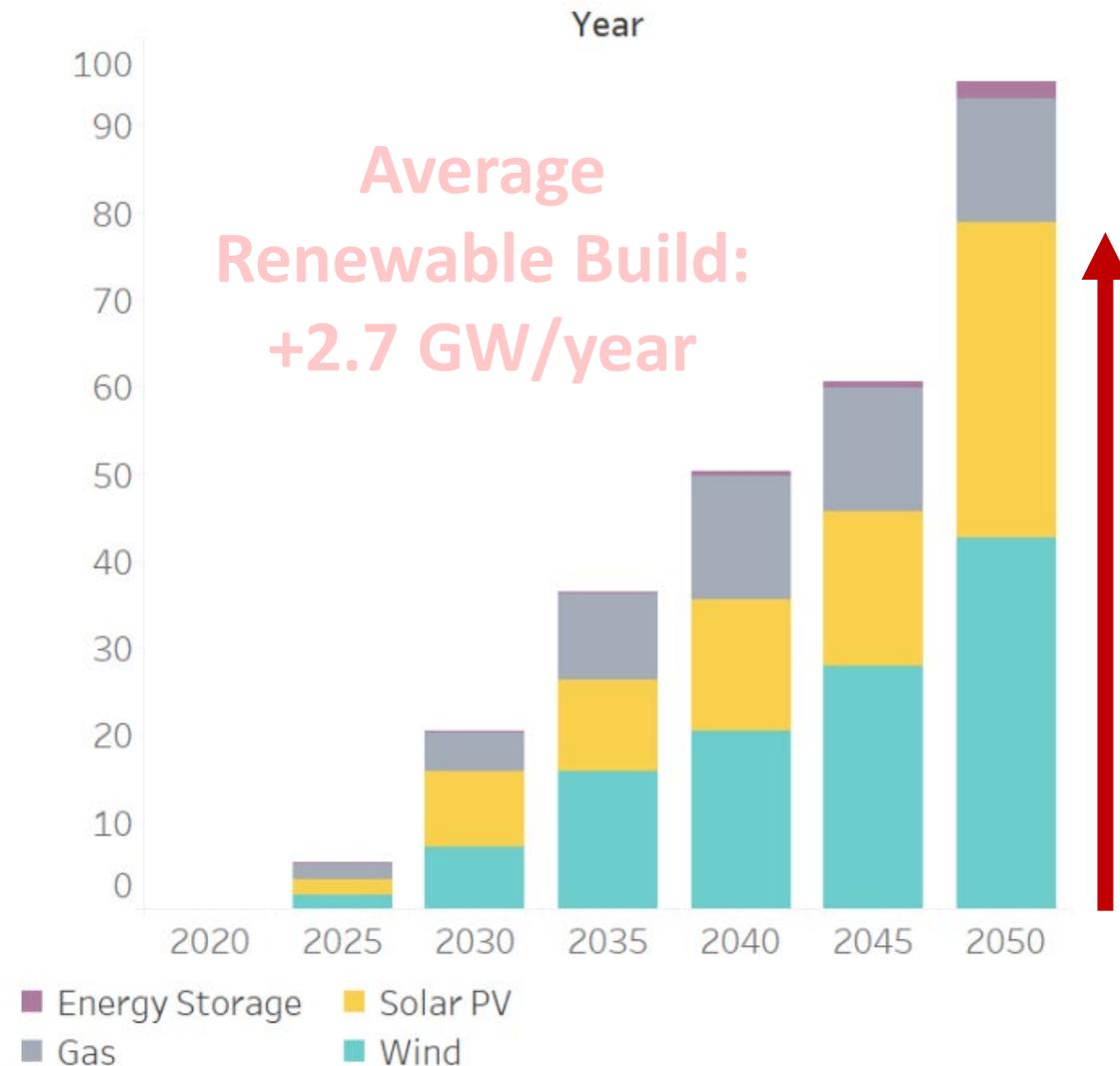
# Renewable Energy Policy Drivers

## HB 2021 Clean Energy Standards

- Requires Oregon's largest providers to reach 100% clean electricity sold to Oregonians by 2040
- Prohibits siting of new natural gas, coal, or other fossil fuel based electric generating facilities
- Allocated \$50M for developing community-based renewable energy projects
- Increased focus on environmental justice and local community stakeholder engagement

