State of Washington Department of Natural Resources

Management Plan for
Steptoe Butte Natural Area Preserve

Draft – April 2025

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2025 Management Plan for
Steptoe Butte Natural Area Preserve

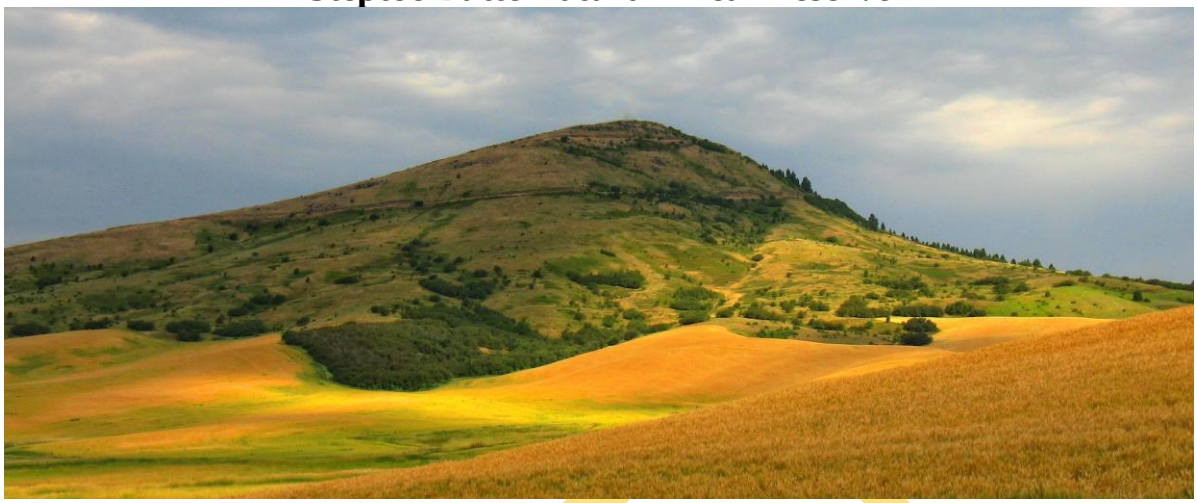

Photo credit: Washington Natural Heritage Program

Why Create a Management Plan for Steptoe Butte NAP?

The Steptoe Butte Natural Area Preserve (NAP) Management Plan provides functional guidelines for the site manager and other Washington State Department of Natural Resources (DNR) staff, as well as conservation information for partners, neighbors, interested parties, and the public. This plan helps to identify priorities for management of natural features and access at the site. The plan demonstrates how DNR is applying statutory and policy requirements to specific management activities for the DNR-managed area within the preserve. The management objectives, actions and provisions outlined in this plan apply only to the DNR-owned lands within the preserve.

How Might the Management Plan Change Over Time?

Once approved by DNR, the plan guides future conservation land management actions, in combination with any related implementation prescriptions or more detailed site inventory or analysis later adopted as appendices to this plan. Appendices 2 and 3 are "living" work plans that will be updated by DNR from time to time as changes arise with the routine management of the site and as projects are implemented or economic factors (such as inflation) cause changes. Future updates to Appendices 2 and 3 will be in conformance with the policy guidance and land management goals of the plan, including any future adopted appendices.

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Glossary of Acronyms

DNR	Department of Natural Resources
NAP	Natural Area Preserve
NRCA	Natural Resources Conservation Area
RCW	Revised Code of Washington
WAC	Washington Administrative Code
HCP	Habitat Conservation Plan
SEPA	State Environmental Protection Act
GMA	Growth Management Act
GEO	Governors Executive Order
CPL	Commissioner of Public Lands
WRIA	Watershed Resource Inventory Area
WDFW	Washington Department of Fish and Wildlife
WWRP	Washington Wildlife and Recreation Program
YEOP	Youth Education and Outreach Program (DNR)
EIA	Ecological Integrity Assessment
EO	Element Occurrence
DAHP	Department of Archaeological and Historic Preservation

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General Natural Area Information

Steptoe Butte Natural Area Preserve Location

The Steptoe Butte Natural Area is approximately 25 miles north of Colfax, in Whitman County, Washington (Figure 1a, 1b, 1c).
The Steptoe Butte Natural Area includes 437 acres, adjacent to 144 acres owned and managed by Washington State Parks and Recreation Commission.

T: R: S:	The area is within Whitman County, Parcels 200004418292900, 20000441829379, 200004418301900, and 200004418304900 which includes portions of the west half of Section 29 and portions of the east half of Section 30 of Township 18 North, Range 44E, Willamette Meridian.
Quad:	USGS 7.5" Quad: Steptoe; Township: 18N; Range: 44E; Section: 29,30
Ecoregion:	Columbia Plateau

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Figure 1a. Steptoe Butte Natural Area Preserve Ownership within the Approved Boundary

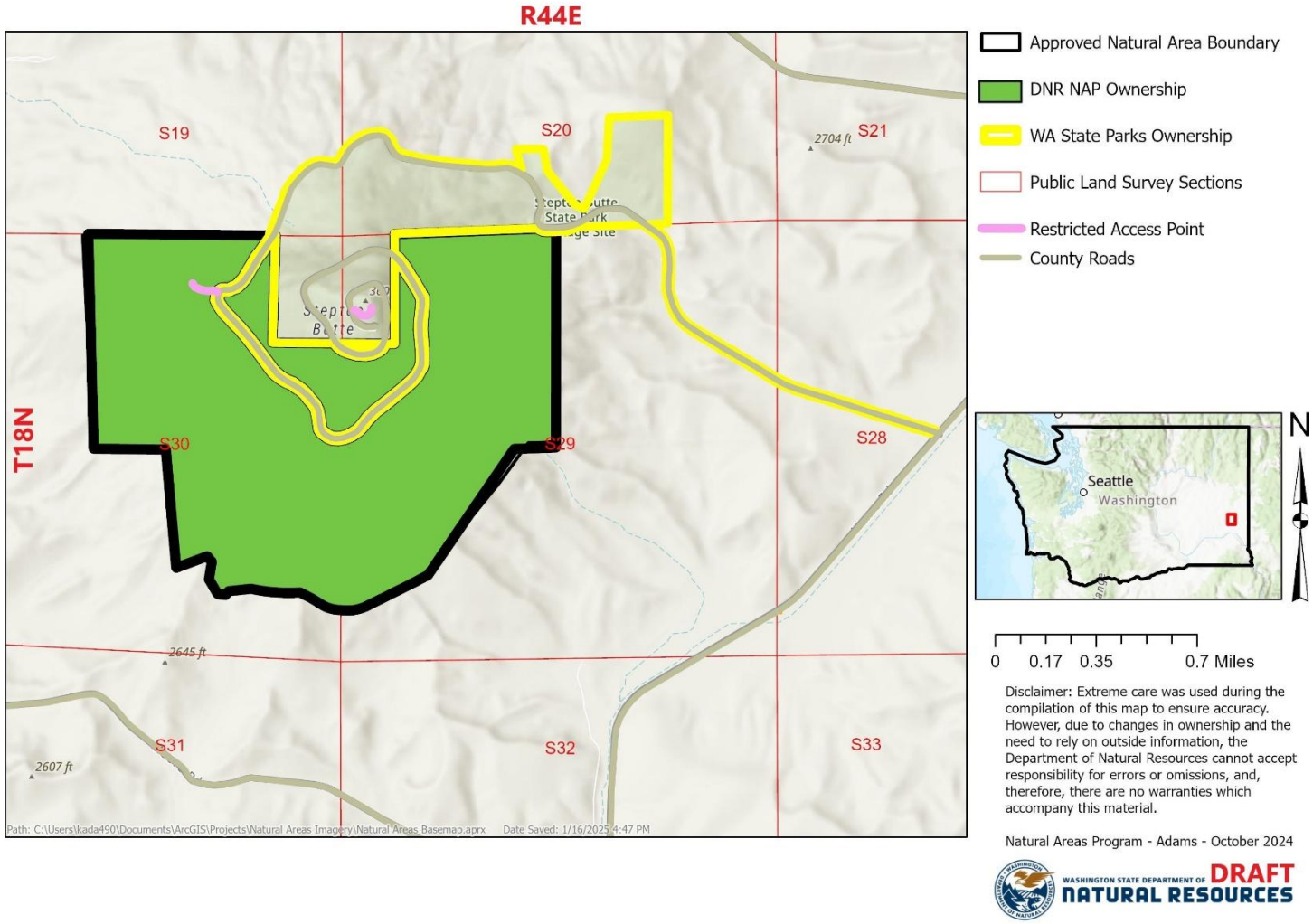


Figure 1b. Landscape context and extent of primary rare ecosystems protected within Steptoe Butte Natural Area Preserve and Steptoe Butte State Park

