

# Energy Facility Siting Council

Solar PV Facilities  
Rulemaking Advisory  
Committee Meeting #2

Prineville  
November 8, 2018



Photo credit: [cablinginstall.com](http://cablinginstall.com)

# AGENDA

1. Introductions
2. Overview of Meeting
3. Issues / Potential Standards Specific to Solar PV Facilities
4. Follow Up to Questions Raised During Meeting #1
5. Public Comment
6. Wrap Up and Next Meeting

# INTRODUCTIONS & OVERVIEW

## 1. Introductions

- In Room
- On Phone

## 2. Overview

- Seeking input, not consensus or majority consensus
- Calling on each RAC member on every issue
- Notes and recording

# SHOULD SPECIFIC STANDARDS APPLY TO SOLAR PV FACILITIES?

## 14 General Council Standards

1. General Standard of Review
2. Organizational Expertise
3. Structural Standard
4. Soil Protection
5. Land Use
6. Protected Areas
7. Retirement and Financial Assurance
8. Fish and Wildlife Habitat
9. Threatened and Endangered Species
10. Scenic Resources
11. Historic, Cultural and Archaeological Resources
12. Recreation
13. Public Services
14. Waste Minimization

# Existing Project Specific Standards

Need Standard for Non-generating Facilities

Specific Standards for Wind Facilities

- Public health and safety standards for wind energy facilities
- Cumulative effects standards for wind energy facilities

Specific Standards for Surface Facilities Related to Underground Gas Storage Reservoirs

Specific Standards for Transmission Lines

Standards for Energy Facilities the Emit Carbon Dioxide

# Research Into Potential Solar PV Specific Standards

## Topics selected for initial discussion

- Toxicity and Safe Disposal
- Glare and Glint
- Heat Island Effect
- Wildlife

## Reasons for evaluation

- Prior displays of public interest
- Department's knowledge of risks

## Literature review includes

- Local, state, federal, and international statutes & regulatory codes
- Model ordinances
- Peer reviewed journals
- News articles

# Toxicity and Safe Disposal

## Solar PV panels may be hazardous waste

- Not listed under RCRA
- Must be evaluated on a case-by-case basis

## Washington

- Interim policy classifies solar PV as electrical waste, thereby lessening handling and transportation requirements
- RCW 70.355.0101 requires a “stewardship plan”:
  - Financing
  - Recycling (85% by weight)
  - Acceptance of all panels in Washington a

## California

- Rulemaking to classify solar PV as “universal” hazardous waste
- Legislative Counsel’s Digest of Senate Bill notes that intent is to “ensure the recovery and recycling” of solar PV panels and to reduce the likelihood of disposal in landfills.

# Glare and Glint

- FAA indicates that an average solar PV panel may cause glare or glint
- Relevant factors:
  - Percent of sunlight reflected
  - Specular or diffuse reflection
  - Angle of sun
- FAA SGHAT tool
- Few jurisdictions impose regulations relating to glare
- At least one model ordinance advises against regulating glare
- Literature suggest that greatest concern relates to solar thermal technology, not solar PV



# Heat Island Effect

- Issue raised by public in relation to alfalfa farming
- Few studies examine solar PV heat island effect
- One empirical study noted that ambient temperature increased by 3-4 degrees Celsius at night
- Study conducted in Arizona, in desert environment
- Literature suggests that heat dissipates at approximately 100 feet

# Solar Development Impacts to Wildlife & Habitat:

## Considerations for the Solar PV Rulemaking Advisory Committee

Sarah Reif, Oregon Department of Fish and Wildlife

November 8, 2018

# Oregon's Commitment to Wildlife, in Context

ODFW Mission: To protect and enhance Oregon's fish and wildlife and their habitats for use and enjoyment by present and future generations

ODFW Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0000 through 0025)

EFSC Fish and Wildlife Habitat Standard (OAR 345-022-0060)

T&E Species Standard OAR 345-022-0070

Oregon Statewide Planning Goal 5

# Climate Change – Role of Solar Development

- Facilitates Oregon's reduction of greenhouse gas emissions
- Helps address impacts of climate change
  - Oregon's natural resources at risk from climate change:
    - Water resources affected by decreased snowpack and precipitation
    - Ocean acidification, changes in ocean current
    - Expected sea level rise
    - Increased fire frequency and intensity
    - Recreation/Tourism affected by declining resources, fire, invasive species