# A view of one model: New Resources in the Northwest

Cumulative New Resource Build  
GW



Clean Energy  
Transition Institute



EVOLVED  
ENERGY  
RESEARCH

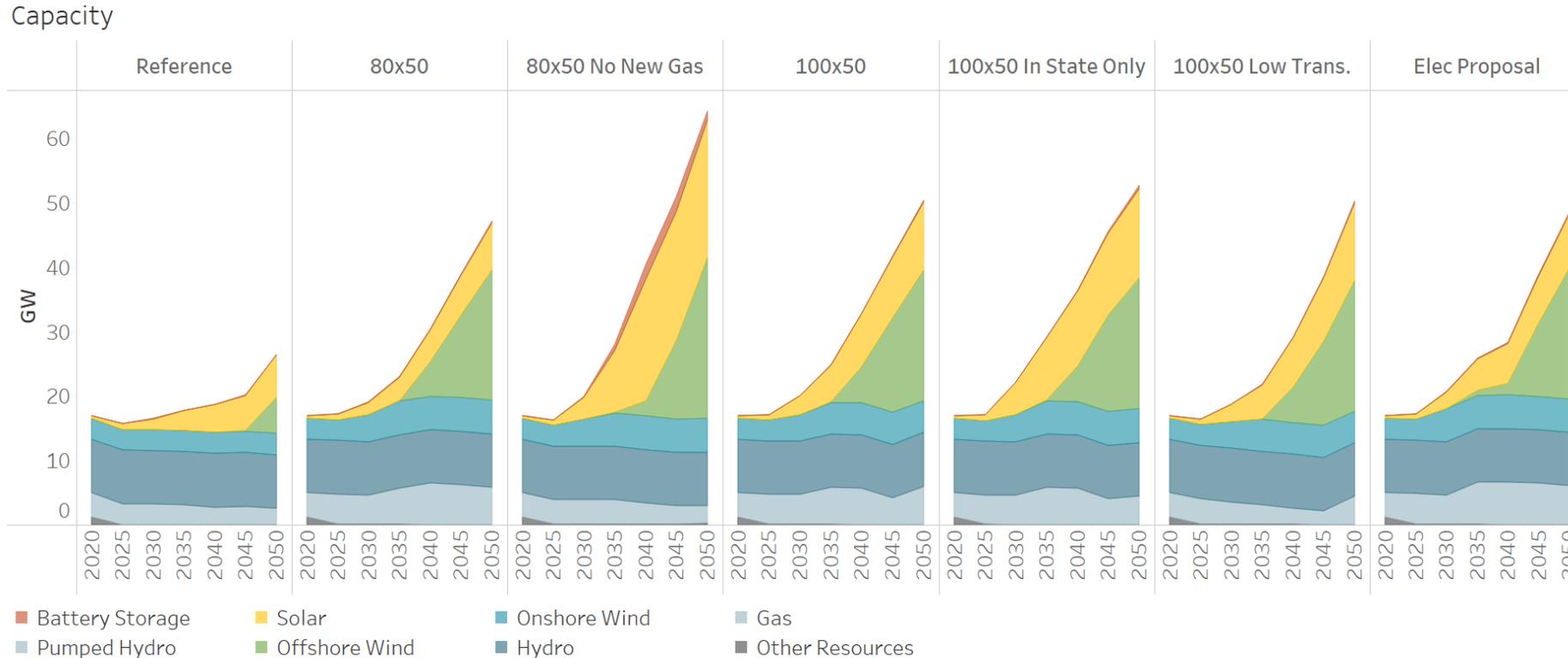
## Deep Decarbonization Pathways Study:

Cumulative new resource build (renewables, gas, and storage) through 2050 in the Pacific Northwest.

