Landscape Considerations for Solar Energy

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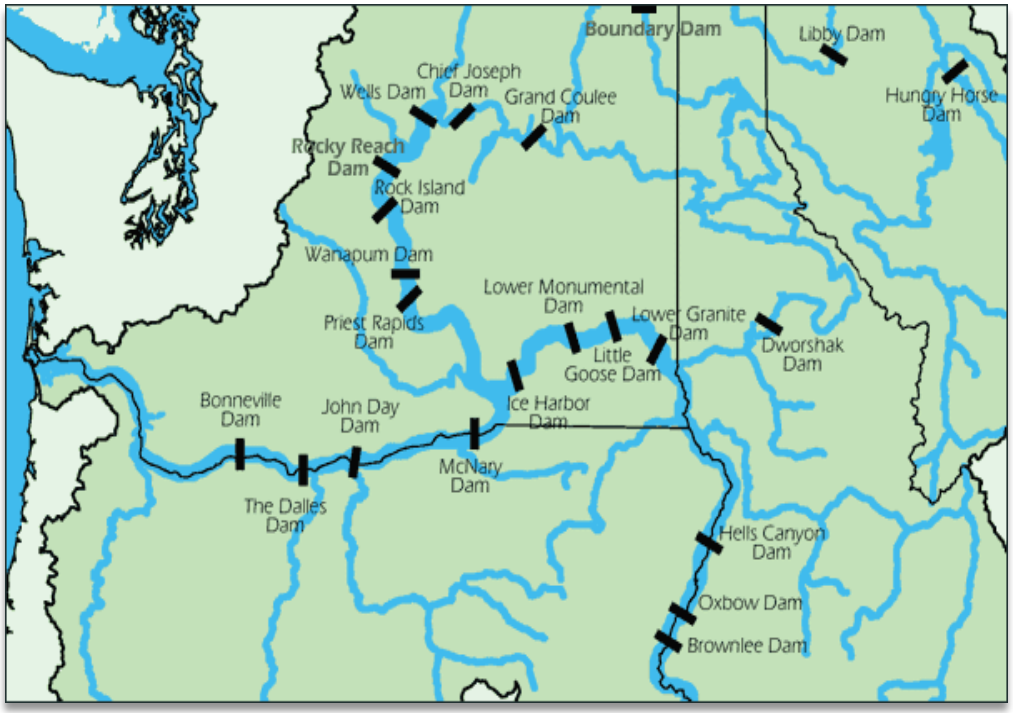
Guiding principles

- WDFW supports WA's renewable energy goals, which include substantial solar energy resources
- Reducing the magnitude of climate change is good for fish and wildlife
- Deploying significant solar resources can be compatible with protecting wildlife habitat
- Policies and practices can avoid, minimize, and mitigate habitat impacts



- Solar can provide flexibility for more salmon-friendly hydropower operations
- Hydropower is a clean energy technology that was rapidly built without adequate consideration for local ecosystem impacts
- Let's learn from history when it comes to developing clean energy

The Technology

- Types of solar
  - Reflective, concentrating panels (not PV)
  - Community solar, solar parks (PV)
  - Industrial-scale PV
- What is being proposed in WA?
  - Mostly industrial solar with bi-facial panels on tracking system

Shrubsteppe: a degraded baseline

Only 40% remains of the 10.4 million acres of eastern Washington's shrubsteppe habitat remains relative to the mid-1800s(Dobler et al 1996)

Development continues. Washington's' shrubsteppe is attractive for development thanks to abundant sunshine, rural landscapes, transmission infrastructure, expanding agriculture, and a growing demand for carbon-free energy

