Gathering 3 Summary

Date April 12, 2023
Time 9:30am – 3:00pm PDT
Location Zoom online meeting
Links Washington Columbia Plateau Least-conflict Solar Siting Gateway
WSU Energy Program Least-conflict Solar Siting project website
Gathering 3 Agenda
Gathering 3 Presentation Slides
Gathering 3 Video Recording

Meeting Objectives

- Understand the draft least-conflict maps and how to interpret them
- Learn how to review and give feedback on the draft maps after the gathering
- Discuss observations and insights about the draft maps with colleagues and peers
- Consider potential uses for the least-conflict maps
- Learn about other efforts and their connections to this least-conflict mapping work

Meeting Notes

Project Overview and Updates

Following an initial welcome, **Karen Janowitz (WSU Energy Program)** introduced the WSU Energy Program and the project team. She outlined the objectives and agenda for the day's gathering. Participants then had an opportunity for quick "impromptu networking" to meet others attending the meeting.

Karen continued with a brief overview and updates of the Least-Conflict Solar Siting on the Columbia Plateau project. The project overview mirrored the September 2022 Kickoff Gathering and the January 2023 Gathering 2 (link to Kickoff Gathering summary and link to Gathering 2 summary): Karen described the legislative directive and context for the work.

Project updates focused on the four mapping groups' (farmlands, ranchlands, environmental conservation, and solar industry) process to produce individual draft maps: The farmlands, ranchlands, and environmental conservation groups' draft maps illustrate least conflict lands

At-a-Glance Information

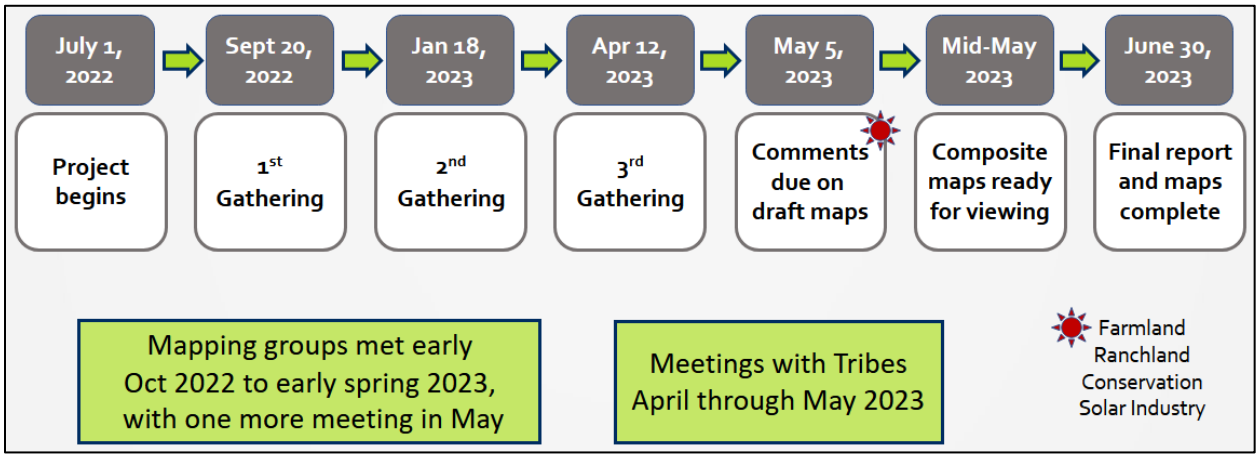
Hosted by Washington State University Energy Program in partnership with the Conservation Biology Institute and Ross Strategic.

Approximately 100 people joined the meeting.

Meeting participants represented a broad array of organizations.

based on spatial datasets that represent their interests; another way to think about these maps is that they reflect the lands' relative *value* for different activities, e.g., the least-conflict lands on the farmlands group's draft map have low relative value for farming, according to existing data and criteria used. The solar industry mapping group's draft map illustrates *suitability for solar development* based on spatial datasets. Karen encouraged participants to use the Data Basin Gateway, where all information and maps will be kept after the project ends, and also reminded participants of project resources on the WSU Energy Program website.

Project Timeline



Draft Least-conflict Maps

A representative from each mapping group presented draft maps developed by their group since Gathering 2 in January 2023 and answered participant questions. Takeaways from each presentation are below.