Slide Courtesy of Adam Schultz, ODOE

Source: [Deep Decarbonization Pathways Study](#), p. 73

# A view of one model: New Resources in Oregon



EVOLVED  
ENERGY  
RESEARCH

**Oregon Clean Pathways Study:**  
Modeling different scenarios for Oregon through 2050.

**Across Modeled Scenarios:  
~30 GW of new renewables needed by 2050**

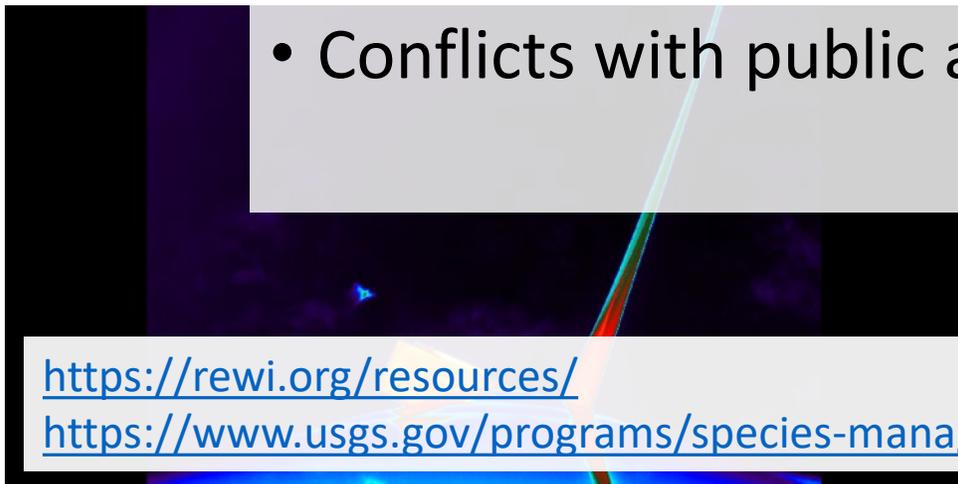
Slide Courtesy of Adam Schultz, ODOE

Source: [Oregon Clean Pathways Study](#), p. 39

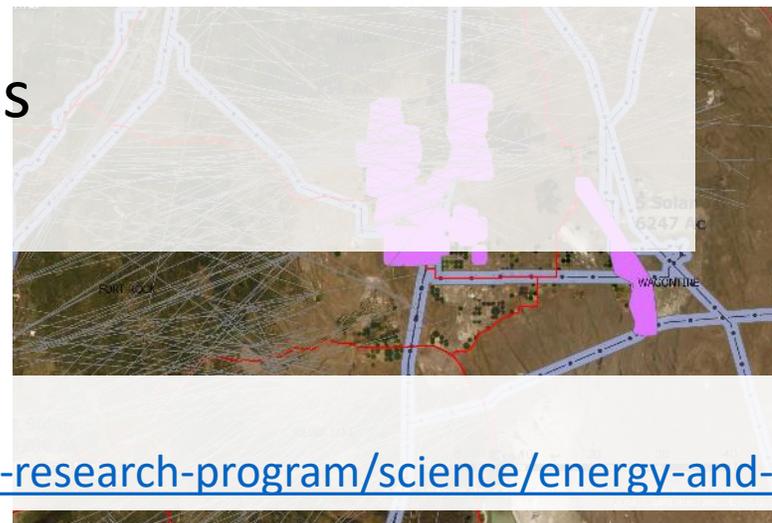
# Impacts of renewable energy on fish & wildlife



- Habitat loss, fragmentation
- Collision mortality
- Displacement
- Cumulative Effects



- Conflicts with public access



<https://rewi.org/resources/>

<https://www.usgs.gov/programs/species-management-research-program/science/energy-and-wildlife>

# ODFW Role in Energy Permitting

- Non-regulatory\*, technical assistance
- Recommendations consistent with statute & rule
  - [ODFW Fish and Wildlife Habitat Mitigation Policy](#)
  - [ODFW Climate and Ocean Change Policy](#)
- \* [Fish Passage Statutes](#)





## **ODFW Role in Energy Permitting**

- Information/science provider
- Consultant on wildlife standards in regulatory process
- Goal is to avoid, minimize, and mitigate impacts
- Seek practical, balanced solutions

