

DOE/EA-2130-SA-01

SUPPLEMENT ANALYSIS TO FINAL ENVIRONMENTAL ASSESSMENT: PACIFIC NORTHWEST NATIONAL LABORATORY-SEQUIM CAMPUS FUTURE DEVELOPMENT, SEQUIM, WASHINGTON

Introduction

The Department of Energy (DOE) has prepared this supplement analysis (SA) to evaluate and determine whether the impacts to the human environment previously analyzed in the Pacific Northwest National Laboratory (PNNL) Sequim Campus Future Development Environmental Assessment (EA; DOE/EA-2130) continue to be accurate considering recent changes to Federal Emergency Management Agency (FEMA) floodplain maps of the area.

DOE's National Environmental Policy Act (NEPA) Implementing Procedures (DOE 2026) state that "DOE is required to prepare supplements to environmental documents only if a major Federal action remains to occur, and: (1) DOE makes substantial changes to the proposed action that are relevant to environmental concerns; or (2) DOE decides, in its discretion, that there are substantial new circumstances or information about the significance of the adverse effects that bearing on the proposed action or its effects." This SA provides sufficient information for DOE to determine whether (1) the EA should be supplemented; (2) a new environmental document should be prepared; or (3) no further NEPA documentation is required (DOE 2026).

Existing EA evaluated in this SA:

- Final Environmental Assessment: Pacific Northwest National Laboratory-Sequim Campus Future Development, Sequim, Washington (DOE/EA-2130), https://science.osti.gov/-/media/ssp/pdf/nepa-documents/eais/pnso/2023/Final_Signed_PNNL_Sequim_Campus_Future_Development_EA_and_FONSI_12-27-2022.pdf

Changes to the Proposed Action or New Circumstances or Information

FEMA flood maps have been updated and enacted as of April 23, 2025. The new maps identify a portion of the shoreline area of the PNNL Sequim Campus as a floodplain. This shoreline area, within the DOE/EA-2130 Proposed Action area, was not previously defined as a floodplain.

Background

Context for Analysis

In December 2022, a Finding of No Significant Impact (FONSI) for the Final Environmental Assessment: PNNL-Sequim Campus Future Development (DOE/EA-2130), that future development of the PNNL Sequim Campus would not result in significant impacts to the human environment (DOE 2022). Since the FONSI was signed, development activities have occurred, and planning is underway for additional new and modified facilities and infrastructure at the PNNL Sequim Campus. This SA has been prepared to analyze whether, in light of changed environmental circumstances within the project area, DOE/EA-2130 still addresses the impacts anticipated from future development activities or whether additional NEPA analyses are required.

The Proposed Action in DOE/EA-2130 is to construct and operate new facilities and infrastructure envisioned in and bounded by the PNNL Sequim Campus Master Plan (CMP; PNNL 2020). In addition to new facilities, existing facilities would be maintained, refurbished, or demolished as reasonable and based

on mission needs. The Proposed Action has not changed. Since the FONSI was signed, PNNL Sequim Campus development has included improvements to the shoreline buildings and construction of a warehouse. Additionally, the land within the Proposed Action area has been acquired by DOE. DOE issued a memo regarding changes in environmental circumstances in October 2025 to account for updated biological resources and wetlands within the Proposed Action area, in which DOE found the impacts associated with the resources were not significant and did not require a supplement to DOE/EA-2130.

New Environmental Circumstances

Analysis of the affected environment in DOE/EA-2130 was performed utilizing the FEMA Flood Insurance Rate Map (FIRM) effective at that time, which was valid from the time of publication in 1989 until April 23, 2025. All development on the PNNL Sequim Campus was planned to occur outside of any FEMA-designated floodplains, and the Proposed Action was determined to not affect or be affected by flooding. No significant impacts from the Proposed Action on floodplains were identified. At the time, DOE determined a formal floodplain assessment was not required for the Proposed Action, given the best available information (10 CFR Part 1022).

The updated FEMA FIRM identifies a portion of the PNNL-Sequim Campus shoreline as a floodplain. The floodplain is within the DOE/EA-2130 Proposed Action area and includes portions of the shoreline where campus development activities are proposed. DOE has determined that portions of the Proposed Action are now located within a base floodplain consistent with the FEMA FIRM. A formal floodplain assessment (Appendix 1) was conducted pursuant to 10 CFR Part 1022. However, the change to the affected environment may have bearing on the significance of the impacts of the Proposed Action.