Solar Industry Mapping Group

The goal of the Solar Industry Mapping Group is producing a map that illustrates the relative suitability of lands for utility-scale solar development based on general, mappable criteria. The group members agreed on these criteria, although an individual solar development company's criteria may vary. **Emily Griffith (Renewable Northwest)** presented the following information on behalf of the Solar Industry mapping group:

- Updated map criteria (captured in the model diagram):
    - Development exclusions (e.g., protected areas)
    - Physical suitability:
        - Good terrain suitability (e.g., favorable slope)
        - Low hazards (e.g., low wildfire risk)
        - High proximity to infrastructure (e.g., proximal to power grid)
- Other factors of interest that aren't necessarily mapped: Environmental constraints/concerns, Department of Defense concerns, Tribal considerations outside of reservations, and socioeconomic considerations

- Draft map: See Figure 1 for draft solar development suitability map (red areas = most suitable for solar development; blue areas = least suitable for solar development).
- Next steps:
    - Share draft map with colleagues and others for review and comment
    - Make final model refinements (e.g., to better represent developed lands)

During a brief Q&A period, Emily and **Jim Strittholt (CBI)** clarified the following:

- The mapping group came to the agreement that land was suitable for solar development if it is 5-10 miles from transmission lines based on feedback from developers. This threshold can be changed in the future if needed.
- Because zoning data is inconsistent across the region's jurisdictions, the mapping group was not able to use it to inform the suitability map. However, available zoning data is included in the Gateway site for those who are interested in exploring it further (see *Tutorial* section below).

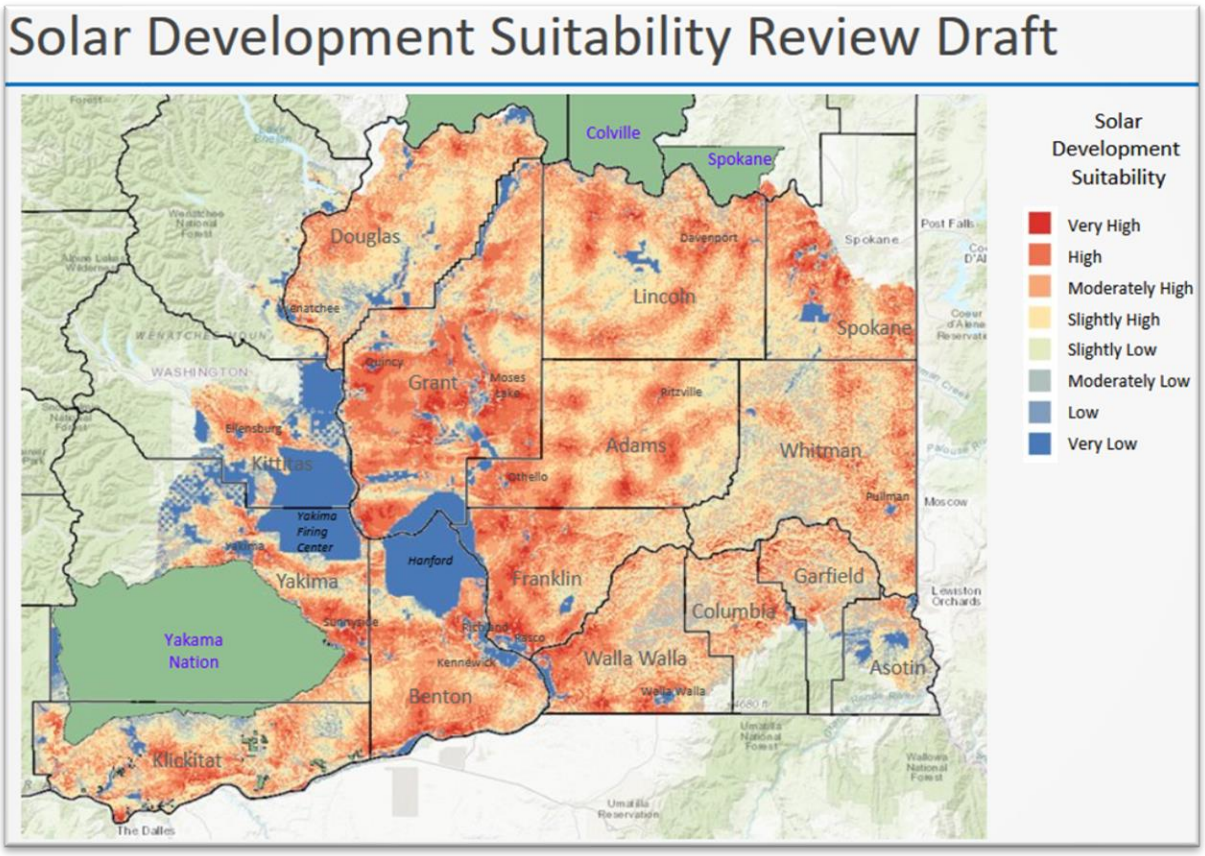


Figure 1. Snapshot of draft Solar Industry map. Red areas are considered most suitable for solar development; blue areas are considered least suitable.