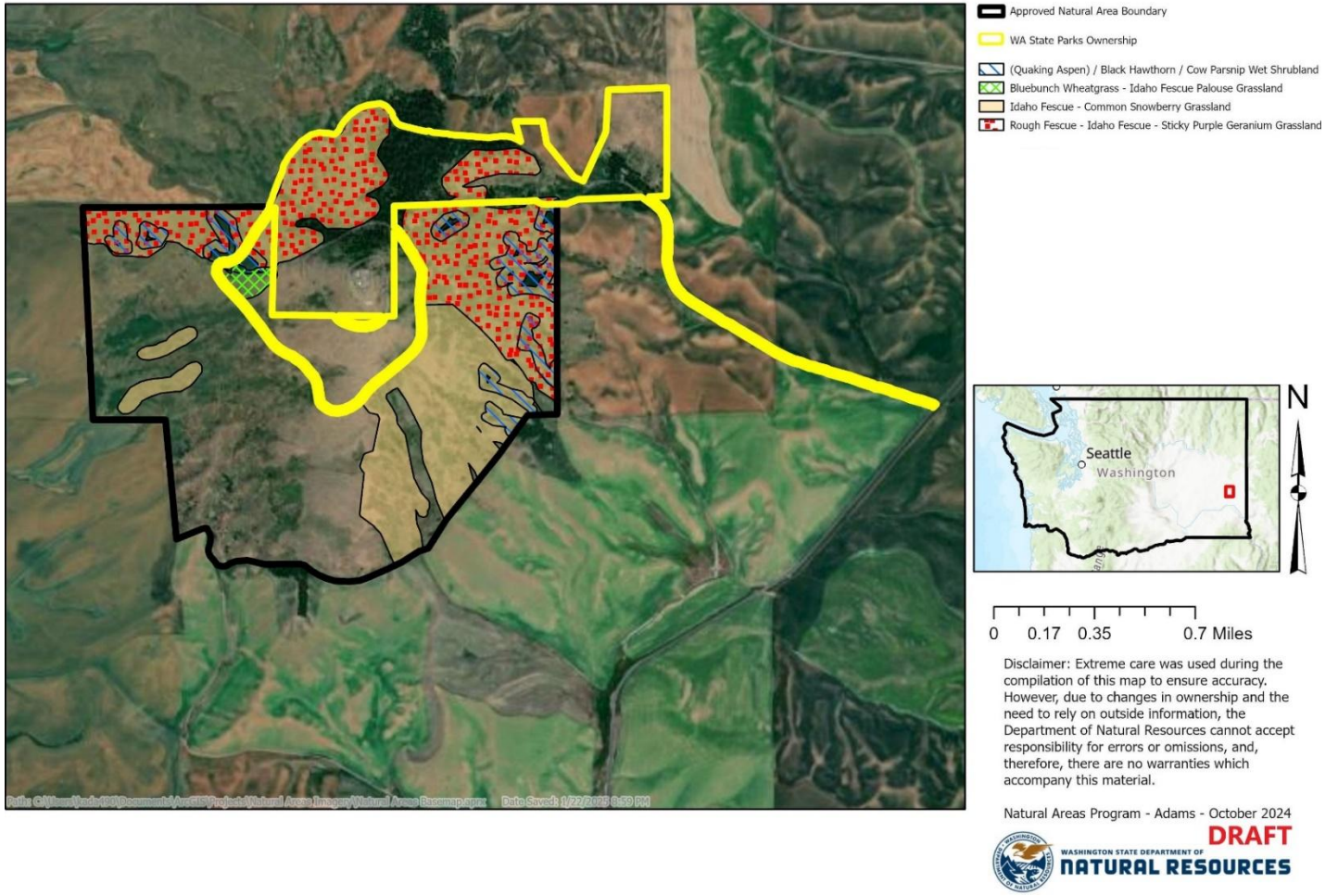
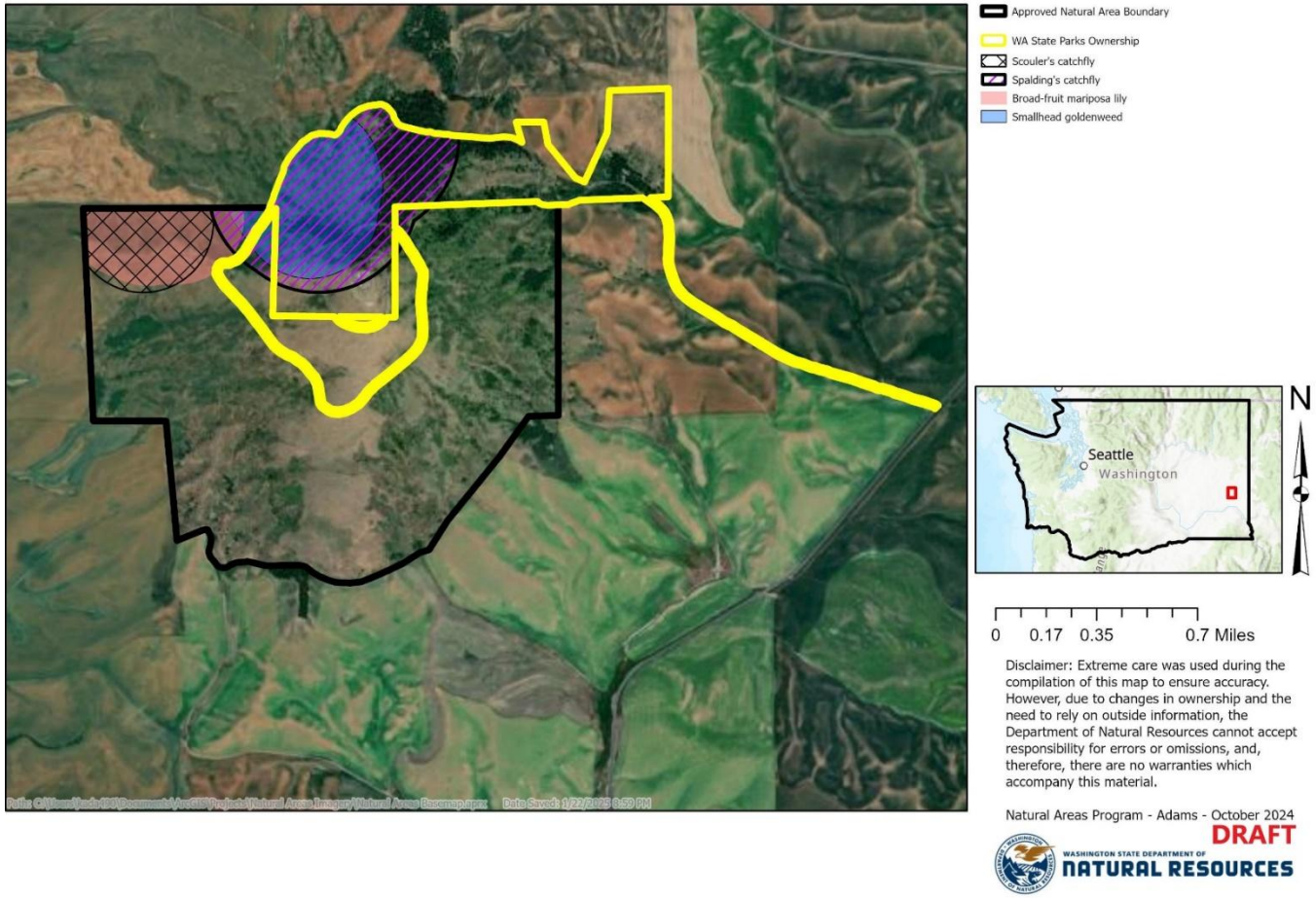


