



WASHINGTON STATE UNIVERSITY
Energy Program



Pumped Storage Hydropower Siting Study

Draft Report Review

May 8, 2025

WSU Energy Program

How to Access Captions/Como Ver Subtítulos

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Welcome and a few reminders...

- This meeting is being recorded and will be available on the study website—along with the slides and a meeting summary
- Please remain muted unless you are speaking
- As needed, please rename yourself with your affiliation or workplace in Zoom
- Attendees will be able to chat everyone in the meeting
 - If you are experiencing technical issues, please chat directly to “hosts and panelists” (or email hsherrow@rossstrategic.com).
- To ask questions or join discussion, please use the “raise your hand” button to indicate you would like to speak; chat can also be used for Q&A
- Please be respectful of this process. Allow everyone the chance to speak and listen actively to understand others’ views

WSU Energy Program

- Self-supporting department within Washington State University based in Olympia
- Other programs: green transportation education and outreach, community solar, Washington state energy codes (residential) support, community energy efficiency, emerging technologies, and more

WSU Energy Program website: <https://www.energy.wsu.edu>

WSU Pumped Storage Hydro Siting Study Roles

Study Lead – Karen Janowitz, WSU Energy Program



Tribal Liaison – Terri Parr, WSU Tribal Relations



GIS Analyst – Jeff Boyce, Meridian Environmental



Facilitation Team – Ross Strategic

Tom Beierle

Susan Hayman

Hogan Sherrow



Today's Meeting Objectives

- Hear an overview of the draft final report for the Information Study for Pumped Storage Hydropower Siting
- Ask questions and discuss the study's information about PSH, key findings, and recommendations

Agenda Overview

1:00 – 1:15 pm	Welcome
1:15 – 2:25 pm	Draft Report Overview and Discussion
2:25 – 2:30 pm	Next Steps, Wrap up, and Adjourn

Online polling

- We will be using PollEverywhere today to elicit insights from participants
- When prompted, please use a phone or browser screen to access the polls using the QR code or website address: Pollev.com/viablemoss309
- You will be initially asked to share your name, but this can be skipped
- PollEverywhere will stay open throughout the meeting
- For short “word cloud” responses, you can [join_words](#) using an underscore

Now, lets try it out on a quick icebreaker question:

What is your favorite thing about spring?

Join by Web

Pollev.com/viablemoss309

Join by scanning the QR code

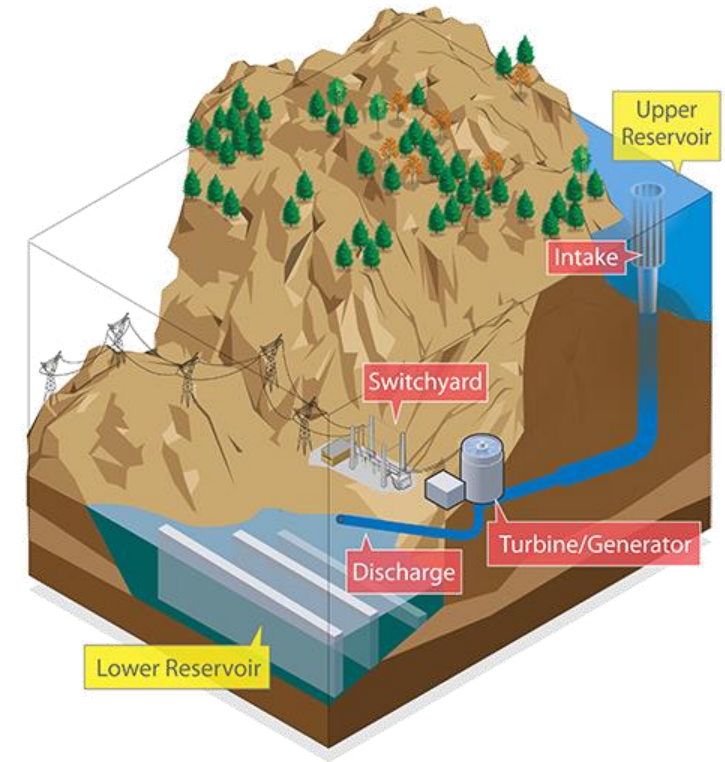


Study Overview and Update

Karen Janowitz, WSU Energy Program

Today's Presentation

- Study
 - Goal
 - Meetings
 - Engagement
- Instructions for submitting review comments
- Overview of report
- Key points
- Maps
- Recommendations



Pumped Storage Hydropower (PSH) Siting Study Goal

Identify and understand issues and interests of federally recognized Tribes with territories in Washington State, WA state agencies, and various stakeholders related to **areas where pumped storage hydro might be sited in Washington State.**

No specific PSH projects are being promoted or sited in this study.