Farmlands Mapping Group

The goal of the Farmlands Mapping Group is to produce a map that illustrates the relative value of irrigated and dryland farming lands based on available spatial data. **Jay Kehne (Conservation Northwest)** presented the following information on behalf of the Farmlands mapping group:

- Updated map criteria (captured in the model diagram):
    - Exclusions (e.g., developed lands or protected areas)
    - High dry farmland quality:
        - Good growing conditions (e.g., high annual precipitation)
        - Existing dryland quality
    - High irrigated farmland quality:
        - Irrigated water supply (e.g., proximal to surface water)
        - Good irrigated farm soils (e.g., high water storage)
        - Existing irrigated agriculture
- Draft map: See Figure 2 for draft farmland value map (red areas = most suitable for farming; blue areas = low suitability for farming).
- Next steps:
    - Share with colleagues and others for review and comment
    - Update WA Department of Agriculture land use dataset to incorporate 2022 crops
    - Make final model refinements (e.g., to better represent developed lands)

During a brief Q&A period, Jay clarified the following:

- The model does not compare crop value to potential solar revenue, although this is something that should be considered in the future along with topics such as how water availability may change in the region.
- Using the draft maps can be useful in watershed planning and/or resource inventories.

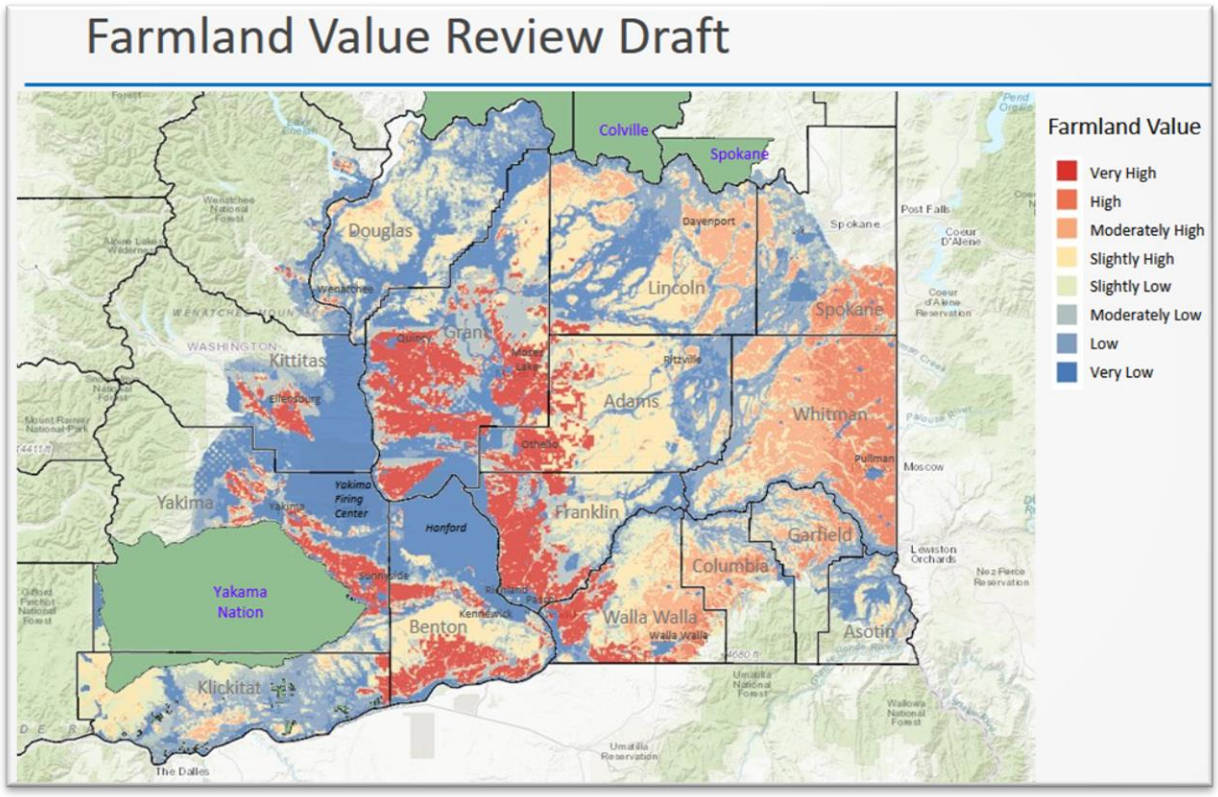


Figure 2. Snapshot of draft Farmlands value map (reflects both dryland and irrigated agriculture). Red areas are considered most suitable for farming; blue areas are considered least suitable.