Figure 1c. Landscape context and extent of primary rare plant populations protected within Steptoe Butte Natural Area Preserve and Steptoe Butte State Park



Natural Area Designation

Steptoe Butte Natural Area was created in 2018 to protect the largest known remaining occurrence of Palouse prairie in Washington (Looney and Eigenbrode 2012). Upon approval of this management plan, the site will be managed as a Natural Area Preserve (NAP) under Revised Code of Washington (RCW) Chapter 79.70, the Washington Natural Area Preserves Act. The preserve is owned and managed by the Washington State Department of Natural Resources (DNR). The Primary Features being protected within the NAP extend beyond the DNR ownership on to the State Park (Figure 1b, 1c).

Natural area preserves are established to protect the highest quality remaining examples of Washington's biodiversity. The collection of natural areas across the state (referred to as the statewide register of natural areas) provide protection for the best remaining examples of each of Washington's native ecosystems and rare species populations, as a way of preserving our natural heritage. Designated natural areas are intended to provide adequate representation of targeted species and ecosystems, provide opportunities for research and education, and contribute to the overall conservation of those species and ecosystems. Sites supporting priority species and ecosystems identified in the State of Washington Natural Heritage Plan are considered for natural area designation if they are in excellent ecological condition and have long-term conservation viability, in comparison with other known examples of the same species or ecosystem.

The boundary of the natural area contains approximately 437 acres currently owned by DNR and managed as an NAP. Washington State Parks and Recreation Commission (State Parks) owns 144 acres adjacent to the DNR property. The State Parks property includes the access road leading to the top of the butte, a portion of which, 1.5 miles, traverses through DNR-managed land (Figure 1a).

Overview of Natural Area Features

Steptoe Butte NAP includes four rare plants (including the federally threatened Spalding's catchfly), four priority plant associations, and one rare earthworm species. Palouse prairie is a subset of Eastside Steppe, identified as Priority Habitat by the Washington Department of Fish and Wildlife (WDFW). A systematic review by the Washington Natural Heritage Program (WNHP) in 2017 identified Steptoe Butte as one of 24 high-priority plant conservation sites in the Columbia Plateau ecoregion (Fertig et al. 2017). Steptoe Butte is also one of 11 Key Conservation Areas (KCA) in Washington state identified as part of recovery planning for the federally threatened Spalding's Catchfly (USFWS 2007). The National Park Service designated Steptoe Butte as a National Natural Landmark in 1965 for its ecological and geological importance (NPS 2025).

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Steptoe Butte NAP Management Planning Process

Steptoe Butte was proposed as a natural area by the Natural Heritage Advisory Council with the designation of the type of DNR natural area to be determined during the management planning process. With this plan the designation of natural area preserve is confirmed for the DNR ownership, and the council recommendation also acknowledged that NAP features exist on a portion of Steptoe Butte State Park. The Steptoe Butte Natural Area Preserve Management Plan provides functional guidelines for the DNR site manager and other DNR staff, as well as conservation information for neighbors, interested parties and the site visitors. State Parks plans to address future management of preserve features on the park during their site planning process. This plan helps to identify priorities for management of natural features and access to the DNR site. The plan demonstrates how the Natural Areas Program is applying policy and statutory requirements to specific management activities.

Native American Tribal governments of the Yakama Nation, Nez Perce Tribe, Confederated Tribes of the Colville Reservation, Coeur d'Alene Tribe, and Spokane Tribe of Indians were invited to participate in the planning process for the development of the Steptoe Butte NAP management plan.

Limits of the Steptoe Butte Management Plan

The management objectives, actions and provisions outlined in this plan apply only to DNR-owned lands. DNR will implement the management actions as resources become available. The basis of future budget requests for maintenance, monitoring and operations will reflect the objectives and actions of this plan. In developing the management plan for the NAP, DNR staff conducted ecological integrity assessments and inventories, and collected comments and input from area residents, agencies, and Tribes.

Agency Overview

DNR manages 5.7 million acres of forest, range, agricultural, commercial, conservation, and aquatic lands for the people of Washington. State-owned trust lands are managed to produce revenue for various trust beneficiaries, including schools, state facilities and, in some cases, local government services, and to provide fish and wildlife habitat, clean and abundant water, and access to outdoor recreational opportunities. As of 2024, DNR manages 168,950 acres at 97 natural areas throughout the state with the primary objectives of conservation, research and environmental education, as well as low-impact recreation where appropriate. DNR manages two types of conservation lands, natural area preserves (NAPs, under RCW Chapter 79.70) and natural resources conservation areas (NRCAs, under RCW Chapter 79.71).

DNR Natural Areas Program

After a site has been designated and acquired as a natural area, it is managed by the DNR Natural Areas Program, which works to fulfill DNR policies and legislative provisions under RCW 79.70 and RCW 79.71. Management objectives seek to protect the primary natural features of each natural area and provide opportunities for research, environmental education, and other access that is compatible with conservation. Active management is

necessary in many natural areas to ensure the long-term viability of the priority species and ecosystems protected within them.

State of Washington Natural Heritage Program
The Washington State Legislature recognized the need for a systematic and objective approach to guide inventory and protection efforts to protect natural features most at risk and to efficiently focus scarce conservation resources. As a result, the Washington Natural Heritage Program was established in 1987 to provide a scientific approach to the process of identifying candidate sites for the natural areas system and to gather and share data about the state's imperiled species and ecosystems for environmental assessment, conservation planning, and land management purposes.

The program creates a biennial *State of Washington Natural Heritage Plan* that establishes the framework for a statewide register of natural areas and identifies conservation priority species and ecosystems for broader decision making.

Natural Heritage Advisory Council
The Natural Heritage Advisory Council, established by the Natural Area Preserves Act (RCW 79.70), advises DNR and other state agencies on the establishment and management of NAPs.

The Council reviews and approves or rejects natural area nominations, recommends sites to the Commissioner of Public Lands or the agency directors for the Washington State Parks and Recreation Commission and the Washington Department of Fish and Wildlife, and works with DNR or other state agency staff to develop management plans for established Natural Area Preserves. The Council advises DNR on management practices for the preservation and maintenance of high-quality natural areas.

Applicable Local, State, and Federal Regulations
The following plans and regulatory processes may shape and limit activities or projects that are proposed within the Steptoe Butte NAP Management Plan.

The Washington Natural Areas Preserves Act: (RCW 79.70) In passing the Natural Area Preserves Act, the Legislature recognized the need for, and benefits of, permanently designating areas explicitly for conservation of biodiversity and geological features, research, and education. The Natural Area Preserves Act authorizes DNR to establish and manage a statewide system of natural areas (the Natural Areas Register) through cooperation with federal, state and local agencies, private organizations and individuals. These designated natural areas are intended to provide critical habitat for rare and vanishing species, conserve representative examples of the state's ecosystems, and ensure the availability of places for scientific research and education. Today, this system consists of lands managed by numerous federal and state agencies as well as private conservation organizations. Because they retain much of their natural character, these natural areas serve as reference sites to learn how ecosystems function and to document ecological change in

relation to natural ecological processes thereby providing a baseline from which changes resulting from human-induced stressors or management activities (such as resource production or extraction, or outdoor recreation) can be compared.

