Washington Department of Natural Resources

Sustainable Harvest Calculation for Eastern Washington

Staff Report

To: Sustainable Harvest Calculation (SHC) Steering Committee

From: SHC Project Team

Prepared by: Anchal Rikhi, Sustainable Harvest Planner

Subject: Natural Heritage Program Database

Proposed Action

The Sustainable Harvest Calculation (SHC) Steering Committee is requested to decide if the Natural Heritage Program database will be utilized as a constraint and designated as unharvestable in the forest estate model to be used in the sustainable harvest calculation for eastern Washington.

Background

The Policy for Sustainable Forests (PSF) requires the Department of Natural Resources (DNR) to identify forested state trust lands with special ecological features of regional or statewide significance and to protect such areas. The PSF defines special ecological features as "those species, specialized habitats, ecosystems, and other natural features that are in need of special management considerations for their long-term survival. These include rare species and rare ecosystem types, as well as widespread ecosystem types that are threatened in some manner" (p. 39).

DNR's Natural Heritage Program (NHP) maintains and manages a comprehensive database of rare plant species and ecological communities located in Washington state along with state and global conservation status rankings. It also provides the approximate locations of known rare plant species and communities at varying levels of precision. The NHP database is queried by DNR field staff when planning timber sales activities, with the intent of avoiding impacts to high quality special ecological features where warranted.

When a timber sale is planned and pre-sales reconnaissance is being conducted, a special concerns search is run which returns any overlap or close proximity to rare plant species and ecological communities (also known as "element occurrences") known in the NHP database. If the search returns a hit, field staff identify best management practices for that particular element occurrence which can vary greatly depending on the species or community found on-site and other environmental factors. Field staff may contact NHP staff to learn more about the element occurrences and ask for advice on possible protections that could be implemented during harvest

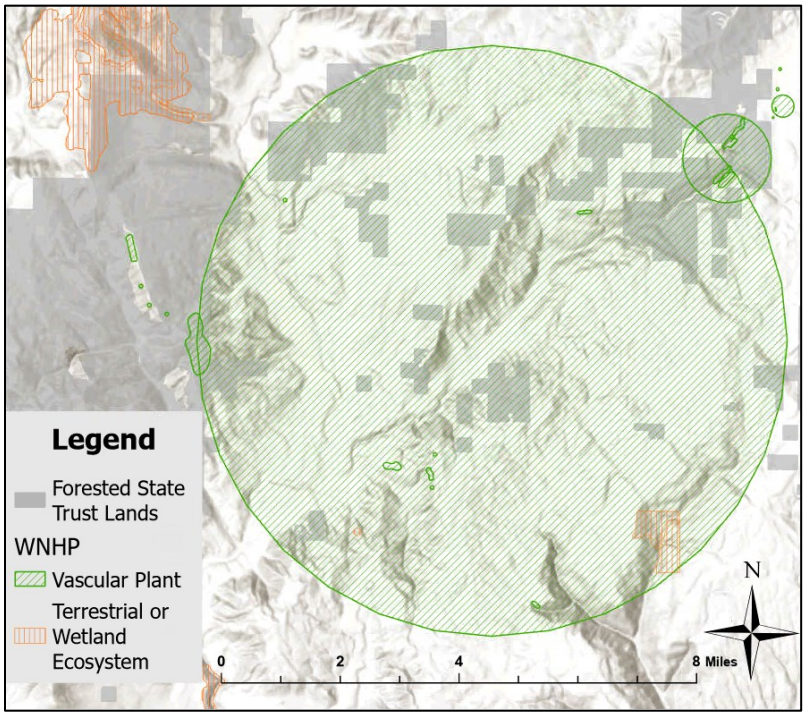
operations. Management decisions can vary from deferring areas from harvest, altering harvest methods, or proceeding with harvest as planned. Lands excluded from harvest are recorded in a separate internal data layer for future reference.

Every element occurrence in the database is assigned with a status of state endangered, threatened, or sensitive. However, these statuses do not correlate directly with protection requirements. Additionally, federally listed threatened or endangered plant species may be included in the NHP database, but explicit restrictions for federally listed plant species only occur on federal lands or when federal funding is being used for a project.

Analysis

The NHP database contains GIS information on the known locations of rare species and rare/high quality ecological communities. However, the scale and level of precision can vary due to the level of survey effort, incomplete data, or data sensitivity concerns. For example, many old herbarium specimens have imprecise location data and the element occurrence polygon in the database reflects this level of uncertainty. Figure 1 shows examples of circles with varying levels of precision. The NHP is confident that the original location of the element occurrence is within the circle displayed on the map. For the large circles, a field survey would be needed to identify more precise locations. As of January 2025, approximately 43,437 acres of forested state trust lands are located within element occurrences of all precision levels from the NHP database in eastern Washington. These lands compose approximately 6% of the total forested acreage of DNR-managed lands in eastern Washington.

Figure 1. Example of the varying scales of rare plant species (green crosshatch) and rare ecological communities (orange crosshatch) that overlap with forested state trust lands in eastern Washington.



Option 1: Do not utilize the NHP database as a constraint in modeling the SHC.

While the NHP database provides approximate locations of element occurrences ranked by precision, management recommendations and practices are site-specific and species-specific. Even when element occurrences are documented with high levels of precision, this does not mean that the lands will necessarily be excluded from harvest. Thus, element occurrences are not associated with a particular type of management regime and do not provide an accurate representation of lands designated as unharvestable for rare plants and ecological communities. This option does not imply these lands will be harvested, but that on-the-ground assessments will be conducted to determine the necessary protections during the harvest planning process. These protections will be implemented operationally as site assessments occur and cannot be accurately modeled.

Option 2: Utilize the NHP database as a constraint in modeling the SHC.

Because the NHP database provides approximate locations of known rare plant species and rare/high quality ecological communities, the database could be utilized to identify areas that could potentially be designated as unharvestable once on-the-ground assessments occur. However, as discussed in Option 1, element occurrences are not associated with a particular management regime and do not provide an accurate representation of lands designated as unharvestable for rare plants and ecological communities.

Recommendation

The Project Team recommends that the SHC Steering Committee follow Option 1 and not utilize the NHP database as a constraint in modeling the SHC. Because management practices can vary greatly depending on the species or community found on-site and other environmental factors, the NHP database does not provide an accurate representation of unharvestable lands for rare plants and ecological communities. This does not mean that these lands will be harvested, but that on-the-ground assessments will be conducted to determine the necessary protections during the harvest planning process. These protections will be implemented operationally as site assessments occur and cannot be accurately modeled in the forest estate model.

Review and Decision

Document was reviewed and/or edited by:

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- Joe Rocchio – Program Manager – Natural Heritage Program

Document was reviewed by the following members of the SHC Steering Committee:

- Todd Welker – Deputy Supervisor for State Uplands
- Duane Emmons – Assistant Deputy Supervisor for State Uplands
- Cameron Crump – Forest Resources Division Manager
- Michael Kearney – Product Sales and Leasing Division Manager

The Steering Committee has approved the staff recommendation as a project decision as of April 24th, 2025.