Resource Areas Not Analyzed in this SA

The following areas are not analyzed in this SA because they will not be significantly affected by the changed circumstances:

- Land Use – No Change
- Air Quality – No Change
- Soils and Geological Resources – No Change
- Cultural and Historic Resources – No Change
- Socioeconomics – No Change
- Environmental Justice – No Change
- Traffic and Transportation – No Change
- Visual Resources – No Change
- Noise and Vibration – No Change
- Waste Generation and Disposition – No Change
- Accidents – No Change
- Intentional Destructive Acts – No Change
- Environmental Sustainability – No Change
- Irreversible and Irretrievable Commitment of Resources – No Change

Resource Areas Analyzed in this SA

Impacts to terrestrial and aquatic ecological resources, water resources, and human health and safety are analyzed in this SA as impacts to floodplains from the Proposed Action have the potential to affect those resources. Table 1 summarizes the potential impacts to these resource areas.

Table 1. Comparison of Potential Impacts as a Result of the Changed Affected Environment.

Resource Area	Summary of Potential Impacts in DOE/EA-2130	Summary of Potential Impacts as a Result of Changes to the Proposed Action or New Circumstances or Information	Difference in Potential Impacts
Ecological Resources	No impacts to ecological resources associated with floodplains from construction or operation due to the lack of floodplain presence within the areas planned for development.	Construction, maintenance, and operation activities occurring within the floodplain will occur in previously developed areas. Floodplains in these areas have been altered significantly from their natural state and provide little to no value to ecological resources. The Proposed Action may have minimal indirect impacts to ecological resources due to additional impervious surfaces which could affect water quality during a flood event.	No impacts to ecological resources associated with floodplains were anticipated in DOE/EA-2130. Minimal indirect impacts to ecological resources may occur as a result of the Proposed Action effects on floodplains.
Water Resources	No impacts to water resources associated with floodplains from construction or operation due to the lack of floodplain presence within the areas planned for development.	Construction, maintenance, and operation activities occurring within the floodplain will occur in previously developed areas. The Proposed Action may have minimal impacts to water resources due to additional impervious surfaces, which would be minimized to the extent practicable.	No impacts to water resources associated with floodplains were anticipated in DOE/EA-2130. Minimal indirect impacts to water resources may occur as a result of the Proposed Action effects on floodplains.
Human Health and Safety	No impacts to human health and safety associated with floodplains from construction or operation due to the lack of floodplain presence within the areas planned for development.	Construction, maintenance, and operation activities occurring within the floodplain will occur in previously developed areas. These areas are not within a FEMA identified high-hazard area or regulatory floodway, indicating a small likelihood of flood losses and adverse impacts. The Proposed Action may have minimal impacts to human health and safety during a flood event by modifying existing drainage patterns, which would be minimized to the extent practicable.	No impacts to human health and safety associated with floodplains were anticipated in DOE/EA-2130. Minimal impacts to human health and safety may occur as a result of the Proposed Action effects on floodplains.

Impacts to Resources

The shoreline area includes developed land behind a seawall and a beach that runs along the PNNL Sequim Campus. The floodplain encompasses the entire beach and a portion of the developed land (Figures 1 and 2). The developed land is a mix of asphalt, gravel, and landscaped areas that are protected from erosion by the seawall. The beach area is where PNNL aquatic infrastructure is located, including a boat ramp, pier, and floating dock. The research facilities receive seawater pumped from Sequim Bay and are connected to a water treatment system. Multiple large seawater tanks located outside the shoreline laboratories and on the pier enable lab-to-field research.

A floodplain is defined as an area of land that is susceptible to flooding. Floodplains play an important role in the environment, including creating wildlife habitat, providing flood control, and improving water quality. Portions of the potential development area of the Proposed Action are located within a FEMA floodplain boundary that is designated as a Special Flood Hazard Area (SFHA) Zone AE (Figure 2). Zone AE is a base floodplain that has a 1.0 percent chance of flooding in any given year and a Base Flood Elevation (BFE) of 12 ft. The other potential development areas on the shoreline are designated as Zone X, which are outside the SFHA and represents areas with minimal flood hazard. These areas are not subject to base flood inundation.

The floodplain present at the PNNL Sequim Campus shoreline has the potential to be affected by the Proposed Action activities. However, the proposed activities do not occur in high-hazard areas, which are portions of floodplains that are frequently flooded and have high likelihood of flood losses and adverse impacts. FEMA has also designed the project area as outside a regulatory floodway. Therefore, the proposed development is not expected to obstruct floodwaters, increase the BFE, or worsen flooding for the surrounding area.