# ODFW Position on Renewable Energy

**It is vital to reduce global greenhouse gas emissions**

**Renewables are an integral part of Oregon's clean energy future**

**Co-equal goals: addressing climate and ocean change and preventing habitat loss**

**ODFW recommendations focus on the mitigation hierarchy:**

- **Avoid**
- **Minimize**
- **Mitigate**

**ODFW Supports RE Development That Is...**  
Thoughtfully Sited  
Responsibly Operated  
Adequately Mitigated

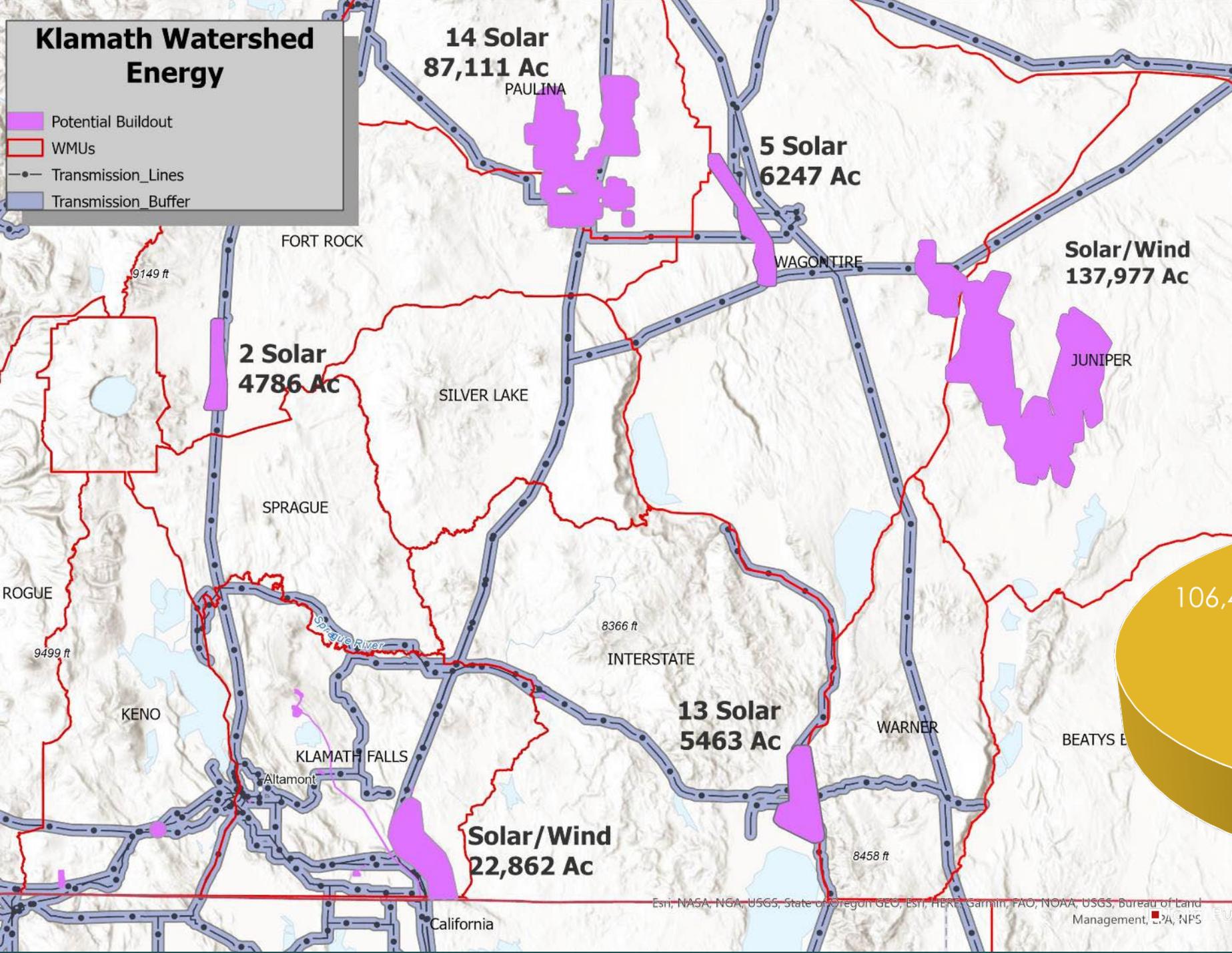