Section 306 of House Bill 1216 (2023) on Clean Energy Project Siting:

<https://lawfilesexternal.wa.gov/biennium/2023-24/Pdf/Bills/Session%20Laws/House/1216-S2.SL.pdf?q=20240327114612>

Why a PSH Siting Study?

- Support goal of WA Clean Energy Transformation Act (CETA) (SB 5116, 2019)
- Explore PSH, which is an existing proven technology, long-duration, and provides grid reliability
- Understand issues concerning PSH siting to work towards avoiding impacts and disputes

Study ends June 30, 2025 with a report deliverable to the WA State Legislature.

WA Statewide Online Public Meetings

- June 13, 2024 – Introductory webinar
- Sept 11, 2024 – Pumped storage overview, traditional cultural resources
- Oct 9, 2024 – Water quality, water resources
- Oct 31, 2024 – Terrestrial ecology, geology, land use, access
- Dec 4, 2024 – Federal & state permitting, licensing, and environmental processes
- January 23, 2025 – Mechanical/gravity energy storage systems

Slides, video-recordings, meeting summaries can be found at

<https://www.energy.wsu.edu/CleanFuelsAltEnergy/PSHSiting/Meetings.aspx>

Meeting Attendance

- Over 250 individuals attended
- Over 400 appearances (many people attended more than once)
- Sectors represented at meetings:
 - State agencies 19%
 - Tribes 15%
 - Counties 12%
 - Industry 12%
 - NGOs 10%
 - Others – Utilities, Federal agencies, city governments, citizens/landowners, universities, associations, conservation districts, media

Tribal Engagement

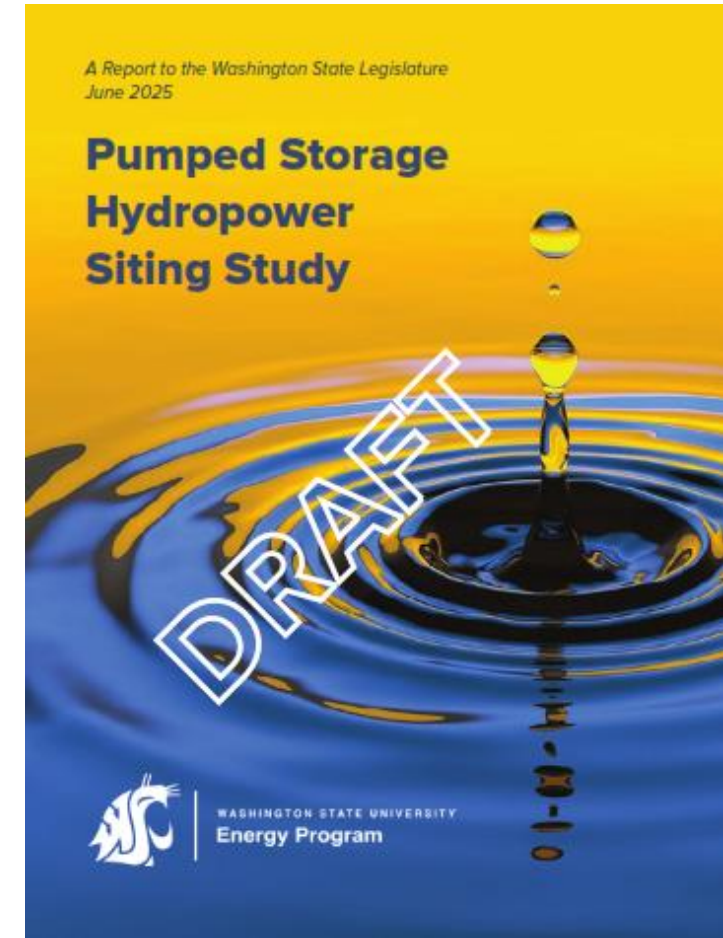
- Attendance and discussion at Tribal conventions & conferences
 - April 2024 – ATNI Tribal Leaders Climate Summit
 - September/October 2024 – ATNI Annual Convention
 - November 18-20, 2024 – ATNI Natural Resources Summit
 - January 27-30, 2025 – ATNI Winter Convention
- Tribal Forum
- Meeting and discussion with individuals and groups