# Wildlife and Wildlife Habitat – Impacts of Solar

- Direct impact of solar
  - Vegetation removal, trenching/blading, fencing, panels
  - Crushing/trampling of wildlife, entrapment/entanglement with fencing
  - Collision with PV panels
- Indirect impact of solar
  - Construction activity noise/disturbance
  - Net loss of habitat for breeding, wintering
  - Loss of habitat connectivity for wide-ranging species

# Fort Rock Valley Case Study

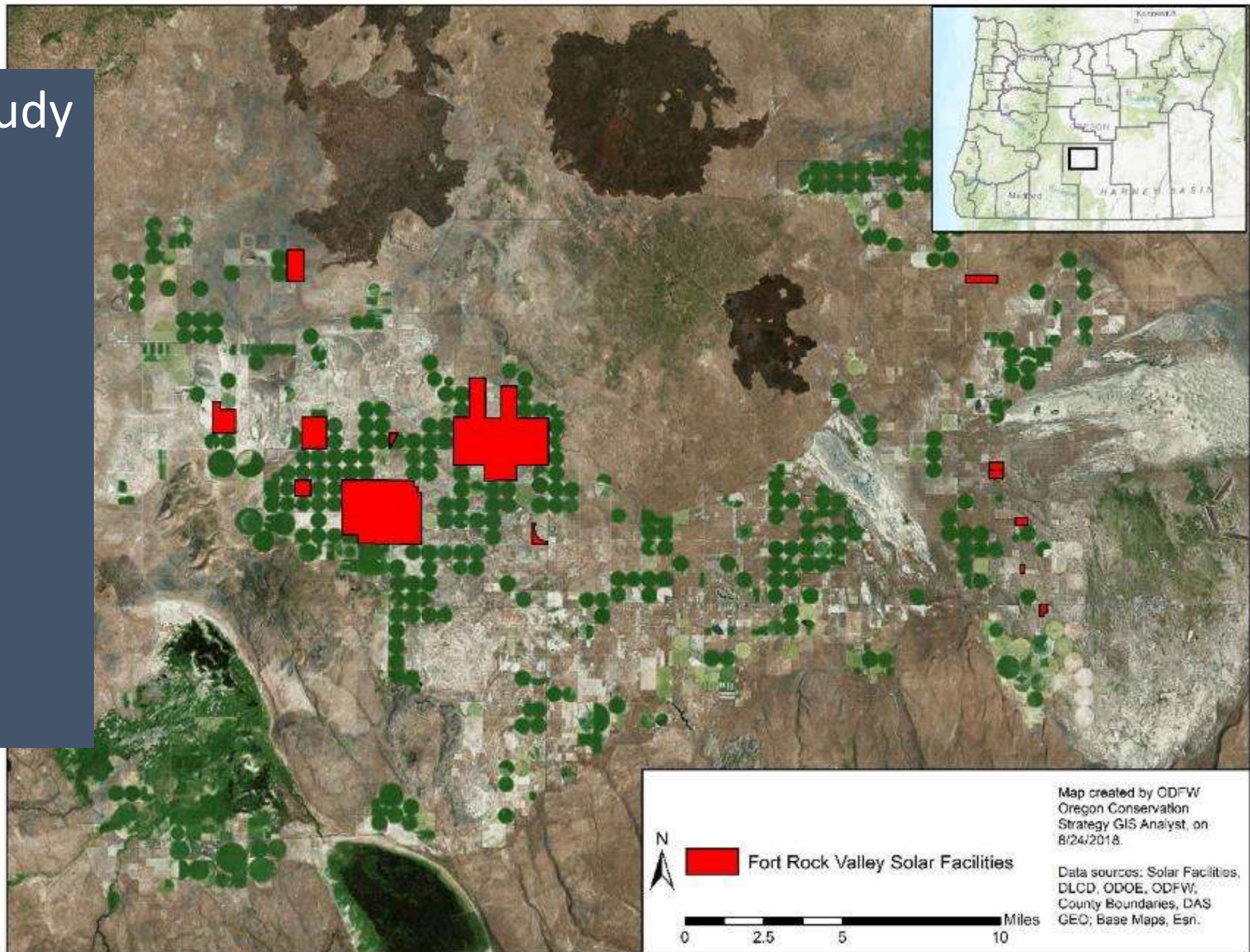
## Lake County

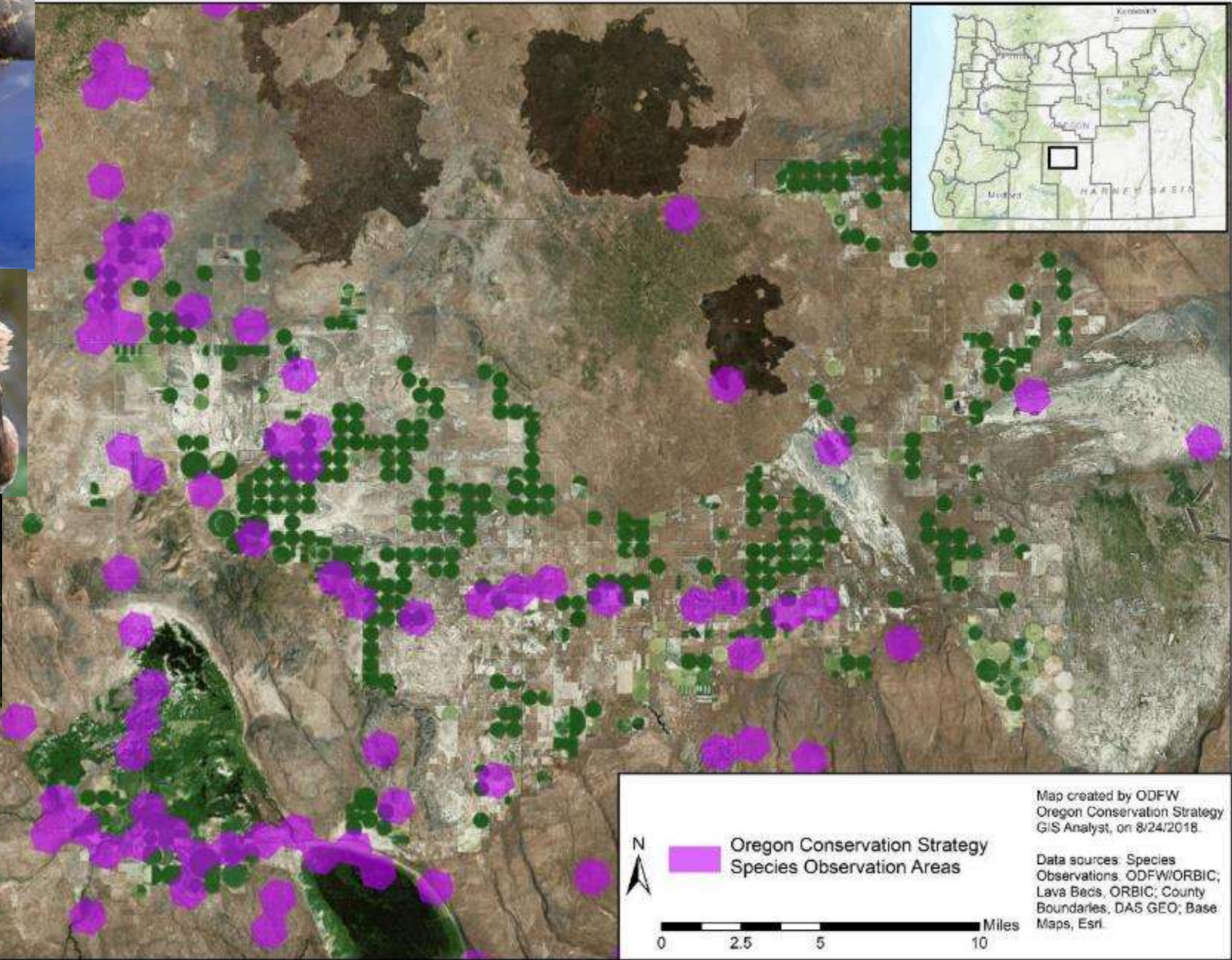
- 6 permitted facilities 2009-2018

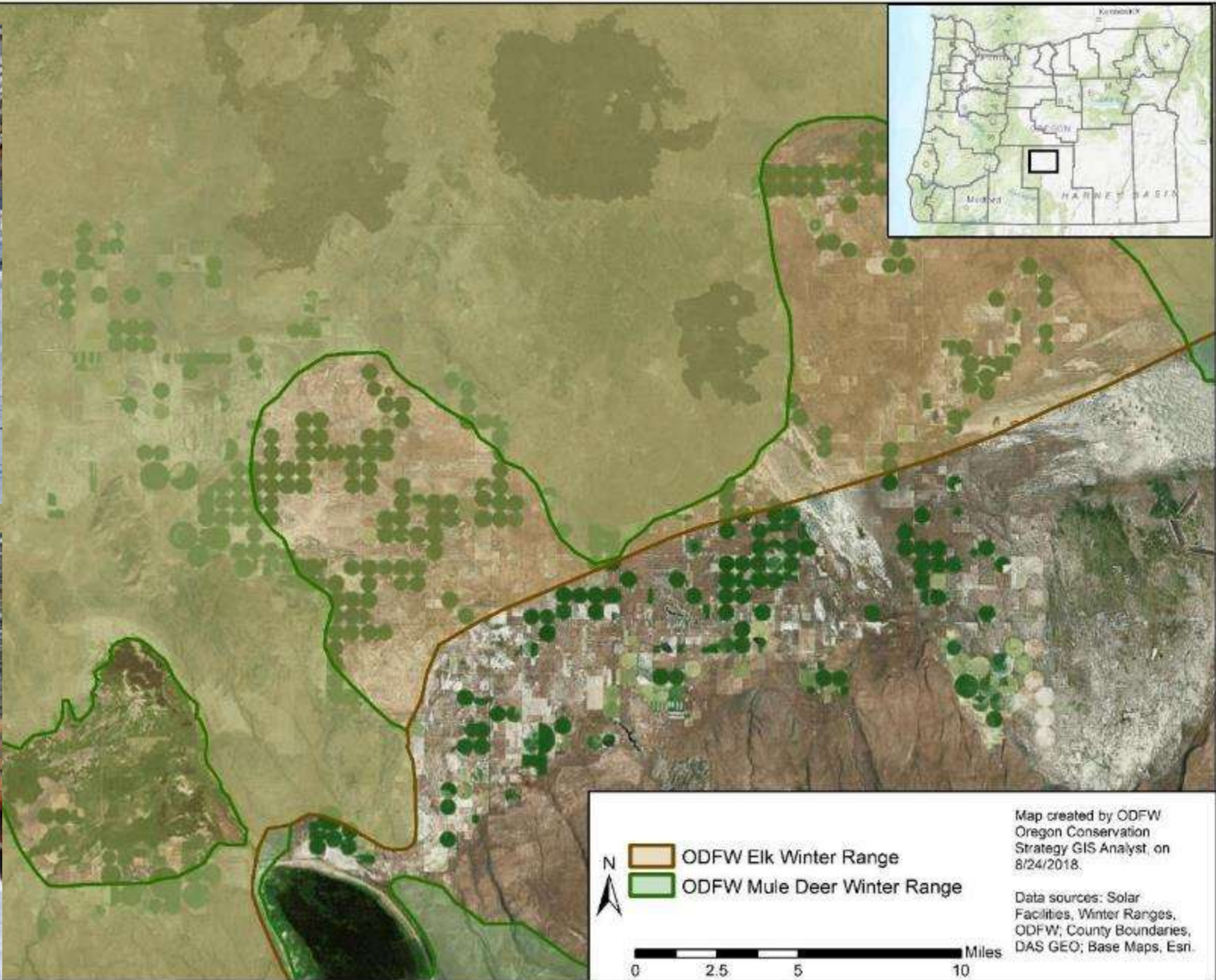