# Renewable Energy – Cumulative Impacts

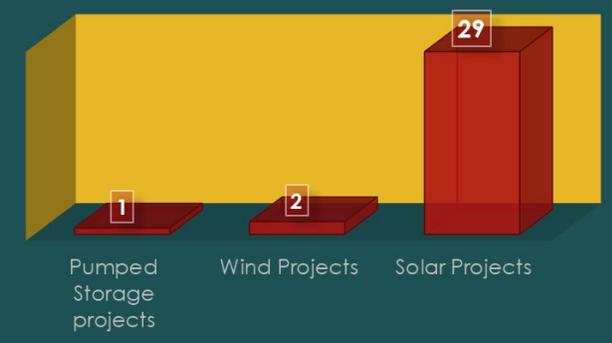
KLAMATH WATERSHED DISTRICT

# Klamath Watershed Energy

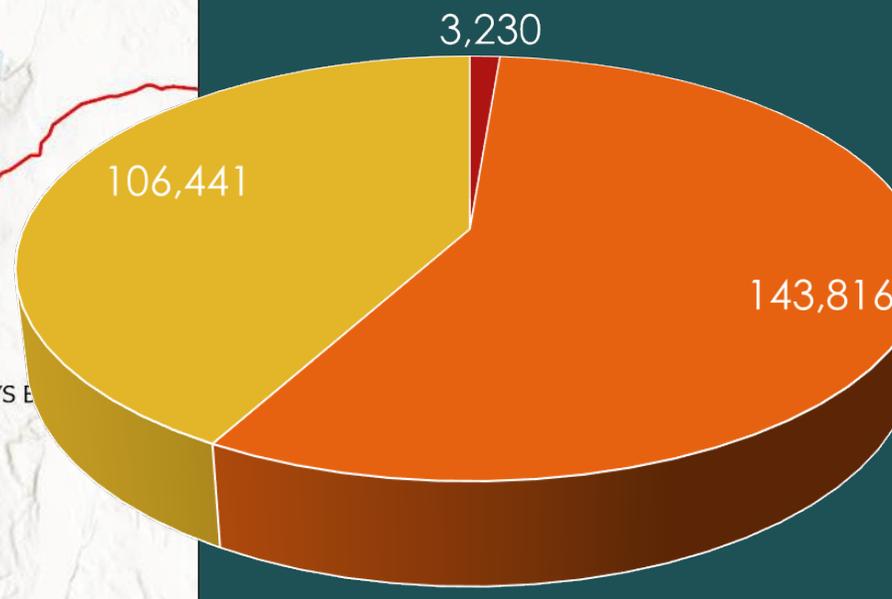
- Potential Buildout
- WMUs
- Transmission\_Lines
- Transmission\_Buffer



## NUMBER OF PROJECTS OPERATIONAL, PERMITTED, PROPOSED



## Acreage Distribution



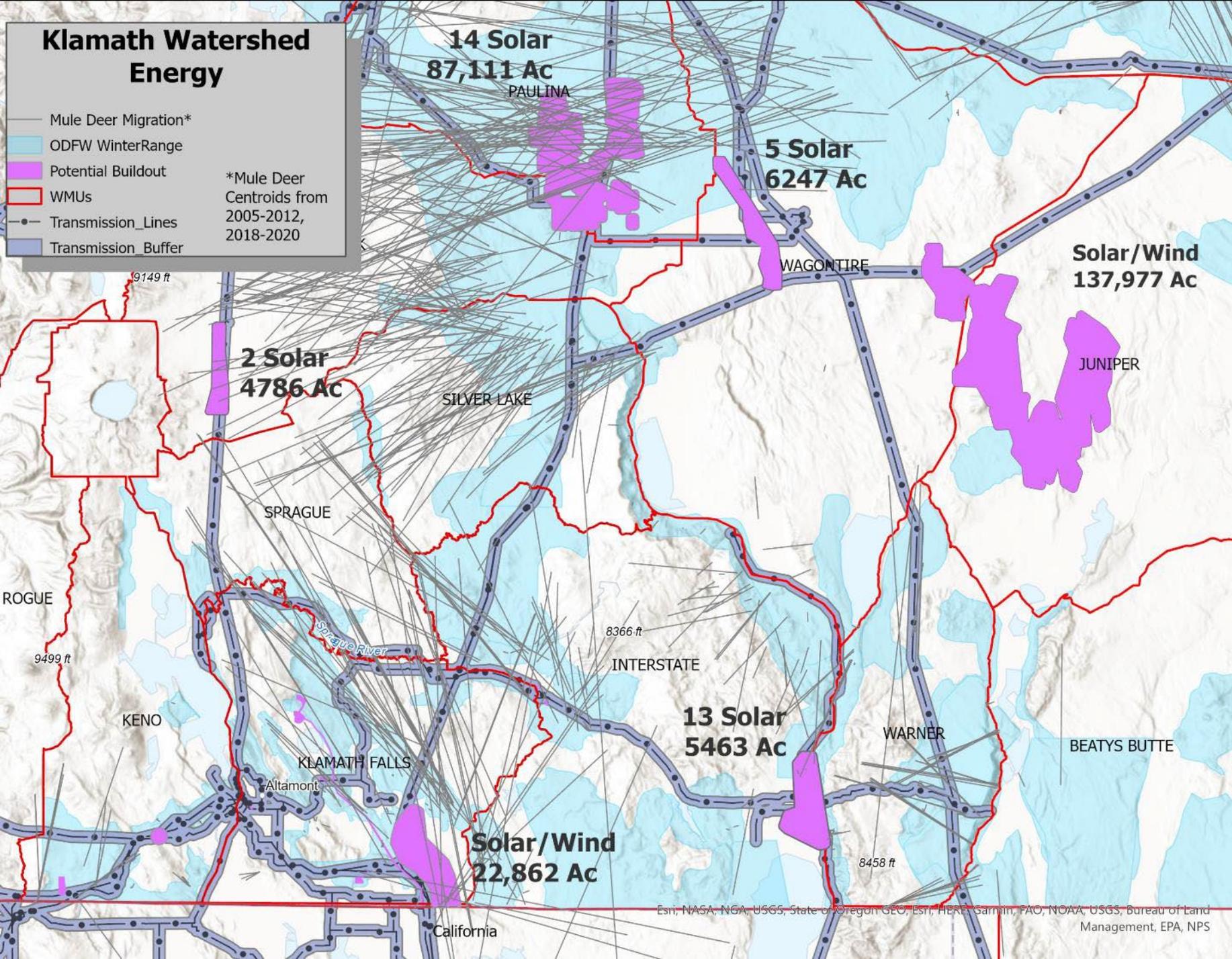
Esri, NASA, NGA, USGS, State of Oregon GEO, Esri, HERE, Garmin, FAO, NOAA, USGS, Bureau of Land Management, EPA, NPS