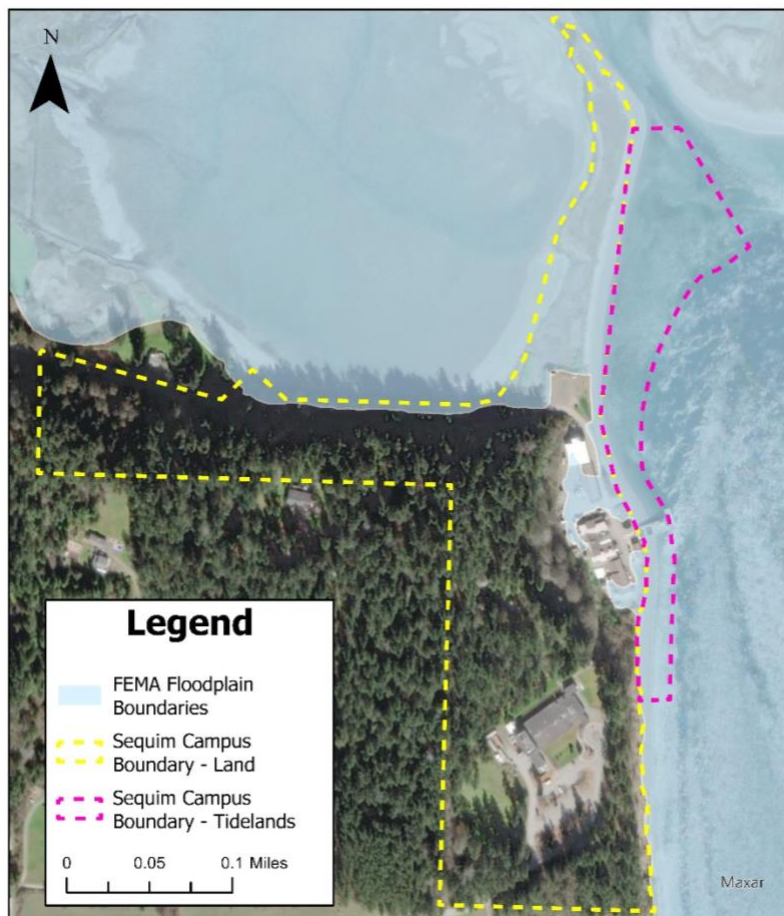


Figure 1. The PNNL Sequim Campus and FEMA floodplain boundaries.

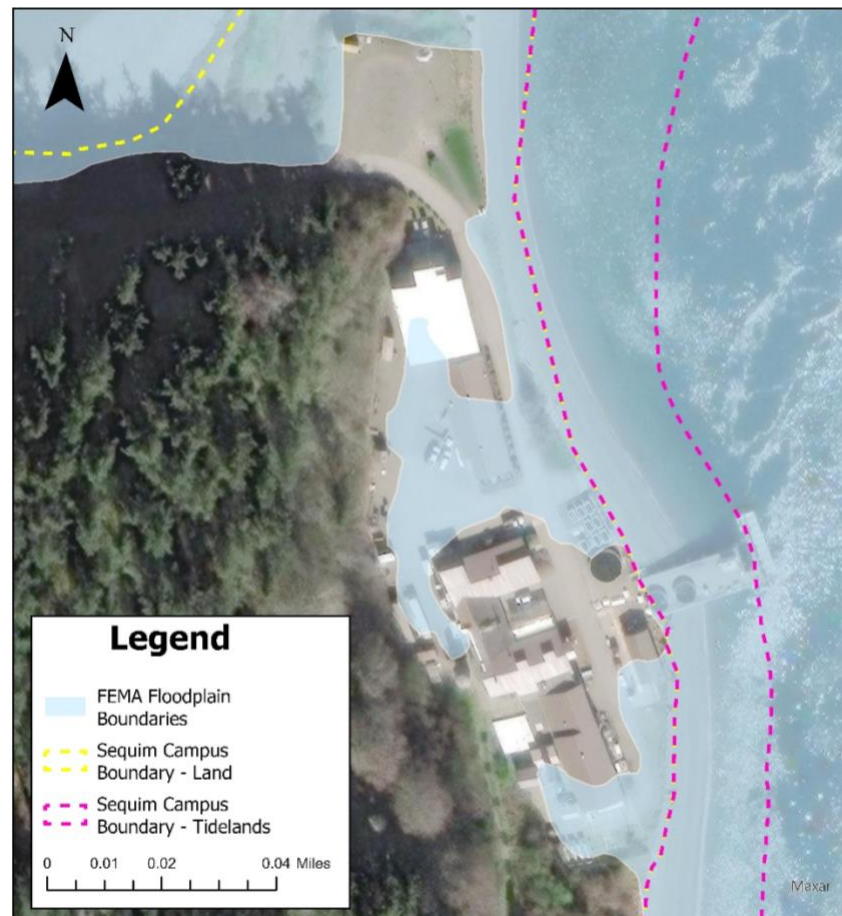


Figure 2. The shoreline portion of the PNNL Sequim Campus and FEMA floodplain boundaries.