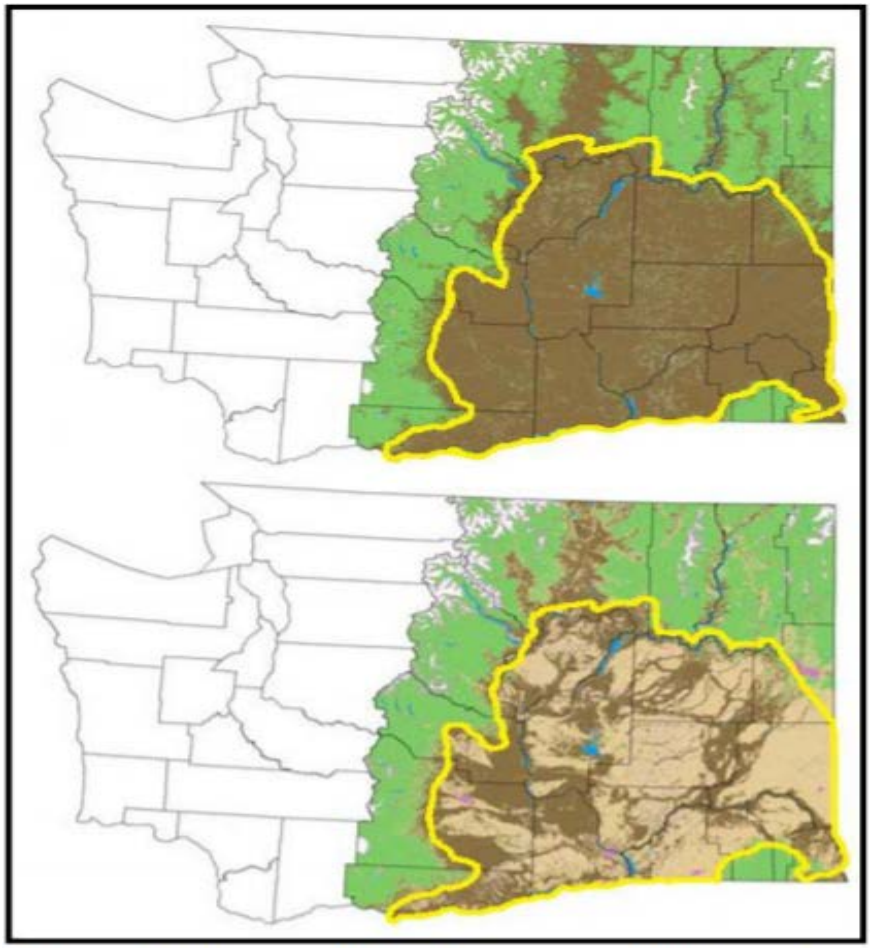
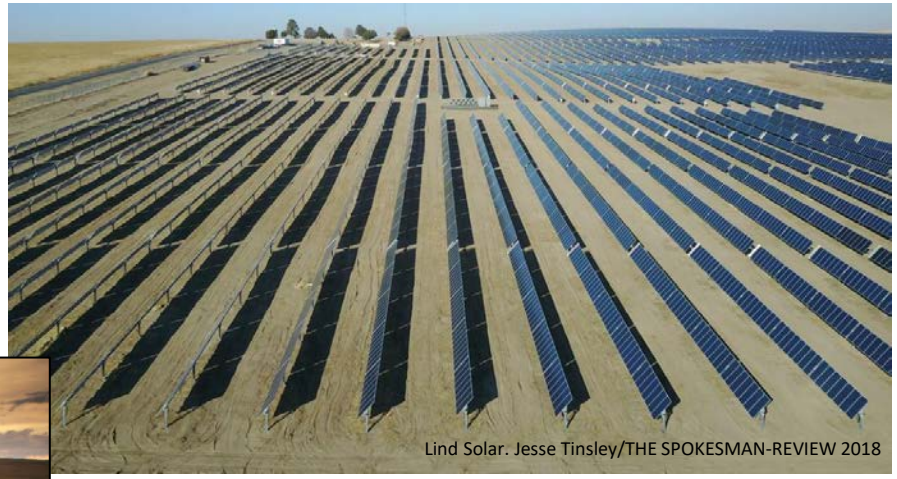


Figure 4. Historical (top) vs. current (bottom) shrubsteppe and steppe in eastern Washington (*53*). Green = forest; brown = shrubsteppe/ steppe; tan = agriculture; yellow = Columbia Plateau ecoregional boundary.