Pumped Storage Total Wind Total Solar

# Klamath Watershed Energy

- Mule Deer Migration\*
- ODFW WinterRange
- Potential Buildout
- WMUs
- Transmission\_Lines
- Transmission\_Buffer

\*Mule Deer Centroids from 2005-2012, 2018-2020

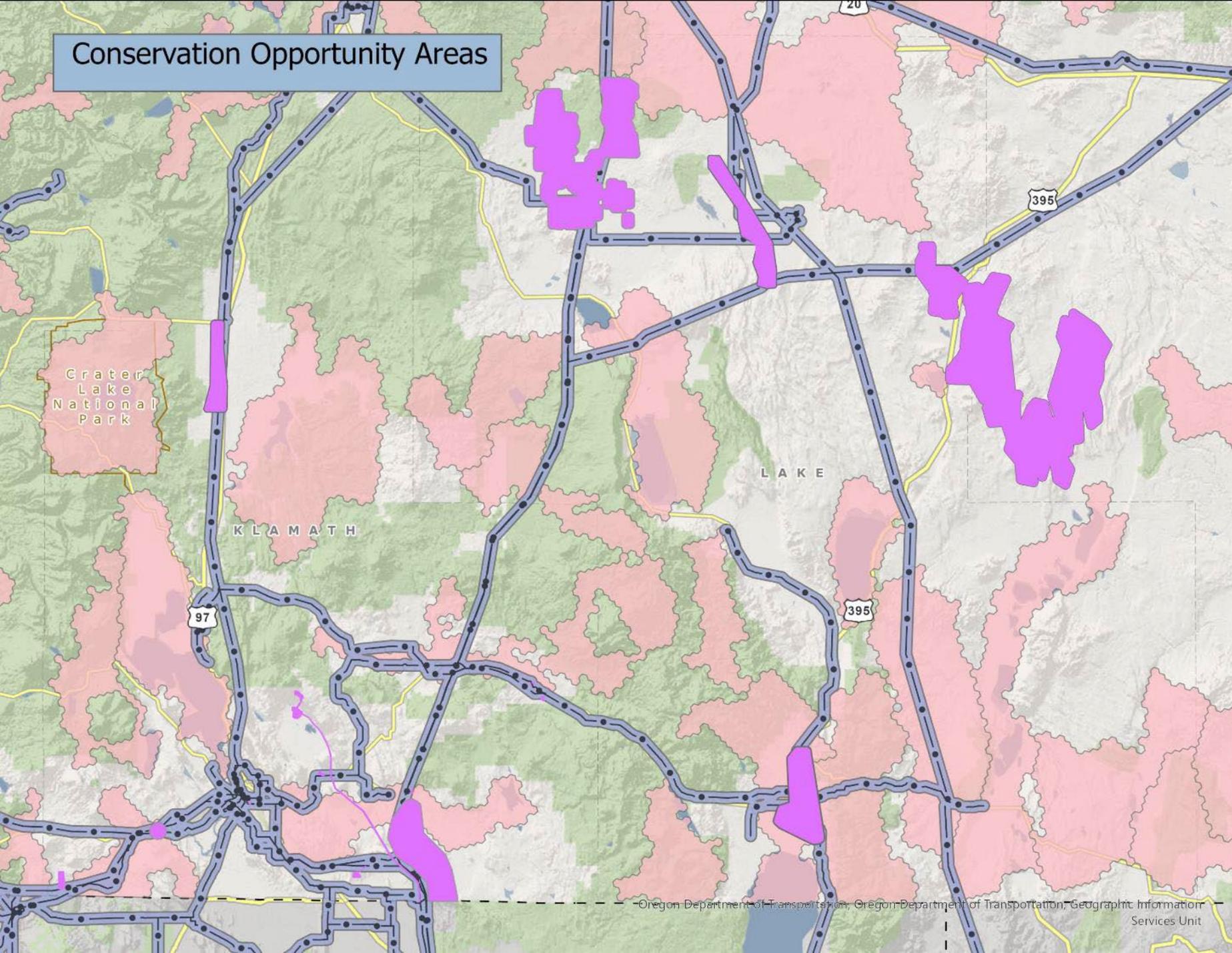


Solar developments are being proposed in big game winter range (blue) and migration corridors

This is resulting in habitat loss and fragmentation

It is critical to have unfragmented habitats that facilitate wildlife connectivity