The State Environmental Policy Act (SEPA): (RCW 43.21) SEPA requires governmental agencies to consider the environmental impact of proposals before making project decisions. Future management activities, which have the potential to impact the environment, such as development of educational and recreational facilities, may require SEPA review.

The Washington Growth Management Act (GMA): The Growth Management Act (GMA) is a series of statutes passed by the Washington State Legislature in 1990 to help the quickly growing state manage its population and resources. One element of the GMA requires individual counties to develop and adopt a comprehensive plan. These comprehensive plans serve as a guiding document for local elected officials by outlining the goals, visions, and priorities of their county. The Comprehensive Plan does not establish specific rules and regulations. Rather, it sets broad goals and policies that the county implements through its codes and ordinances. The three areas of the Comprehensive Plan that are of primary relevance to Steptoe Butte NAP are zoning, Critical Areas/Resource Ordinance, and the Parks, Recreation and Trails element (see below).

Whitman County Zoning: Whitman County is not fully planned, but the 1978 plan, by choice, incorporates more elements than only natural resource and critical area designation. Additional elements in the Whitman County plan are land use (designating agricultural, rural residential, industrial, commercial lands), transportation, economic development, environmental quality and natural conservation, parks and recreation, and renewable energy.

Whitman County Critical Areas Ordinance: The County finds that critical areas provide a variety of valuable and beneficial biological and physical functions that benefit the County and its residents, and/or may pose a threat to human safety or public and private property. The beneficial functions and values provided by critical areas include, but are not limited to, water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance and attenuation of flood waters, ground water recharge and discharge, erosion control, protection from hazards, historical, archaeological, and aesthetic value protection, and recreation. The regulations of this Chapter are intended to protect critical areas in accordance with the Growth Management Act and through the application of the best available science, as determined according to WAC 365-195-900 through 365-195-925, and in consultation with state and federal agencies and other qualified professionals. By limiting development and alteration of critical areas, this Chapter seeks to:

1. Protect people, resources and facilities from injury, loss of life, or property damage due to landslides and steep slope failures, erosion, seismic events, effects from volcanic eruptions, or flooding;
2. Maintain healthy, functioning ecosystems through the protection of unique, fragile, and valuable elements of the environment, including ground and surface waters, wetlands, fish and wildlife and their habitats, and to conserve the biodiversity of plant and animal species;

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3. Direct activities not dependent on critical areas resources to less ecologically sensitive sites and mitigate unavoidable impacts to critical areas by regulating alterations in and adjacent to critical areas; and
4. Prevent cumulative adverse environmental impacts to water quality, wetlands, fish and wildlife habitat, and the overall net loss of wetlands, frequently flooded areas, and habitat conservation areas.

Whitman County Comprehensive Plan Parks, Recreation and Trails Element: Whitman County's Comprehensive Plan calls out a Parks, Recreation and Trails Element. The county acknowledges that "accessible and well-maintained parks and recreation facilities are a key factor in benefiting the quality of life of all residents in the County. In order to accomplish this, a key objective of this element of the Comprehensive Plan is to classify, protect and enhance parks, recreation, trails, and open spaces within Whitman County". Natural Area Preserves are specifically designated by DNR for the conservation of key natural features. Allowable uses are generally focused on research and education, which may include low impact use where appropriate. The sensitive nature of the prairie ecosystem in Steptoe Butte NAP requires careful consideration of allowable low impact use.

The Endangered Species Act (ESA): In 1973, the United States Congress enacted the Endangered Species Act, which, based on its findings, declared that various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation; other species of fish, wildlife, and plants have been so depleted in numbers that they are in danger of or threatened with extinction; these species of fish, wildlife, and plants are of esthetic, ecological, educational, historical, recreational, and scientific value to the nation and its people. The purposes of this Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in this Act. The ESA establishes protections for fish, wildlife, and plants that are listed as threatened or endangered; provides for adding species to and removing them from the list of threatened and endangered species, and for preparing and implementing plans for their recovery; provides for interagency cooperation to avoid take of listed species and for issuing permits for otherwise prohibited activities; provides for cooperation with States, including authorization of financial assistance; and implements the provisions of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES).

Washington Governor's Executive Order (GEO) 21-02: GEO 21-02 requires agencies to consult with the Washington Department of Archaeology and Historic Preservation as well as affected Tribes on the potential impacts of a project on cultural resources. The order covers state-funded construction, restoration, or acquisition projects that will not undergo Section 106 review under the National Historic Preservation Act of 1966 (Section 106). It also includes grant and pass-through funding that will culminate in construction or land acquisitions.

National Historic Preservation Act Section 106: Any project at Steptoe Butte NAP with a federal nexus (such as funding through federal funds) will be required to undergo a Section 106 Consultation. Section 106 of the NHPA requires that each federal agency identify and assess the effects that their actions or projects may have on historic buildings, structures, districts, objects, and archaeological sites. The Section 106 Consultation process begins when the natural areas manager coordinates with a professional Archaeologist to initiate consultation with the State Historic Preservation Officer and the Tribal Historic Preservation Officers of affected Tribes. During the consultation, key determinations include 1) identification of historic and cultural resources that may be affected by the project, 2) determination of any adverse effects to these resources that may occur as a result of the project, and 3) how to resolve those adverse effects by avoiding negative impacts, minimizing the impacts that cannot be avoided, and mitigating for any impacts that will or do occur as a result of the project.

Commissioner of Public Lands Order on Tribal Relations #201029: The Commissioner's Order recognizes that Native American culture is characterized by an intimate relationship with natural resources and that DNR shares a commitment with the Tribes in protecting natural resources. The Order seeks to build inter-governmental relationships based on trust and mutual respect as guided by six principles: Respect for Sovereignty, Interdependence, Sustainable Use, Sound Science, Transparency, and Respect for Traditional Knowledge and Cultural Values.

Preserve Description

Preserve Purpose

Over 98 percent of the area formerly covered by the Palouse prairie ecosystem has been lost to agricultural conversion or development (Black et al 1998). Most remaining occurrences are small and fragmented (smaller than 5 acres) and grassland communities are threatened by invasion from nonnative weeds and increases in native shrubs, including common snowberry and Wood's rose (Looney and Eigenbrode 2012). Conservation of Steptoe Butte as an NAP serves an integral role in the long-term conservation of the Palouse prairie ecosystem.

With less than 2 percent of the original habitat remaining, the Palouse prairie is considered one of the most endangered ecosystems in the continental United States (Black et al, 1998).

Steptoe Butte NAP is the largest known native remnant of Palouse prairie ecosystem in Washington (Washington Natural Heritage Program, 2018b).

Natural Area Design

A DNR Commissioner's Order, signed by the Commissioner of Public Lands, delineates the boundary of Steptoe Butte NAP. Within the boundary of the preserve, DNR owns 437 acres managed as an NAP.

A natural area boundary is a designation of lands eligible for inclusion within a state-owned natural area. Lands located within the boundary only become part of the natural area if they are acquired by DNR. The boundary is simply an administrative tool to indicate where DNR will work with willing-seller property owners, and it imposes no change in land use zoning or any other restrictions on landowners. Acquisition from potentially willing sellers within a boundary is based on market value as determined by independent, third-party appraisals.

The area will be maintained as an NAP bordering private farmland to the northwest, west, south, and east, and Steptoe Butte State Park to the north and northeast. The access road spiraling to the top of the butte is owned and maintained by State Parks.