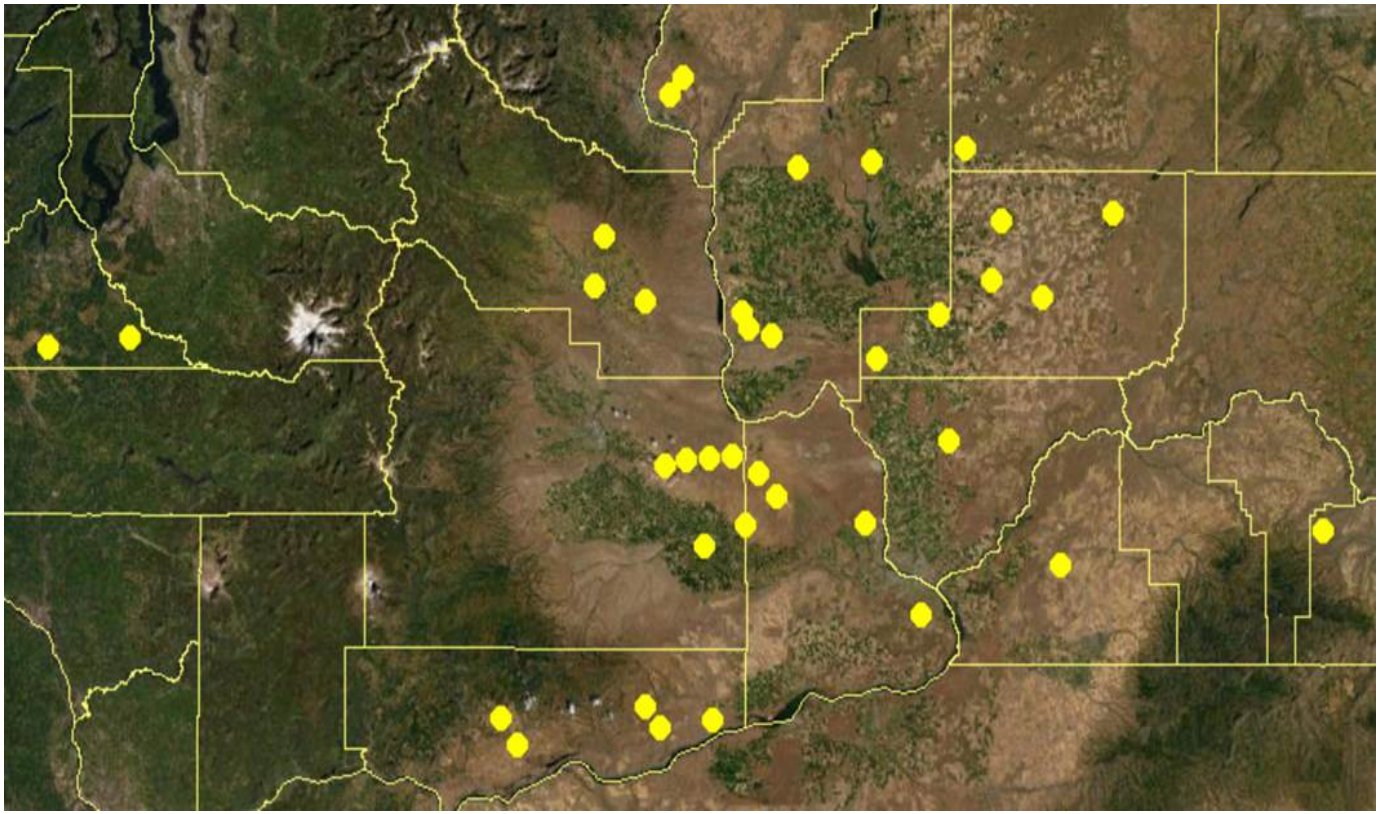
Solar projects on shrubsteppe habitat can impact ecological functions and values and can be a significant impact on an increasingly rare ecosystem


Lind Solar. Jesse Tinsley/THE SPOKESMAN-REVIEW 2018


(The Nature Conservancy, 2018)