# Conservation Opportunity Areas

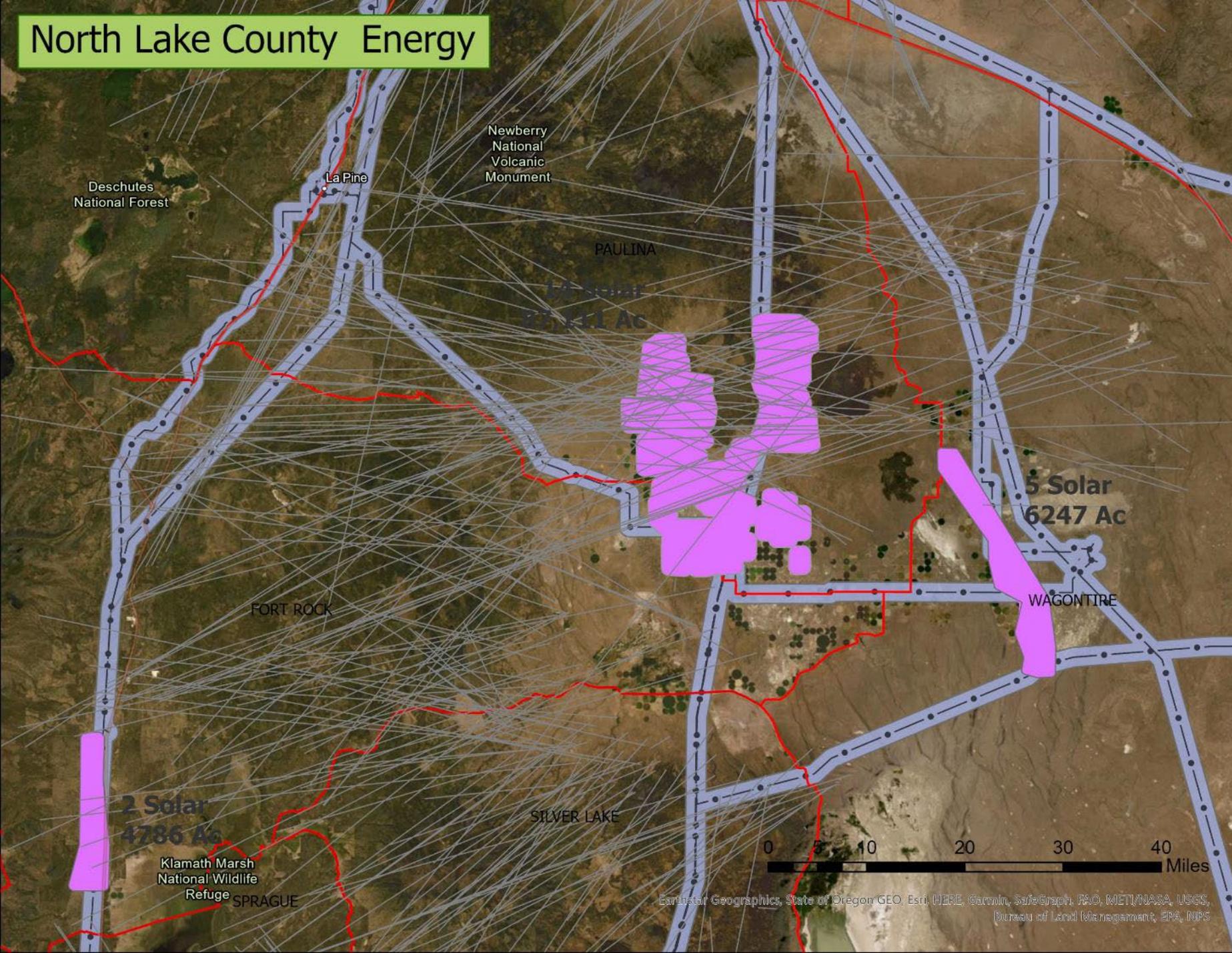


ODFW considers more than just big game, we also consider impacts to Oregon Conservation Strategy Species and Habitats

Energy facilities and transmission are impacting or reducing connectivity between Conservation Opportunity Areas

We lack information for many species and how energy may be impacting them

# North Lake County Energy



Example: North Lake County Energy Impacts

Mule Deer Migration (gray lines)

Proposed, permitted, and built solar and transmission fragmenting migration pathways (pink)

Interactions with other land uses (agriculture, transportation)

# Typical ODFW Project Recommendations

- ▶ Avoid irreplaceable habitats (e.g.: migration corridors, vernal pools)
- ▶ Avoid essential and important habitats to the maximum extent practicable (e.g.: big game winter range, OCS species, wetlands)
- ▶ For unavoidable impacts, rely on compensatory habitat mitigation to offset habitat loss and wildlife displacement
- ▶ Minimization measures and BMP's, monitoring, adaptive management of facility

# Challenges

- ▶ Individual projects permitted at different times by different regulatory agencies, difficult to track cumulative effects
- ▶ Solar projects accumulate along transmission lines.
  - ▶ Fragments migration corridors and reduces winter range
  - ▶ Potential population-level cumulative impact
  - ▶ Economic impacts to hunting
  - ▶ Big game displacement onto neighboring agricultural lands
  - ▶ Impacts to other species, such as Oregon Conservation Strategy Species and Habitats in sagebrush and forest ecosystems
- ▶ Mitigation is costly for developers, challenging to find appropriate mitigation sites and meet standards
  - ▶ Time-consuming for ODFW staff as well



# Solutions – Strategic Siting

- What is a well-sited project?
  - Avoids important wildlife habitats
- Prioritizes disturbed lands in poorly-functioning habitats