Ranchlands Mapping Group

The goal of the Ranchlands Mapping Group is to produce a map that illustrates the relative value of ranchlands based on available spatial data. **Jesse Ingels (Land Broker, Washington Cattlemen's Association Board Member)** presented the following information on behalf of the Ranchlands mapping group:

- Updated map criteria (captured in the model diagram):
    - Exclusions (e.g., developed lands)
    - High ranchland suitability:
        - Good livestock water access (e.g., springs available)
        - Good forage capacity (e.g., high managed pasture)
    - Federal program lands:
        - High grassland CRP
        - High grazing allotments
- Draft map: See Figure 3 for draft ranchlands value map (red areas = most suitable for ranching; blue areas = least suitable for ranching).
- Next steps:
    - Share with colleagues and others for review and comment
    - Make final model refinements (e.g., to better represent developed lands)

During a brief Q&A period, Jesse clarified the following:

- Public lands, such as those owned by Bureau of Land Management or Department of Natural Resources, have a higher value in the map than other lands, but the maps do not show specific ownership.
- The ranching community has been informed about the ongoing work of the ranchlands mapping group through monthly Cattlemen's Association meetings and county meetings.

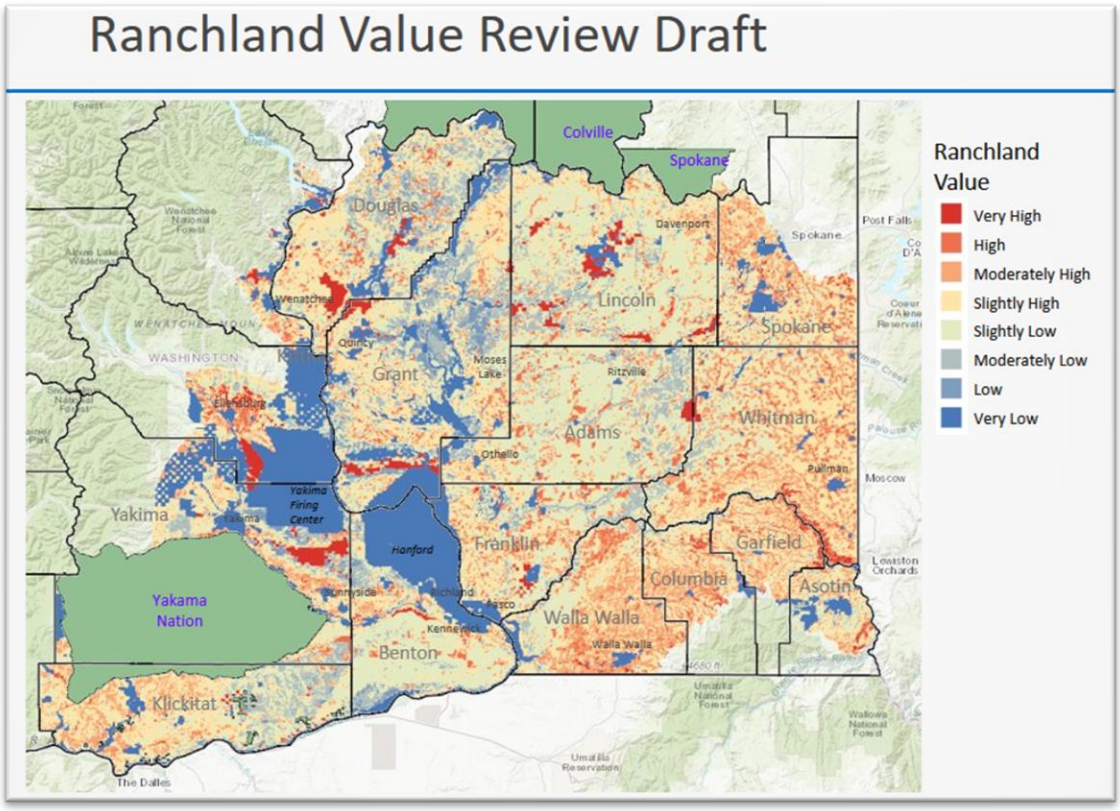


Figure 3. Snapshot of draft Ranchlands value map. Red areas are considered most suitable for ranching; blue areas are considered least suitable.