## EFSC

- 1 proposed facility

~ 8,500 acres





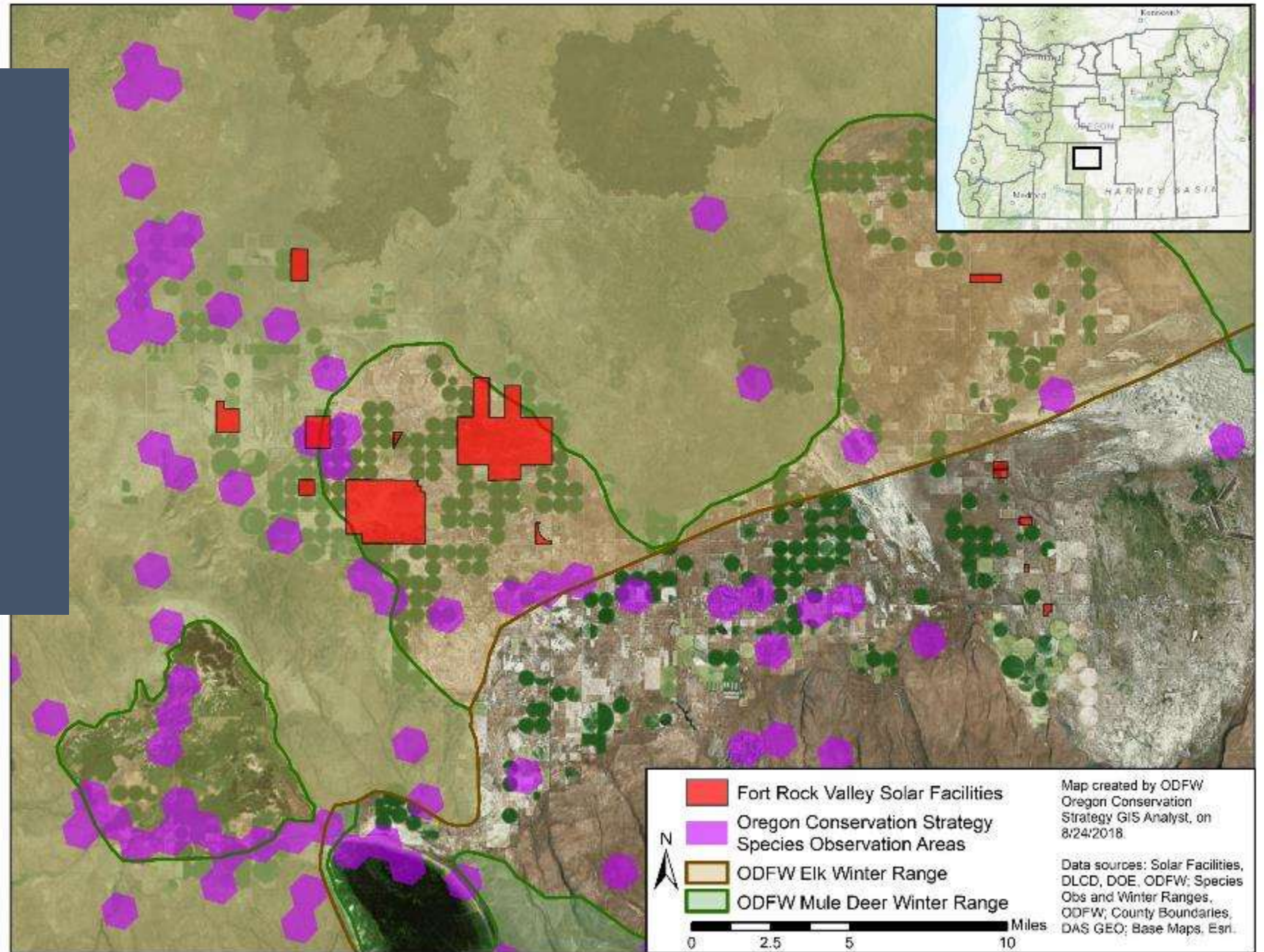




# EFSC Siting Standards

Fish and Wildlife  
Protection Standard  
OAR 345-022-0060

T&E Species Standard  
OAR 345-022-0070

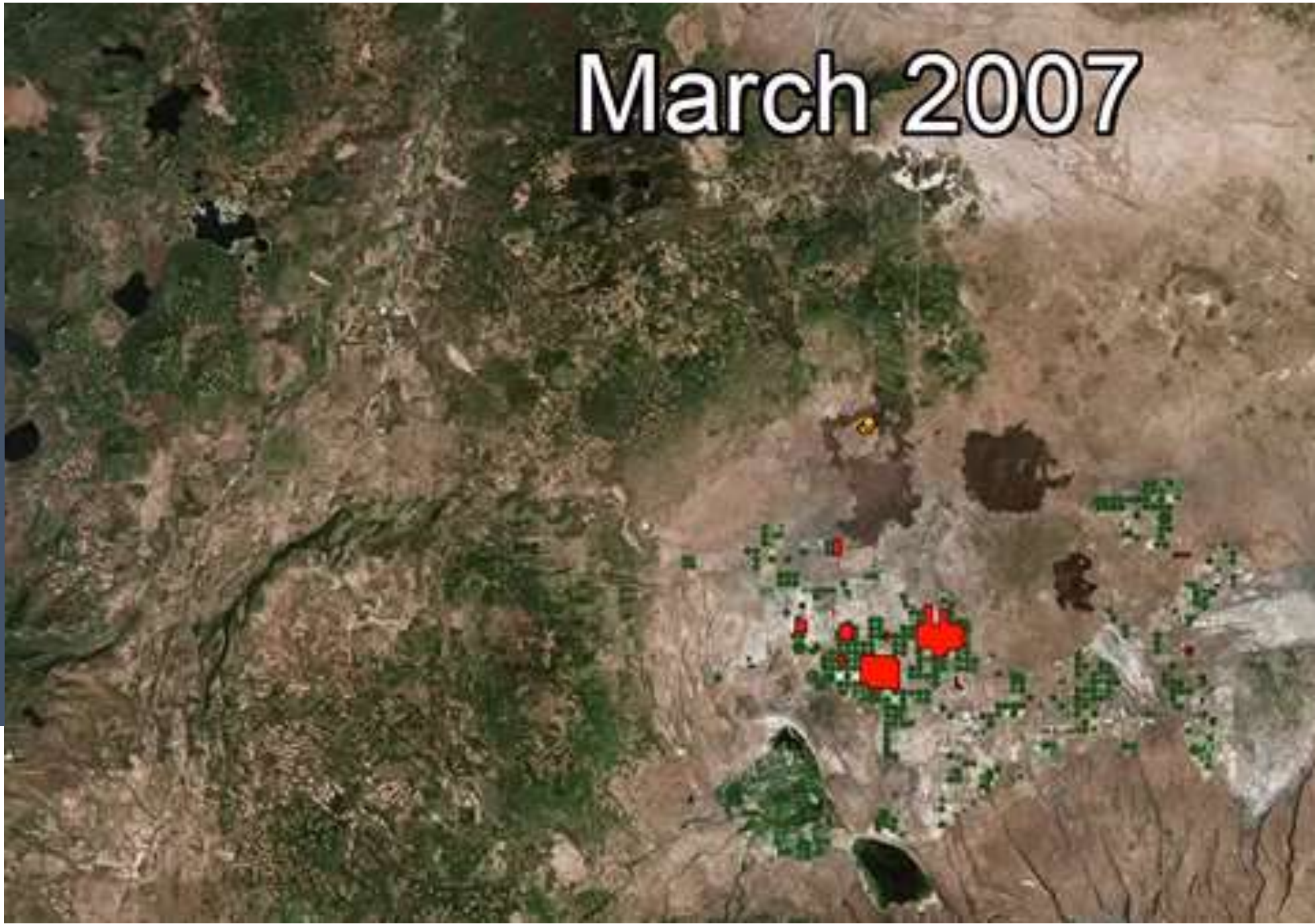


March 2007

Mule Deer  
Migration  
2007-2008