The Proposed Action may have minimal indirect impacts to ecological resources. Ecological resources can be affected by impacts to floodplains through direct loss of habitat or indirect degradation of habitat, such as through reduced water quality. Activities occurring within the floodplain would occur only in previously developed areas, which do not have existing native habitat, so direct loss of floodplain habitat would not occur.

Though most of the shoreline is developed and paved, there may be additions of impervious surfaces supporting construction activities. This could increase stormwater runoff and increase localized flooding, which may degrade water quality within the floodplain. Additional impervious surfaces would be minimized to the extent practicable to lessen the impacts described above. In some instances, existing impervious areas may be retrofit with infrastructure to improve water quality and drainage. In addition, applicable stormwater management practices would minimize negative impacts that may occur during a flooding event.

Activities proposed within the sandy beach area include maintenance of the boat ramp and floating dock and maintenance and upgrades of the pier. These aquatic infrastructure activities would disturb a small area of Sequim Bay and are subject to federal and state permit requirements to protect water quality and aquatic species and habitat. Changes to the aquatic infrastructure are not anticipated to modify flooding patterns. Impacts to water quality and aquatic habitat within the floodplain would be minimal, temporary, and localized to the immediate area of the activity.

The Proposed Action is not anticipated to impact the lives of the public as the PNNL Sequim Campus is on DOE-owned land that is not accessible to the public. There are also no anticipated effects of national concern because impacts would not have a wide geographic range (10 CFR 1022.4). The risk of flooding hazards to PNNL-approved individuals is minimal given there is only a 1.0 percent chance of flooding in any given year.

Mitigation

Adverse impacts to floodplains from the Proposed Action would be mitigated by the following:

- Construction activities would be limited to the existing developed footprint.
- Additional impervious surfaces would not expand the existing developed footprint.
- Following established operating procedures, maintenance plans, safety protocols, and design standards.
- Obtaining and abiding by applicable federal, state, and local regulations, including minimum grading requirements.
- As applicable, activities would incorporate protection of ecologically sensitive areas through biological review requirements.
- Activities would use operating controls, as applicable, such as:
 - Implementing best management practices in accordance with the Stormwater Management Manual for Western Washington (Ecology 2019) to control erosion, runoff, sediment transport, and water-quality degradation.
 - Stormwater Pollution Prevention Plans would be developed for construction activities disturbing one acre or more.
 - After building construction, all disturbed areas would be stabilized and reclaimed with a combination of native and cultivated vegetation that is adapted for the local site conditions.

Determination

In accordance with the NEPA and DOE's implementing NEPA regulations, DOE prepared this supplement analysis to evaluate whether the presence of floodplains within the Proposed Action requires supplementing the existing EA or preparing a new NEPA document. DOE concludes that the impacts associated with the presence of floodplains within the Proposed Action area are not significant and therefore do not require a supplement to the Final Environmental Assessment: Pacific Northwest National Laboratory-Sequim Campus Future Development, Sequim, Washington (DOE/EA-2130). No further NEPA documentation is required.

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References

10 CFR Part 1022. *Code of Federal Regulations*, Title 10, *Energy*, Part 20, "Compliance with Floodplain and Wetland Environmental Review Requirements." U.S. Department of Energy.

DOE (U.S. Department of Energy). 2022. *Pacific Northwest National Laboratory-Sequim Campus Future Development - Final Environmental Assessment*. DOE/EA-2130, Pacific Northwest Site Office, Richland, Washington.

DOE (U.S. Department of Energy). 2026. *National Environmental Policy Act (NEPA) Implementing Procedures*.

Ecology (Washington State Department of Ecology). 2019. *Stormwater Management Manual for Western Washington*. Publication Number 19-10-021, Olympia, Washington.

PNNL (Pacific Northwest National Laboratory). 2020. *Pacific Northwest National Laboratory Sequim Campus Master Plan*. PNNL-29685, Richland, Washington.