Environmental Conservation Mapping Group

The goal of the Environmental Conservation Mapping Group is to produce a map that illustrates the relative value of lands for environmental conservation based on available spatial data. **Michael Ritter (WA Department of Fish and Wildlife)** presented the following information on behalf of the Environmental Conservation mapping group:

- Updated map criteria (captured in the model diagram):
    - High conservation value:
        - Protected areas
        - Listed species habitat
        - High conservation value composite value:
            - Landscape connectivity value (e.g., high riparian linkages)
            - Natural communities value (e.g., high natural rare communities)
            - Focal species value (e.g., plant species or bird species)

    - Other conservation priorities (e.g., Audubon Important Bird Areas)
- Draft map: See Figure 4 for draft environmental conservation value map (red areas = most suitable for environmental conservation; blue areas = least suitable for environmental conservation).
- Next steps:
    - Share with colleagues and others for review and comment
    - Add a few more species (e.g., pronghorn sheep)
    - Final model refinements (e.g., to better represent developed lands)
- Question and answer discussion topics included:
    - The environmental conservation mapping group focused on the least-conflict siting work and did not discuss mitigation; the mapping group participants acknowledge that this is an important discussion topic for the future.

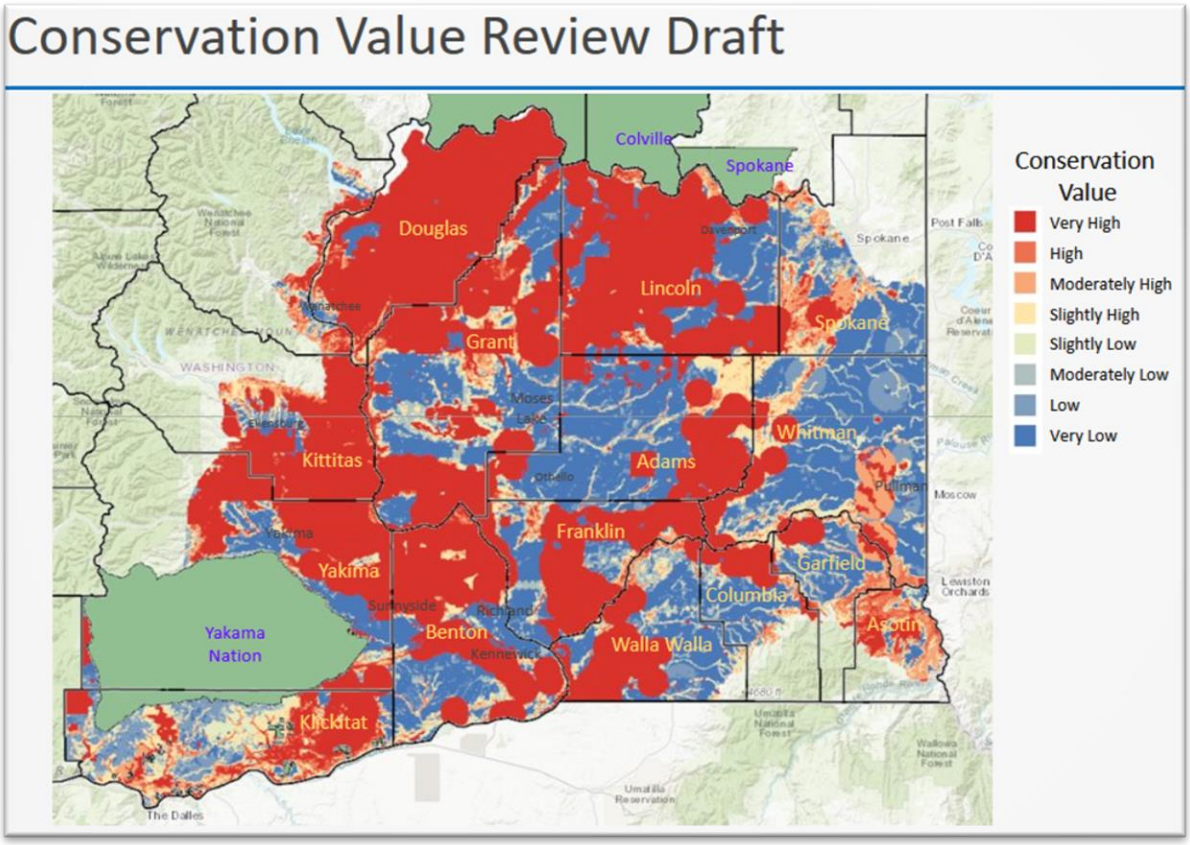


Figure 4. Snapshot of draft environmental conservation value map. Red areas are considered to have most conservation value; blue areas are considered to have the least conservation value.

Draft Composite Maps

The goal of the project is to produce a map-based tool that is easy to use and provides a high level of transparency about opportunities to reduce conflict with solar energy development in the Columbia Plateau region. Jim Strittholt presented draft composite map results that show where lower value farmland, ranchland, and environmental conservation lands (lower value = lower conflict) overlap with

areas of higher solar development suitability. Jim emphasized that it is very important to keep in mind that there is not a single composite map that provides a final "answer" to where there are and are not conflicted areas for solar development.