PSH Siting Study Draft Report

- [PSH Siting Study draft report available now for review](#)

**Deadline for comments – Thursday, June 5, 2025
5:00 PM Pacific Time**

- Two ways to review – detailed instructions on the [PSH Siting Study draft report review webpage](#)
 1. Email comments to PSH@energy.wsu.edu
 2. Use a “commentable” PDF
Note that comments are not anonymous and they are able to be viewed by all



PSH Siting Study Draft Report - Overview

- Pumped Storage Hydropower
- PSH Siting Study Approach
- PSH Topics
 - Tribal cultural resources, aquatic ecology, water quality, water quantity and water availability, wildlife & habitat, geology & soils, land use, socioeconomics, state and federal permitting & licensing processes, other gravity energy storage systems
- Key Points
- Mapping
- Recommendations
- Appendices
 - Potential impacts/mitigations and participant issues/suggestions; Federal & state permitting, licensing, and environmental review processes; GIS data source for Washington State maps

Questions about
the study process?



PSH Siting Study Draft Report – Key Points

Key points are the major themes expressed by participants, as well as subject matter experts

- Tribal cultural resources
- Water availability
- Terrestrial ecology

Focus of the study was on closed-loop. If focus was on open-loop, fish & aquatic ecosystem would be more of a concern

PSH Siting Study Draft Report – Key Points (One)

Tribal cultural resources

- The harm to Traditional cultural resource sites cannot be mitigated, only avoided
- Tribes feel constant pressure to compromise
- Early engagement with Tribes is very important – Tribes are often brought in too late to permitting & licensing processes
- Many Tribes generally support clean energy, but not at the expense of cultural resources

PSH Siting Study Draft Report – Key Points (Two)

- Water availability
 - Filling closed-loop reservoirs may reduce groundwater and surface waters, and affect wildlife
 - Continued water use to fill reservoirs may impact future water availability for agricultural water and domestic supplies
 - Allocating water now is of concern because effects on water availability from future climate change are unknown

PSH Siting Study Draft Report – Key Points (Three)

- Terrestrial ecology – habitat and wildlife
 - Habitat loss and fragmentation from construction can lead to wildlife mortality and diseases
 - Migration corridors may be blocked from development
 - Reduce harm by limiting construction to avoid critical life history periods.

To what extent do these key points capture the information shared and discussed for this study?