  - Co-location with other infrastructure
  - Reclaimed mines, industrial sites, brownfields
  - Low-value, fallow agricultural lands without water rights or where compatible with ongoing agricultural practices (wheatfields)
- Often requires compromise; intersectional values
- Discussion needed around incentives



# Solutions: Data-driven Discussion Support Tools

Welcome

## Welcome to the Oregon Renewable Energy Siting Assessment Tool

The ORESA tool is an interactive application that allows prospective developers to input project data in order to get a coarse level perspective of potential land use and military considerations.

### Explore Data



Browse, download, and interact with map layers

### Get a Report



Land use considerations and contact information for your area of interest

### Learn



Learn about siting procedures, incentives, and processes for military coordination

DISCLAIMER: This product is for informational purposes, and may not be suitable for legal, engineering, or surveying purposes. This information or data is provided with the understanding that conclusions drawn from such information are the responsibility of the user. The sponsors of the tool make no claims, representations or warranties as to the accuracy or completeness of these data layers.

 OREGON DEPARTMENT OF ENERGY

 OREGON Department of Land Conservation & Development

 INSTITUTE FOR NATURAL RESOURCES

 Oregon State University Libraries and Press

 NAS WHIDBEY ISLAND

Slide Courtesy of Kaci Radcliffe, ODOE

[https://tools.oregonexplorer.info/OE\\_HtmlViewer/Index.html?viewer=renewable](https://tools.oregonexplorer.info/OE_HtmlViewer/Index.html?viewer=renewable)

# Solutions: Collaboration is the Key

ODFW is dedicated to collaborating with stakeholders around thoughtful siting of renewable energy development as a strategy to avoid complex and costly mitigation and to help facilitate achievement of clean energy and GHG reduction goals