The draft composite maps were assembled using scores and ranks for solar development suitability and the farmland, ranchland, and environmental conservation values. Gateway users can generate composite maps that reflect different scores and ranks to see how least conflict areas change under different settings. Jim shared several iterations of composite maps, such as the map in Figure 5 that reflects where solar development might be suitable on low-value conservation lands and low- to moderate-value farmlands and ranchlands.

The composite maps are not available for viewing until the individual maps have been finalized.

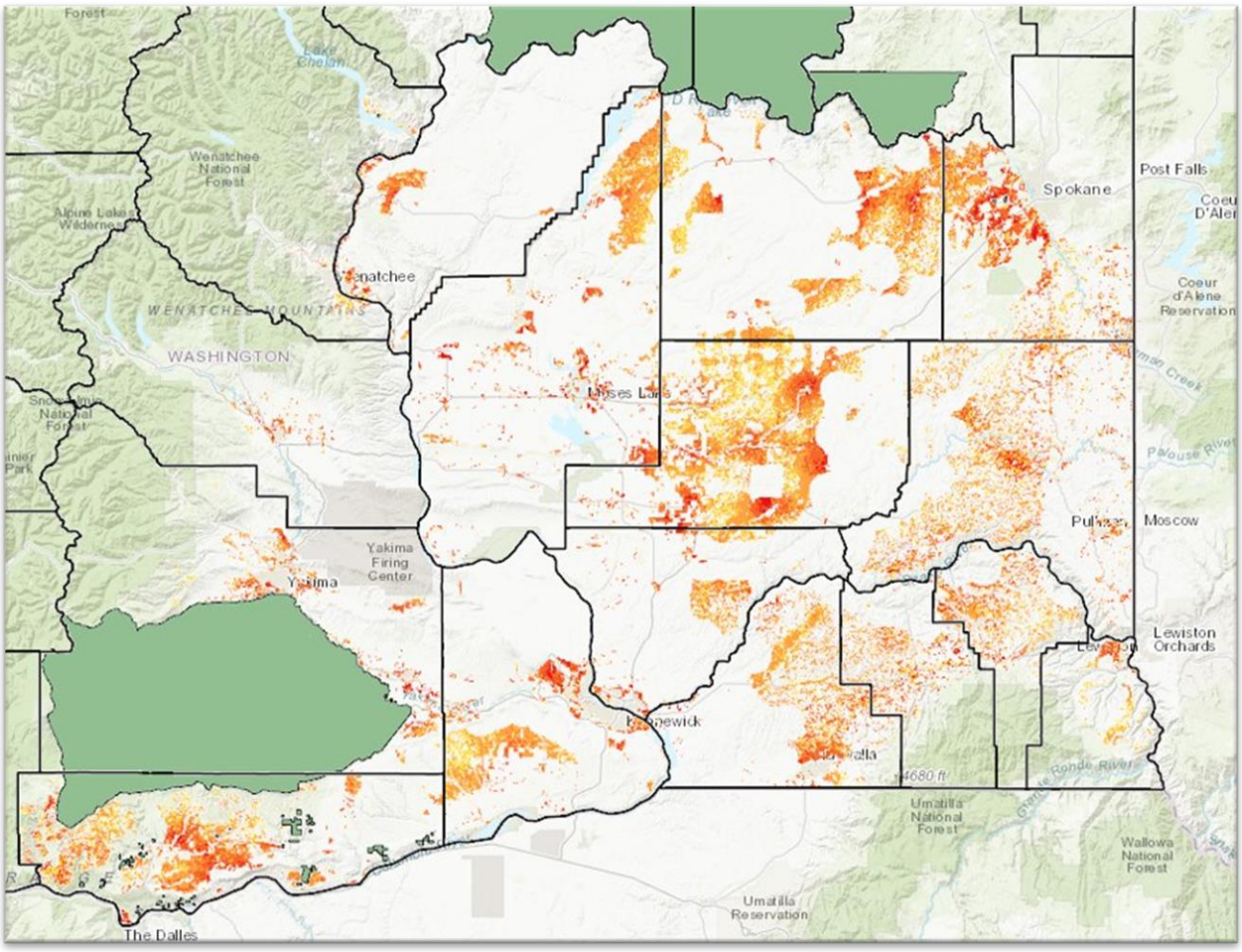


Figure 5. Draft composite map that reflects solar suitability on low-conflict conservation lands and low- to moderate-conflict farmlands and ranchlands. Colored areas outside of tribal lands represent the relative value of these areas for solar development—darker red areas denote the highest development suitability and more yellow areas denote moderately high suitability.