Fencing in thousands of acres can create landscape level impacts to connectivity corridors and impacts to resident, migratory, and special status species such as sage grouse, sharp-tailed grouse, and pygmy rabbits

Solar proposals in Washington



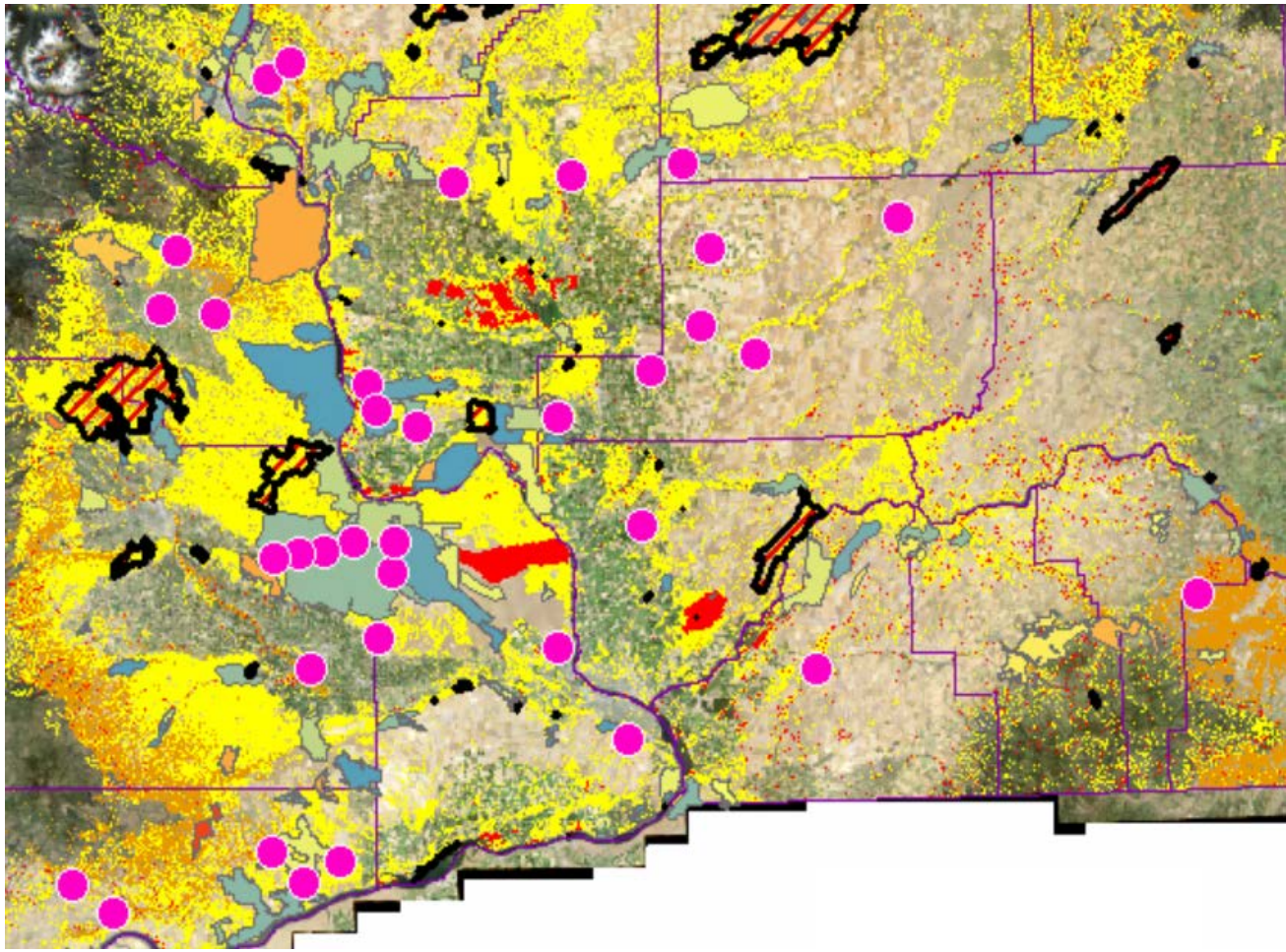
- 37 Solar Projects proposed to date
- > 50,000 acres
- > 78 square miles