Structures

A small stock well is located at the northeast corner of Steptoe Butte NAP, near the entrance to the state park. The stock well could be used to supply water for future restoration plantings. If demolition occurs, ground disturbance will measure approximately 9 feet wide by 6 feet long by 3 feet deep.

Steptoe Butte State Park Road is a small paved 1 lane road managed by State Parks. Approximately 1.5 miles of the 4-mile-long road takes visitors to the top of the butte and lies within the NAP boundary. This road has periodic pull outs from which visitors can enjoy the scenery.

A small area on the northwest parcel of Steptoe Butte NAP is currently leased for a communications facility. There are three towers used both for commercial use and to support local emergency communications. DNR has continued a pre-existing lease agreement with two of the towers. One is leased to Crown Castle, ending in 2037 and one leased to First Step ending in 2037. DNR entered into a new twenty-year agreement with Startouch, Inc in 2022 for the third tower.

Preserve Acquisition

Following a recommendation to create Steptoe Butte Natural Area in 2019, the Commissioner of Public Lands established the site boundary and DNR began land acquisition in 2019. Acquisition was from willing sellers only. DNR cannot condemn private property for inclusion in the NAP. The recommended site within the approved boundary was purchased from private sellers in 2021. To date, DNR has made one acquisition totaling 437 acres at Steptoe Butte.

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Natural Features Description

Steptoe Butte NAP Primary Natural Features

At the time of site establishment, the 2018 Natural Heritage Plan identified three Priority 1, four priority 2, and two Priority 3 species and plant communities for protection in natural areas (Appendix 4). The species and plant associations in Table 1 are considered the "primary features" of the site (Figures 1b, 1c):

Table 1. Primary features priorities with associated NatureServe Element Codes found at Steptoe Butte NAP (NatureServe Explorer)

Plant Association/ Species	Scientific Name (Element Code)	Conservation Status
Rough Fescue - Idaho Fescue - Sticky Purple Geranium Grassland	*Festuca campestris* - *Festuca idahoensis* - *Geranium viscosissimum* Grassland (CEGL005870)	State Threatened
(Quaking aspen) / Black Hawthorn / Common Cow-Parsnip Wet Shrubland	*Populus tremuloides)* / *Crataegus douglasi* / *Heracleum maximum* Wet Shrubland (CEGL001094)	State Endangered
Bluebunch Wheatgrass - Idaho Fescue Palouse Grassland	*Pseudorogneria spicata* - *Festuca idahoensis* Palouse Grassland (CEGL001670)	State Endangered
Idaho Fescue - Common Snowberry Grassland	*Festuca idahoensis* - *Symphoricarpos ablus* Grassland (CEGL001509)	State Endangered
Broadfruit mariposa lily	*Calochortus nitidus*	State Endangered
Spalding's catchfly	*Silene spaldingii*	Federally Threatened; State Threatened
Small-head goldenweed	*Pyrrocoma liatriformis*	State Threatened
Giant Palouse earthworm	*Driloleirus americanus*	Species of Greatest Conservation Need
Scouler's catchfly	*Silene scouleri ssp. scouleri*	State Sensitive

Appendix 4 (available at www. xxx.xxxxxx) contains the Natural Heritage Program report that includes information on site topography, geology, soils, hydrology, and additional conservation features. The State of Washington Natural Heritage Plan, which describes the conservation methodology for NAPs, is available online at www.dnr.wa.gov/natural-heritage-program.

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A list of plant species known to occur on the site is included in Appendix 5 (available online at www. xxx.xxxxxx) and animals/birds are included in Appendix 6 (available online at www. xxx.xxxxxx).

Primary Plant Associations: The vegetation of Steptoe Butte consists primarily of three Central Rocky Mountain Lower Montane, Foothill & Valley Grassland plant associations: Rough Fescue - Idaho Fescue - Sticky Purple Geranium Grassland, Bluebunch Wheatgrass - Idaho Fescue Palouse Grassland, and Idaho Fescue - Common Snowberry Grassland. There is also an occurrence of (Quaking Aspen) / Black Hawthorn / Common Cow-Parsnip Wet Shrubland plant association. Global summaries of these communities can be found by searching the NatureServe Element Code found in Table 1 at https://explorer.natureserve.org/Search#q. Contact the Natural Heritage Program manager for Washington-specific descriptions.

Like most Palouse prairie remnants, the site has a history of grazing, but the long-term impact appears to be less than at other remnant sites. While there are significant patches of exotic plants, the soils appear to have generally recovered and the cover of bunchgrasses and other native vegetation remains quite high, particularly on north- and east-facing slopes. Long-term fire suppression within Palouse prairie grasslands can lead to increases in native shrub cover, including common snowberry. While snowberry is often found in high-quality examples of grassland associations, especially the Idaho fescue – common snowberry association, it is typically a minor component. Therefore, an increase in this species and other native shrubs, such as Wood's rose, beyond the range of natural variation is considered a threat. Currently, native shrub cover does not appear to have increased beyond this range at Steptoe Butte.

Primary Rare Plant Species: Four Washington state rare plant species, broadfruit mariposa lily, Spalding's catchfly, small-head goldenweed, and Scouler's catchfly, are documented at Steptoe Butte NAP. Spalding's catchfly is a federally threatened species and DNR is coordinating with recovery partners for management of the species.

Key Bird Species: Based on species lists obtained through eBird (Steptoe Butte eBird List) a total of 164 species have been documented on the site. A species list is found in Appendix 6.

Mammals: Steptoe Butte supports a relatively large population of Mule Deer (*Odocoileus hemionus*), listed by Washington Department of Fish and Wildlife as a "Species of Recreational, Commercial, and/or Tribal Importance" (WDFW 2008). A species list is found in Appendix 6 and is periodically updated as new information is gathered. Further research is needed to identify the pollinator-plant interactions occurring on the NAP.

Invertebrates: Steptoe Butte hosts a population of rare Giant Palouse earthworms, identified as a "Species of Greatest Conservation Need" by WDFW. This species is the only earthworm native to the Palouse prairie (Xu et al. 2013). The Giant Palouse earthworm is known to exist at nearly 30 locations in Washington, spanning an area of 2,100–3,000

square miles, although the western edge of its range is not well understood (Fleckenstein 2014 in USFS 2016). Several pollinator species have been documented on-site. A comprehensive list can be found in Appendix 6.

Ecoregional Context: Steptoe Butte NAP occurs in the Palouse prairie region of the Columbia Plateau ecoregion. The site lies roughly 30 miles north of Pullman and 55 miles south of Spokane. The Washington Department of Fish and Wildlife has listed Palouse prairie as a subset/category within the Eastside Steppe classification in the Priority Species and Habitat List (2019).

Geology and Soils: Steptoe Butte is composed of quartzite of the 1.5-billion-year-old Belt-Purcell Supergroup, some of the oldest bedrock in the Pacific Northwest (Lonn et. al. n.d.). The summit of Steptoe Butte is 3,618 feet above sea level, rising approximately 1000 feet from the surrounding landscape. The butte is surrounded by Columbia River basalts.

Steptoe Butte is the origin of the globally used geologic term “steptoe”, meaning an isolated hill or mountain of older rock surrounded by a lava flow. Similar terms include the synonymous Italian term dagala, and the more generalized Hawaiian term kipuka, meaning an area surrounded by a lava flow. Nearby Kamiak and Bald Buttes are also steptoes. The soils at Steptoe are primarily (>75 percent) Tekoa gravelly silt loam (NRCS 2018).

Climate

Steptoe Butte is characterized by a continental climate with hot, dry summers with temperatures in the 80s, and cold dry winters with temperatures in the 30s. Climate data is available from the weather station approximately 15 miles south in Colfax. However, as the butte rises approximately 1000 feet from the base, the weather at the top of the butte is, on average, colder and windier than the base.