Discussion highlights and clarifications included:

- Blank-looking square or circular shapes on the map reflect areas of high conservation value based on habitat areas for species of concern.
- The Gateway is a dynamic tool that allows users to examine the least-conflict areas using different base maps (such as topography or street maps) and data layers (such as transmission lines or socio-economic information). Gateway users can zoom in very closely to see how specific areas on the maps are classified and use a geo-location tool to find specific addresses or latitudes/longitudes. Adding new data layers would support new analysis, such as seeing where solar development projects that are proposed or already underway fall on the least-conflict maps.
- The mapping groups have discussed the fact that utility-scale solar development may require larger parcels of land to make a project economically viable. Some of the parcels shown on the least-conflict maps may be too small for utility-scale solar development despite being "low conflict" and "suitable for development."
- One participant suggested adjusting the map coloring to more easily distinguish areas that are not being considered for development, such as the Hanford Reach and the Yakima Firing Center.

Tutorial: How to Review the Models and Draft Maps

Meeting participants and any other interested parties are invited to review the models and draft maps that feed the composite maps using the **Washington Columbia Plateau Least-Conflict Solar Siting Gateway: https://wsuenergy.databasin.org/**. Gateway users can choose whether to create a free account to log in, however, creating an account is preferable because the user will be able to use more detailed map functions, such as leaving comments on maps that the site will save for future log-ins.[1] If a user does *not* create an account, they can email comments and questions to **Karen Janowitz**, the project lead, at janowitzk@energy.wsu.edu, *no later than Friday, May 5, 2023,* in order for mapping groups to consider them for the final maps.

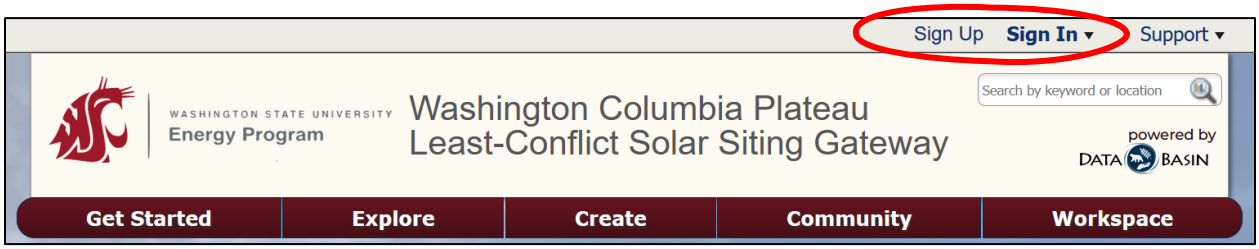


Figure 6. Snapshot of project's Gateway homepage with emphasis on where users can create a free account to review models and draft maps.

The following are direct links to the mapping groups' draft maps, where Gateway users can open the EEMS window to learn more about the model components that create the maps and leave comments for the Project Team:

- Solar Development Suitability Draft Map
- Farmland Value Draft Map
- Ranchland Value Draft Map
- Environmental Conservation Value Draft Map

[1] If a Gateway user has an account and leaves comments on maps, the comment can be viewed by others but cannot be edited by others.

Gateway users are encouraged to consider the following guiding questions as they review the models and draft maps:

- Based on your first impression, does the map generally reflect reality?
- Reviewing the model components, does it include the most important considerations? Is anything missing?
- Based on your knowledge of the region, are there specific locations on the map that you feel are overvalued or undervalued according to the model results? If so, please explain.

Small Group Discussions: Observations and Insights on Draft Maps

Meeting participants were randomly assigned to Zoom breakout rooms to discuss the following prompts in small groups: *What are your observations of the draft maps?* and *What issues or questions about solar siting do the maps suggest?* The breakout rooms were not recorded, but each small group used Jamboard, a virtual whiteboard, to document their thoughts, and facilitators shared high-level takeaways from their small group discussion when participants came back together in the main meeting. Small group discussion topics included:

- Proximity to urban areas and dryland farming: Many of the most suitable areas for solar development are around population centers and areas with dryland farming. Some participants wondered whether these areas are undervalued on the map and what externalities urban areas may have to shoulder if solar development is nearby.
- Solar development suitability: Participants wondered about areas where transmission lines could be built and the minimum land area requirements to support utility-scale development.
- Map layers: Participants are interested in adding map layers to make it easier for viewers to understand what they're seeing (e.g., wind power locations and slope information, county-level codes and zoning maps, and current/proposed solar development).
- Odessa aquifer in Adams County: There could be an opportunity to reduce irrigation and recharge the aquifer.
- Communicating model and map information: The maps are a powerful tool that offer many ways to present information. The project needs to acknowledge what the maps do and do not address and find ways to lower barriers for people to use them. Map users should be aware of the role data and maps can play in bringing attention to specific areas.
- Map utility: The maps can help spur early conversations around development areas of interest, community development agreement opportunities, and potential impacts to county tax bases with solar development.
- Competing priorities: The least conflict lands that are suitable for solar development may also be ideal for other purposes.
- Interpreting the word *value*: There is a disconnect between the way the maps reflect land value and the way Washingtonians will likely interpret the value of their land. The maps do not show us how people living in areas identified as least-conflict will feel about solar development.
- Project future: There is hope that the project will be able to update the models and maps into the future, so they continue to be relevant tools.