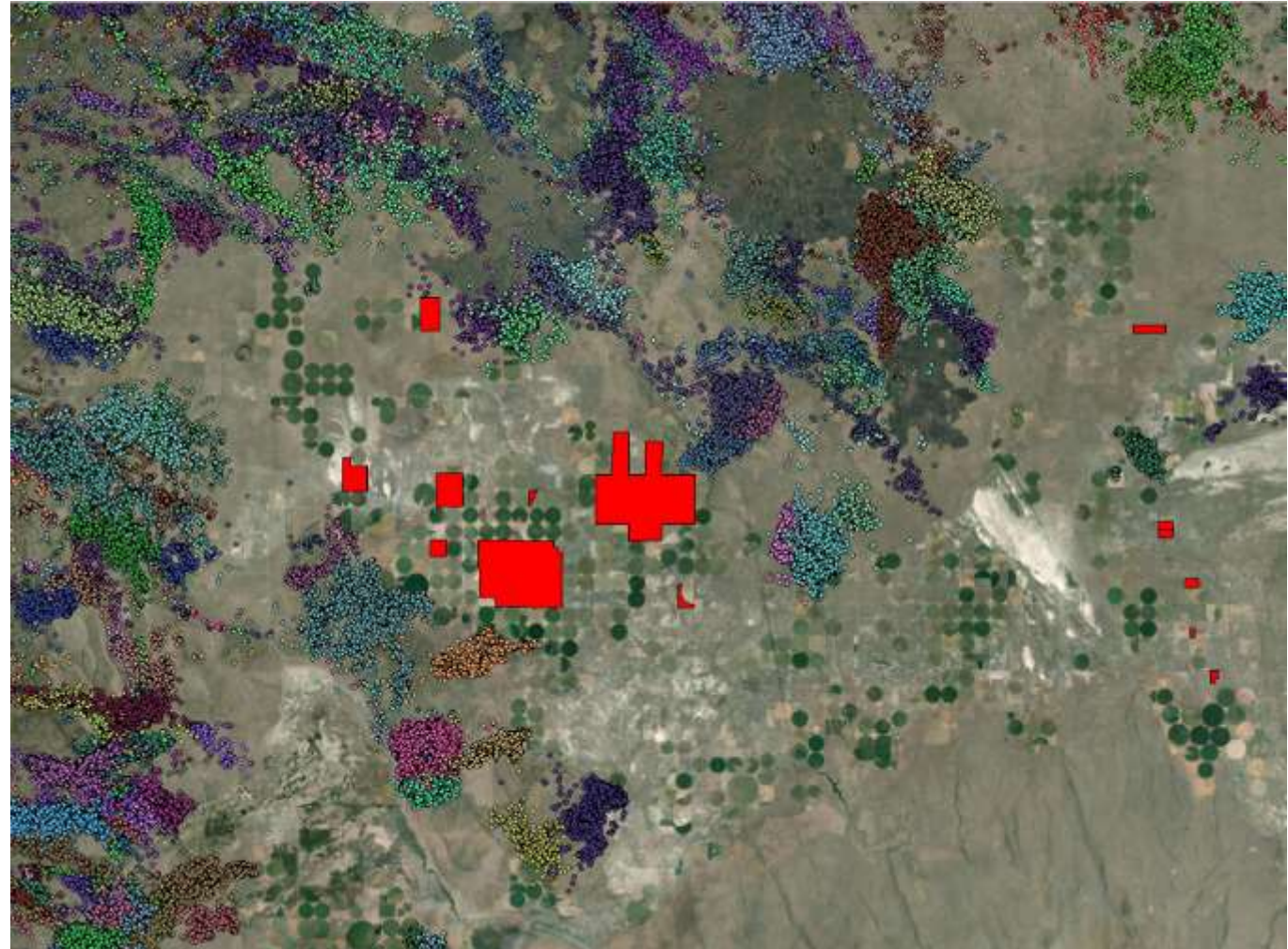
Wintering in  
Fort Rock Valley

Summering in  
Fremont Mtns and  
Cascades



# Wildlife Habitat Issues/Standards

- Do the existing standards related to wildlife provide adequate protections or mitigation related to individual projects?
- What is the best way to address cumulative impacts of multiple projects in the same area on the sustainability of wildlife habitat?



# Follow Up to Questions Raised During Meeting #1

- “Fifteen Questions” Related to Wind Facilities
- Oregon Public Utility Commission PURPA Project Aggregation
- Examples to Solar PV Project Aggregation
- Oregon Natural Desert Association Petition For Rulemaking Related to Wind Project Aggregation
- Infrastructure Information

# PUBLIC COMMENT

This time is reserved for the public to address the RAC.

- In the room
- On the phone

# WRAP UP AND NEXT MEETING

- Location: Boardman
- Date: TBD
- Agenda: TBD