Climate Change

Climate change has the potential to change important variables in the Steptoe Butte NAP environment. This once-extensive grassland system occurs in eastern Washington, Oregon, and west-central Idaho, though in very small patches there. In much of its range, it is characterized by rolling topography composed of loess hills and plains over basalt plains. The climate of this region has warm-hot, dry summers and cool, wet winters. Annual precipitation is high, 38-76 cm (15-30 inches). The soils are typically deep, well-developed, and old. The cool-season bunchgrasses that dominate the vegetation are adapted to this winter precipitation.

Based upon the Climate Change Vulnerability Assessment conducted by the Washington Natural Heritage Program in June 2014, Spalding’s catchfly, a federally threatened species, is expected to experience Increased Vulnerability to climate change due to temperature variation, and Somewhat Increased Vulnerability due to precipitation variation. These findings place the species at an overall index result of Moderately Vulnerable to climate change (Vulnerability Assessment report available on WA Natural Heritage website).

Fire is the primary natural disturbance factor in the Palouse prairie. Landfire (2007) modeling suggests a minimum historic fire frequency of 50 years to maintain this grassland, with longer intervals leading to increased shrub cover and shrub regeneration. More recently fire frequency has been estimated at 5-8 years based on fire scars from multiple sites (Morgan et al. 2020). Fires would historically have been low intensity due to the predominance of fine fuels and significant internal spacing between fuel patches. Currently, longer fire intervals have led to increases in shrub and/or tree cover in some Palouse prairie remnants, altering vegetation structure and composition and potentially leading to higher intensity fires due to increased fuel loading. With the prevalence of cheatgrass (*Bromus tectorum)* and other introduced grasses in the current landscape, fires may result in increased dominance by these species, building up a dense fuel bed that creates frequent, high-intensity fires that are lethal to native perennial grasses (Landfire 2007).

A massive conversion to agriculture resulting in a scattering of remnant grasslands is now typically associated with steep and rocky sites or small and isolated sites within an agricultural landscape. Conversion of this type has commonly come from agriculture (wheat farming) and is nearly complete except for remnants on sites too steep or rocky to farm (Landfire 2007). Some of these remnants have been degraded due to fire suppression that has allowed succession (Landfire 2007) to deciduous shrublands and/or invasion and domination of non-native species. Common stressors and threats include fragmentation from agriculture and roads, altered fire regime from fire suppression and indirectly from livestock grazing and fragmentation, and introduction of invasive non-native plant species (Landfire 2007). Potential climate change effects could include a loss of remnant patches of this ecosystem, if climate change has the predicted effect of less effective moisture with increasing mean temperature (TNC 2013).

The ecological changes driven by climate change are having profoundly negative impacts on Tribal cultures and traditional and spiritual practices by reducing or eliminating traditional foods and medicines and weakening connections with the ecosystem through reduction or absence of plant and animal populations and reduced environmental quality. Conserving natural areas will protect natural resources and ecosystems that are at the core of Tribal cultures. Protected from direct disturbance, these ecosystems may persist longer in natural areas, even in the face of climate change, than in the surrounding landscape. DNR acknowledges not just the intrinsic ecological value of the sites, but also the deeper values held for these ecosystems by Tribal partners.

Historical and Current Uses of the Preserve

The Washington Natural Area Preserves Act (RCW 79.70) designates preserves for conservation of lands, resources and ecosystem functions, use as outdoor classrooms, as sites for scientific research and, as appropriate to each site, for other low impact uses so long as the conservation features of the site are maintained.

Historical and Current Native American Use

The Steptoe Butte NAP lies within the area defined as the Plateau culture area consisting of many Tribes and bands who primarily speak dialects of Interior Salish and Sahaptin. One of the biggest issues with providing territorial boundaries for any Plateau Tribes, is that areas were often mutually used for hunting, fishing, and gathering resources by different groups. Since time immemorial, people lived and collected resources in the landscape that includes the Steptoe Butte NAP. Tribal people continue to maintain strong ties to the land and water that inform the management and harvest techniques of the natural resources under their stewardship. Traditionally, the territory was held by the Sahaptin-speaking Palouse (pəʾlo͞os), however, its importance extends to other groups including the Spokane (Spoqín), Coeur d'Alene (Schitsu-umsh), and Nez Perce (Nimiipuu) Tribes. The Palouse and Nez Perce name for the Butte is Yu-mos-tos (Meany 1923) or "E-o-mosh-toss" (Oliphant 1931). The Spokane and Coeur d'Alenes called the butte "Se-empt-tee-ta" (Oliphant 1931).

All Plateau Tribal groups shared a similar annual subsistence pattern based around seasonal access to resources following what has been described as the seasonal round. Residence changed throughout the year which saw people emerge in the spring from winter village settlements to dig roots, gather herbs and medicines, fish, and hunt throughout the summer months, then return to village settlements to sustain themselves throughout the winter on preserved supplies. Waterways and trails accessed traditional hunting, fishing, and gathering grounds. Winter occupation primarily occurred along major rivers and waterways and protected valleys. Distinctive uplands such as Steptoe Butte are considered sacred places and important ground for seasonal subsistence practices.

The Tribes maintain an interest in, and practice stewardship of, the land within their traditional territories. Steptoe Butte is a prominent feature on the landscape and local Tribes have indicated the butte's spiritual significance. Surrounding hillsides within the NAP may have concentrations of culturally significant resources utilized by Tribal members. With over 98 percent of the Palouse Prairie ecosystem having been converted to other uses, the NAP may hold the last and largest remnants of these culturally important resources.

DNR recognizes sovereign Tribal rights and authorities and maintains government-to-government relations with all twenty-nine federally recognized Indian Tribes residing in the state of Washington, as well as other Tribes with rights in the state. DNR also recognizes the vital knowledge Tribal peoples have of our shared natural resources and operates under an order from the Commissioner of Public Lands to ensure management of state-owned lands is accomplished in collaboration with the twenty-nine federally recognized Tribes of Washington State.

European-American Settlement

The lands surrounding Steptoe Butte were homesteaded in 1880 by James "Cashup" Davis who constructed the Cashup Hotel atop the butte after purchasing 1600 acres from the Northern Pacific Railroad Company (Mulvany 2012). Davis constructed a primitive road

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around the butte to facilitate the construction of the hotel (Lambeth 2021). The hotel opened on July 4, 1888, featuring two stories and an observatory with a view of the Palouse but was ultimately unsuccessful lacking water and ease of access. The hotel closed in 1902 and was destroyed by a fire in 1911. State Parks managed lands on Steptoe Butte were donated to the State of Washington for conservation in 1946. (Prager 2016). Areas surrounding the butte were homesteaded with the development of a small farming community. During this homesteading era, fruit orchards were planted throughout Steptoe Butte, with hundreds of trees and some heritage varieties remaining today.

Recent History and Use

In 2016, when the lands adjacent to Steptoe Butte State Park were announced for sale, several conservation-minded purchasers came together to acquire the 437-acre parcel that is now the NAP with the sole purpose of preserving this last large remnant of Palouse Prairie. The site was then sold to DNR in 2021.

Apart from the State Parks managed lands adjacent to the NAP, and which include approximately 128 acres of primary features on the existing park, the surrounding landscape consists of privately owned agriculturally developed parcels.

Current Uses

Steptoe Butte NAP offers access in the form of research and guided environmental education opportunities. Activities occurring within the NAP are in support of site management and restoration or contribute to research and environmental education. To help conserve the ecology of this preserve during research and educational uses, bicycles and pets (except for leashed service animals in designated use areas) are not allowed. See the State Trust Lands Map, or the DNR GO! Map, found on the DNR Website, for a list of alternative access sites for recreational opportunities.