How Least-conflict Maps May Be Used

Several people who represent a broad range of interests were invited to briefly answer the question, *In your position, how do you think the maps can be used?* The speakers were:

- **Adam Maxwell**, Audubon Washington
- **Diane Butorac**, Washington Department of Ecology
- **Maddy Sym**, Cypress Creek Renewables
- **Jay Kehne**, Conservation Northwest
- **Dani Madrone**, American Farmland Trust
- **Mark Nielson**, Franklin County Conservation District
- **Mike Ritter**, Washington Department of Fish and Wildlife
- **Christine Golightly**, Columbia River Inter-Tribal Fish Commission
- **Nora Hawkins**, Washington Department of Commerce

Although these speakers anticipate using the maps for different purposes, some concepts they largely coalesced around include:

- Tribal input will be critical for any successful solar development project; developers and jurisdictions can use least-conflict maps as a starting point for conversations with Tribes. The least-conflict maps are a step towards creating a comprehensive plan to identify suitable siting.
- The maps will help to more quickly identify high-potential solar development sites, key stakeholders, and important issues that would need to be addressed before any project begins the permitting process.
- The maps can help support discussion and thinking about multiple goals, including protecting natural resources, supporting communities, and pursuing clean energy siting. For example, the Clean Energy Transition Act directs Washington Department of Commerce to work with rural communities to identify risks and opportunities when it comes to clean energy siting and learn from lived experience; the least-conflict maps could serve as a starting point for these conversations.

Small Group Discussions: Participant Use Cases

Meeting participants were invited to choose one of six topic-based breakout rooms to discuss the prompt, *How can the least-conflict maps be used in your work?* High-level takeaways from each breakout room discussion are described below:

Agriculture

- Knowing that solar development will happen on a case-by-case basis, the maps can help inform local decision making about solar development and possibly other renewable energy siting issues by highlighting conflict or possible sources of opposition (e.g., obstructed viewshed).
- Distance to surface water would be a useful addition to the map data.
- Developers can use the maps to better understand and anticipate conflict before proposing developments to the county.

Environmental Conservation

- The Gateway tool will require updated data and regular management to remain useful. It will also benefit from advocates who encourage others to consider the information it can provide.
- The least-conflict maps for solar siting could also inform other renewable energy siting in that it identifies the resources that need to be protected and potentially facilitate conservation easements.

Tribal Considerations

- It is very important that developers and local governments engage early and often with Tribes and maintain this relationship for the duration of the project (potentially beyond).
- Tribes will determine the degree to which they provide input on the least-conflict maps.

Local Government and Communities

- County-level map data can inform siting criteria for solar development and help assign local values.
- The maps will help different entities understanding how local conflicts might play out at the beginning of a solar siting process.
- The locations of mapped least-conflict sites in relation to other parcels of land is worth exploring more. For example, the maps could potentially be used with other information or maps, such as aquifers, to consider how solar development can address multiple issues at once in a given area.

State and Federal Policies and Issues

- The maps can help inform smart land use. Given the state's role in siting through its Energy Facility Site Evaluation Council (EFSEC) and State Environmental Protection Act (SEPA) environmental review, the maps will be useful for analyzing critical issues and for general project scoping.
- Map layers, such as those that reflect socio-economic data, are useful for planners who are thinking about environmental justice issues. The maps can help determine which communities need to be engaged more intentionally.
- Least-conflict does not equal no conflict. The maps do not describe the magnitude (i.e., quality or size) of a potential conflict.

Solar Industry

- The least-conflict maps will aid solar companies' work of identifying and assessing potential development sites. The maps are valuable because the data is "crowd-sourced," reflecting multiple perspectives and disciplines.
- In addition to considering new solar development in open spaces, policymakers and solar developers should consider locating solar facilities in developed areas or pursuing community-scale solar (as opposed to utility scale or individual scale) in both urban and rural areas.

Project Next Steps

The models and draft maps are open for questions and comments until Friday, May 5, 2023. Mapping groups will consider questions and comments as they finalize their least-conflict models and maps to inform the project's final composite maps. See the *Tutorial* section of this summary for more information on using Gateway to review and comment on draft maps.

The Least-conflict Solar Siting Project's final report and maps will be completed by June 30, 2023.