- Shrubsteppe habitat in yellow, overlaid by fires from 1991-2020

- Projects are:
  - operational (one project)
  - constructed (two projects)
  - in permitting (four)
  - proposed/potential (28)
  - West-side projects (see previous slide)

- 92% of projects are in Columbia Plateau ecoregion

- 80% of eastern WA projects have NOT initiated permitting, but many have spent several years in pre-permitting work

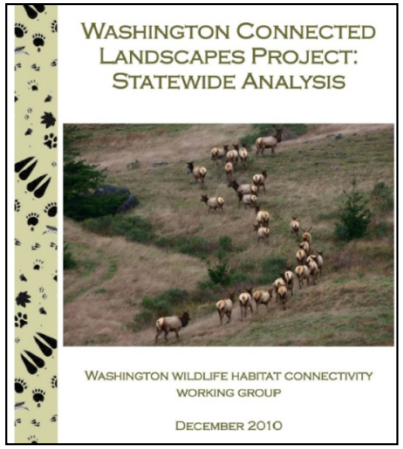


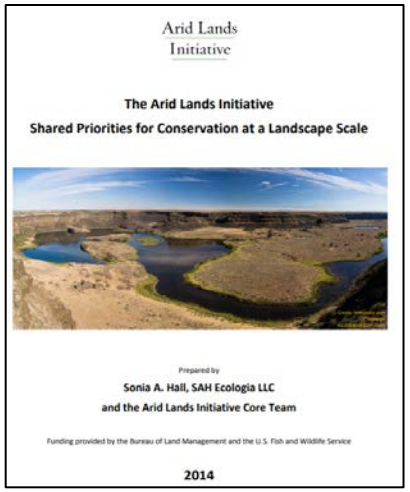
WDFW is working to be part of the solution

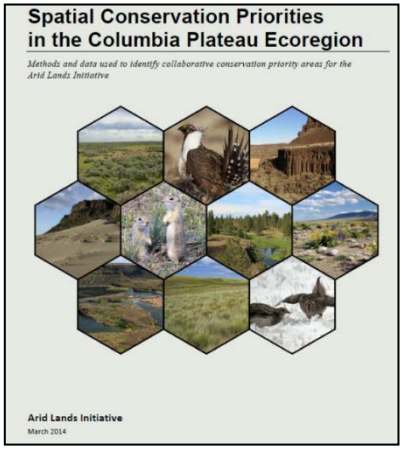
- Identifying opportunities for low- and no-impact solar generation
  - E.g., placing solar on existing infrastructure and working landscapes
- WDFW is looking to “walk the talk” through adding solar to our own facilities

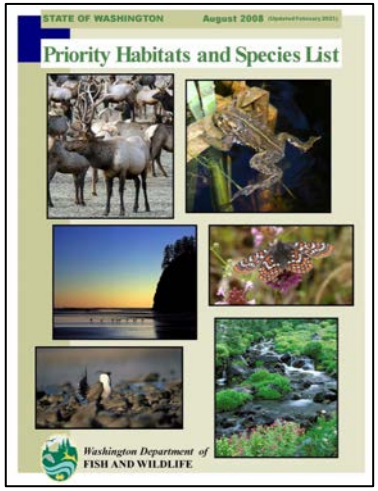
WDFW involvement in project review and permitting

- WDFW has robust data and scientific information about Washington's fish and wildlife and their ecological needs.
- This information is provided early to the solar projects, 1-2 years before "going public," but may not affect siting and habitat/species impact avoidance
- Mitigation often becomes the focus; avoidance and minimization is challenging absent stronger policy sideboards









What WDFW is doing in policy arenas

- Working toward statewide guidance using:
  - Existing databases
  - Information developed in siting forums, including "least conflict solar" forum
- Integrating siting guidance into state energy plan, and 2021 Power Plan
- Legislative opportunities to promote avoidance, minimization, and mitigation of impacts?
- Increasing internal capacity

Discussion?