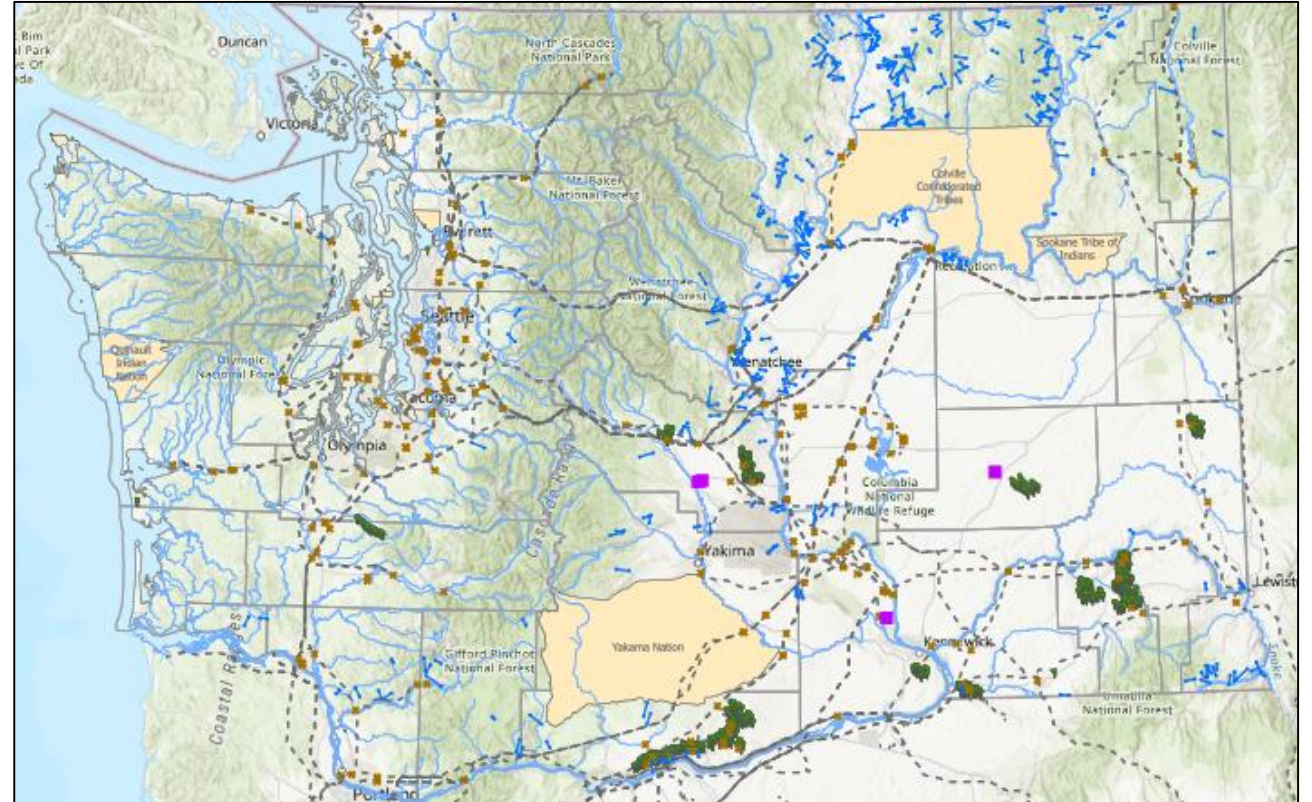


PSH Siting Study Draft Report - Maps

- National Renewable Energy Laboratory (NREL) data for theoretical (geographical possible) closed-loop reservoirs PSH in the U.S.
- NREL's intent for the data was to determine resource capacity
- These are not for siting purposes!
- Read draft report for more detail

PSH Siting Study Draft Report - Maps

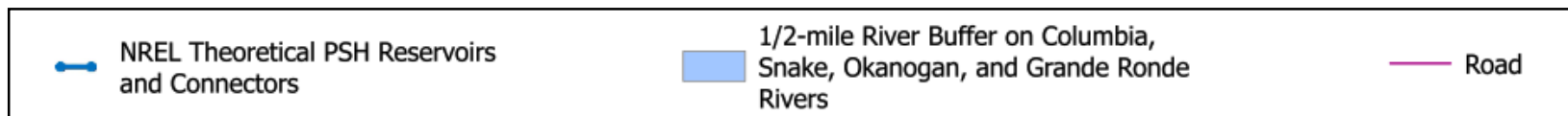
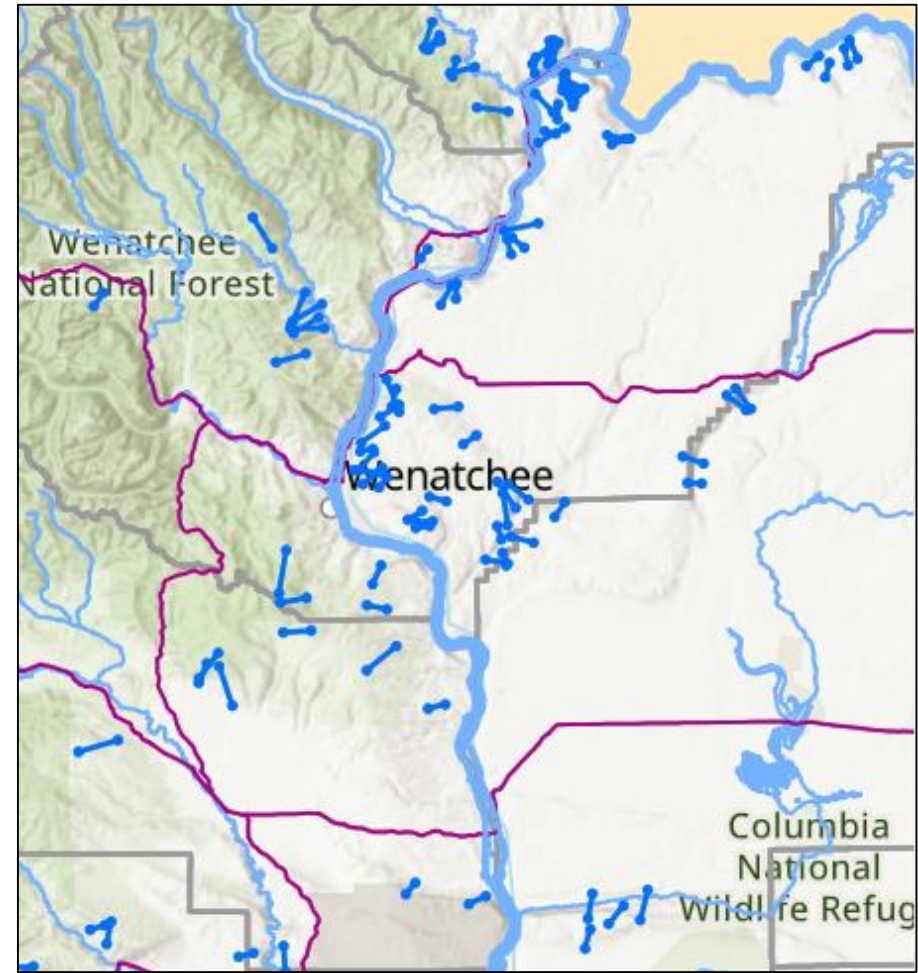
- Buffers along rivers
- Wind and solar projects in the state
- Transmission lines and substations