Access

An approximately 4-mile, paved road provides access to the summit of Steptoe Butte from Hume Road. This access road is owned and maintained by State Parks.

Evidence of an abandoned, primitive road can be seen on the west side of the butte. This road had been used to access a hotel that was built at the summit of the butte in 1888. The hotel burned to the ground 25 years later and the road was abandoned.

Recreational Use

There is significant recreational use of Steptoe Butte within the State Parks boundary, primarily on the road and summit parking area. State Parks estimated that more than 100,000 people drove (including bus tours and passenger cars) onto the park in 2017. Bicyclists and pedestrians (e.g., walking from the parking area near the entrance to the summit) also use the road. Steptoe Butte is a worldwide destination for photographers, both as a subject and a viewpoint. Hang gliders and paragliders regularly launch from the parking area at the summit; other than the road and parking area, they do not land or otherwise use the area within the NAP boundary. State Parks is currently evaluating management options

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for their property on the butte. There is no plan to develop any designated trail systems within the NAP boundary.

Recreational trails would pose a direct threat to the ecological integrity of this remnant of Palouse prairie by increasing the spread of invasive species. NAPs allow low impact use for environmental education (Appendix 7). The site is available for environmental education and research, with primary access continuing to be enjoyed from the road to the summit.

Science, Research, and Monitoring

Public and private universities, other research institutions and individual researchers may contact DNR to propose a research project or site visit at Steptoe Butte NAP. If you are interested in pursuing research at Steptoe Butte NAP, please contact the DNR Southeast Region natural areas manager or the assistant ecologist (Appendix 12).

Proximity to Washington State University makes this site an ideal outdoor classroom for the study of rare species and ecosystem conservation; studies of restoration ecology may also be possible. In 2018, a botany BioBlitz at Steptoe Butte attracted more than 40 citizen scientist volunteers. The relict apple trees are also of significant research and general interest. Steptoe Butte has been a study site in peer-reviewed academic publications in the fields of geology, atmospheric science, botany, invasive plant ecology, plant species/pollinator interactions, hydrology, and geography. Potential areas for future research include species/pollinator interactions, climate change impacts on grasslands, and establishing baseline conditions for Palouse prairie restoration.

Research proposals must follow Natural Areas Program Research Guidelines, which are available from the DNR Southeast Region office or Natural Areas Program statewide ecologist. Official letters of project approval or denial including any specific conditions will be issued by Natural Areas Program staff within approximately two weeks of receipt of a proposal. Multi-year projects will be re-evaluated and notified of approval or denial to continue on a yearly basis.

Environmental Education

Currently, no formal educational programs are available at Steptoe Butte NAP. The Southeast Region natural areas manager may consult with DNR's Youth Education and Outreach Program (YEOP) to identify suitable opportunities to provide environmental education in partnership with local education entities (schools, skills centers, non-profit partners, extra-curricular programs, etc.). Additionally, YEOP staff may coordinate with the natural areas manager to coordinate access to Steptoe Butte Natural Area for environmental education programming through activities such as field trips, site stewardship, data collection, and monitoring projects in collaboration with local education partners. YEOP staff specialize in working with formal and non-formal educators to develop curriculum appropriate to the students and the site, and to providing consultation and training for DNR staff outside the YEOP Program to lead these kinds of events themselves. Educational visit requests will be evaluated for approval by the region on a case-by-case basis. DNR reserves the right to limit use to protect the value of the NAP. Educational site visit requests can be

approved by phone, letter, or in person. DNR may, at its sole discretion, require that DNR staff accompany groups or individuals during site visit(s).

For more information about educational visits to Steptoe Butte NAP, contact the DNR Southeast Region natural areas manager (Appendix 12). For more information about environmental education opportunities on DNR Lands, contact the DNR YEOP program manager (Appendix 12).

Volunteer and Stewardship Opportunities
Volunteers help with a variety of activities on natural areas in Washington state, including invasive species control, restoration, and monitoring. Volunteer and stewardship opportunities like these are often well suited for youth groups, engaged through DNR's Youth Education and Outreach Program. If you are interested in volunteer and stewardship opportunities in the Steptoe Butte NAP, please contact the DNR Southeast Region natural areas manager (Appendix 12). For more information about volunteer or stewardship opportunities on DNR Lands, contact the DNR YEOP program manager (Appendix 12).

Management Policies, Goals and Actions

General Management Guidance

The Washington Natural Heritage Program identifies natural area preserves, as defined in RCW 79.70, through a scientific inventory process. The purposes of NAPs are:

- To protect outstanding examples of rare or vanishing terrestrial or aquatic ecosystems, rare plant and animal species and unique geologic features,
- To serve as baselines against which the influences of human activities in similar, but differently managed ecosystems can be compared; and
- To provide areas that are important to preserve natural features of scientific or educational value.

Limited Intervention in Natural Processes: The Palouse prairie ecosystem of the preserve is susceptible to a variety of insects and other pathogenic organisms. Native insects and other pathogenic organisms are part of the preserve's natural ecological conditions and processes. As such, no management intervention will occur when infestations and diseases are the result of native organisms and natural processes, unless they pose a threat to human life or adjacent landowner property and require treatment by law. Non-native introduced insects or other pathogens that threaten key natural features of the preserve will be controlled to the extent possible.

Public Access Policy: Access and allowable uses in natural areas are defined by the Natural Areas Public Access Policy (Policy 013-002, DNR), consistent with Washington Administrative Code (WAC) 332-52 for Public Access and Recreation on DNR-managed

lands and Revised Code of Washington (RCW) 79.70 for the establishment of natural area preserves. Allowable uses within NAPs are limited to low impact non-consumptive uses, focused on scientific study or environmental educational purposes (including use of designated trails and facilities developed to encourage learning about a preserve's features), or traditional established aboriginal rights. As part of the ongoing site management, the DNR region natural areas manager will work with the natural areas statewide program ecologist when considering opportunities to provide low impact access as funding and staffing allow. Current use at Steptoe Butte NAP is limited to scientific and monitoring endeavors.

Access for research or education projects must be consistent with site management goals and require written authorization signed by the natural areas manager or the natural areas program ecologist. Individuals granted permission to access the site beyond adjacent private lands and public rights of way are required to have one copy of the written authorization signed by the natural areas manager or the natural areas ecologist displayed on the dash in their parked vehicle and another copy with them while on site conducting those activities. Contact the DNR Southeast Region natural areas manager to request consideration of a research or education project at Steptoe Butte NAP.

Activities within the NAP should not compromise a site's integrity, ecological, geological, scenic, historic or archaeological values. Activities should be constrained in a manner to leave vegetation, animal behavior, soil and water relatively unaffected. Steptoe Butte NAP will be monitored, and the allowable uses at the site revised if the protected values of the site are negatively impacted by use in a way that affects the site's integrity as measured by an Ecological Integrity Assessment (See Management Goal 1, and Appendix 10). The DNR Natural Areas Program *NAP Public Access Policy* is found in Appendix 7 (or available via the internet at the Steptoe Butte NAP webpage). For a map of NAPs that currently have environmental education access facilities, as well as natural resource conservation areas (NRCAs) that have developed low-impact recreation opportunities in this area, use DNR's statewide interactive recreation map or the DNR GO! Map online to find other sites to recreate on state lands.

Goal 1: Protect Primary Features

As a natural area preserve, the purpose of land management at Steptoe Butte NAP is to protect the primary features of conservation significance from human-induced stressors (Table 1, Figure 1b, 1c). Any activity or management action taken at the site should first consider whether it would risk the viability or ecological integrity of these primary features.