Theoretical PSH Reservoirs and ½ Mile Major River Buffers



Theoretical PSH Reservoirs **Not Within** the ½ Mile Major River Buffers



Questions about
mapping?



PSH Siting Study Draft Report - Recommendations

Recommendations from PSH Siting Study Lead

- Early contact with Tribes and local community
- Research water availability and future constraints
- Consider other approaches to PSH
- Develop and utilize resources to guide developers to areas with less impact on wildlife and habitat
- Consider utilizing criteria for low impact PSH when available

Do these
recommendations
make sense to you?



PSH Siting Study Draft Report Review

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PSH Siting Study Meeting Webpage:

- Meeting summary
- Meeting video-recording
- Meeting slides

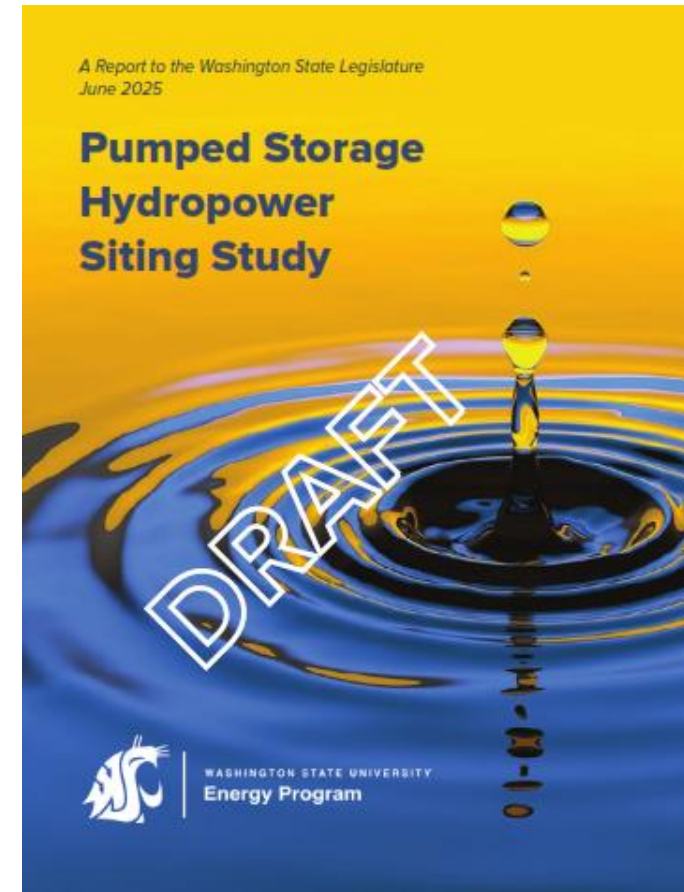
<https://www.energy.wsu.edu/CleanFuelsAltEnergy/PSHSiting/Meetings.aspx>

PSH Siting Study Draft Report

<https://www.energy.wsu.edu/documents/Pumped%20Storage%20Report%20FINAL%20DRAFT%2025-05-06.pdf>

PSH Siting Study Draft Report Review Webpage

<https://www.energy.wsu.edu/CleanFuelsAltEnergy/PSHSiting/PSHSitingStudyDraftReportReview.aspx>



Next Steps and Wrap up

Karen Janowitz, WSU Energy Program

WSU PSH Website and Email List

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- Meeting slides

<https://www.energy.wsu.edu/CleanFuelsAltEnergy/PSHSiting/Meetings.aspx>

Sign up for the email distribution list:

<https://www.energy.wsu.edu/CleanFuelsAltEnergy/PSHSiting/PHSSitingEmailRegistration.aspx>

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THANK YOU!

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