Objective: Address Research Needs in Support of Primary Features

Research provides key insights into the ecological drivers of site conditions and relationships between species and their environment. There are often specific needs for data collection and research to inform adaptive management of the site. These needs are site-specific and may evolve over time as we identify shifts and impacts driven by climate change or other cumulative stressors. Research should be conducted in collaboration with

the natural areas manager and staff, under permit approved by the natural areas program ecologists to successfully support and protect the primary features at Steptoe Butte NAP. DNR's Natural Heritage Program scientists should also be engaged when research is focused on the primary features identified in the Washington State Natural Heritage Plan. See Appendix 9 for the current and upcoming research needs for Steptoe Butte NAP. Examples include:

- Expand understanding of distribution and habitat requirement of Giant Palouse earthworm at Steptoe Butte NAP
- Conduct assessment to understand historic fire intervals for Palouse prairie grasslands and identify alternative tools to achieve similar outcomes of prescribed burns
- Conduct assessment to understand habitat requirements to support pollinator species at Steptoe Butte NAP

Objective: Follow Management Guidance for Primary Features

The guiding principle for managing the Steptoe Butte NAP is to permit natural ecological and physical processes to predominate, while controlling activities and unnatural events and processes that directly or indirectly modify them. Exceptions may occur when a primary feature would be jeopardized without active intervention.

Management activities will maintain the site in the best natural condition possible. Removal or alteration of vegetation, soil, or rock is not allowed except where specifically authorized by DNR under the framework of this plan. Goals for preserve management include:

- Protecting the site's primary natural features, including ecosystem processes
- Monitoring threats to the natural features and the health of natural systems
- Managing non-native and invasive plant or animal species
- Protecting cultural and archeological sites
- Facilitating environmental education and research on the preserve
- Providing access when it is compatible with the preserve's conservation goals, including Tribal access for cultural and spiritual practices

The overarching management goal is to maintain the ecological integrity of natural areas such that they do not deteriorate below the ecological condition at the time of establishment, or that they reflect a restored Ecological Integrity Assessment (EIA) rank of at least B or better in cases where their initial ranking is below a B. An EIA should be conducted on a 5-year rotation to provide relevant data for decision making and respond in a timely manner to changes in ecological integrity of the site. Additionally, EIAs should be conducted after any event that could drive change in an ecosystem. Examples of such events are extreme weather events, natural disturbances (fire, flood, invasive species establishment, or others), development of adjacent parcels, significant restoration work, or impacts to the preserve's features from upstream or off-site events. Monitoring for specific components or processes of ecosystem features (such as shrub cover, cryptogamic crust), or for other features may be necessary and will be added to Appendix 10 as needed. Key background and goals for the

management of primary features is established in this plan, with additional detail provided in Appendix 10.

Various information sources describing reference conditions (i.e. the natural range of variability of composition, structure, and ecological processes) for the ecosystems has been consulted and should continue to be used to help guide management (see Appendix 10).

Rough Fescue - Idaho Fescue - Sticky Purple Geranium Grassland (*Festuca campestris - Festuca idahoensis - Geranium viscosissimum* Grassland)
This is the first known occurrence of the plant association in Washington state and is ranked as globally vulnerable and threatened within the state. It forms a matrix with the Idaho Fescue - Common Snowberry Grassland across 84 acres in the site, extending for an additional 128 acres onto the State Parks property. Based on the EIA conducted in 2018, this occurrence has a condition rank of B.

(Quaking Aspen) / Black Hawthorn / Common Cow-Parsnip Wet Shrubland ((*Populus tremuloides*) / *Crataegus douglasii / Heracleum maximum* Wet Shrubland)
Based on the EIA conducted in 2018, this population at Steptoe Butte is in good (B) condition and is one of the largest documented occurrences in Washington (58 acres).

Bluebunch Wheatgrass - Idaho Fescue Palouse Grassland (*Pseudoroegneria spicata - Festuca idahoensis* Palouse Grassland)
According to the 2018 EIA, this community has a condition rank of C. The Natural Area contains one small 5-acre patch located on the west facing slope in the center of the site.

Idaho Fescue - Common Snowberry Grassland (*Festuca idahoensis - Symphoricarpos albus* Grassland)
Based on the 2018 EIA, this community at Steptoe Butte is in fair (C) condition and is the largest known occurrence in the state of Washington. It is found across 158 acres of the Natural Area (dominant across 74 acres and forming a matrix with the Rough Fescue-Idaho Fescue-Sticky Geranium grassland across 84 acres). The occurrence extends onto State Parks land for an additional 128 acres, totaling 286 acres in all.

Information describing reference conditions (i.e., the natural range of variability of composition, structure, and ecological processes) for the ecosystems should be consulted and used to help guide management goals. Global summaries of these communities can be found by searching the NatureServe Element Code in Table 1 at https://explorer.natureserve.org/Search#q.The Natural Heritage Program Manager should be consulted for Washington-specific descriptions of these communities (Appendix 12).

Management Goal:

- Maintain or improve these plant associations in an Ecological Integrity condition rank of B or better, with a focus on reducing invasive species and maintaining or improving vegetation structure.

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Primary Rare Plant Species (Spalding's catchfly, broadfruit mariposa lily, small-head goldenweed, Scouler's catchfly)

- Spalding's catchfly only occurs in remnant prairie fragments from eastern Washington and northeastern Oregon to western Montana (USFWS 2007). Steptoe Butte has been identified as a proposed Key Conservation Area (KCA) for the recovery of Spalding's catchfly. The Palouse Conservation District has conducted out-plantings at the site in order to increase the population size (the target population size is >500 individuals to be a designated KCA) (USFWS 2007).
  https://fieldguide.mt.gov/wa/?species=silene%20spaldingii
- The only known extant occurrence of broadfruit mariposa lily in Washington has been located at Steptoe Butte. This species is listed as "Endangered" in the Washington State Natural Heritage plan and was previously thought to be extirpated due to habitat loss and competition from weedy annuals. In Washington, broadfruit mariposa lily has historically been reported from Whitman, Garfield, and Asotin counties. (Kennison and Taylor 1979, Baxter and Gamon 1995, Darrach 2013).
  https://fieldguide.mt.gov/wa/?species=calochortus%20nitidus
- Small-head goldenweed is a Palouse endemic from southeastern Washington and western Idaho that is listed as "Threatened" in Washington. Small-head goldenweed is threatened by conversion of prairie habitat to agriculture, herbicide use, and exotic plant competition.
  https://fieldguide.mt.gov/wa/?species=pyrrocoma%20liatriformis
- Scouler's catchfly is a state sensitive species that is present at Steptoe Butte. Abundance data are lacking for nearly all recorded populations in Washington.
  https://fieldguide.mt.gov/wa/?species=silene%20scouleri%20ssp.%20scouleri

Management Goal:

- Maintain stable or increasing populations and distribution within the site, accounting for natural range of variation, with a focus on reducing invasive species competition.
- Adhere to goals and objectives identified in USFWS Recovery Plan for Spalding's catchfly (USFWS 2007).

Primary Rare Animal Species: Giant Palouse Earthworm

- This species is the only earthworm native to the Palouse prairie, and has, until relatively recently, been considered endemic to the Palouse prairies of eastern Washington and Idaho, where it was discovered in 1897. This species is considered to be "anecic", meaning that it burrows vertically deep into the ground and lives in deep, semi-permanent burrows, coming to the surface in wet conditions. Burrows have been found at a depth of 15 feet. The giant Palouse earthworm feeds on fresh plant litter. Anecic worms are the largest and longest lived of the three general groups of earthworms.
  https://wdfw.wa.gov/species-habitats/species/driloleirus-americanus

Management Goal:

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- Ensure the persistence of habitat structure for Primary Wildlife Feature (Giant Palouse earthworm) by maintaining the Ecological Integrity of the site in a condition rank of B or better.

For details about the management considerations for the conservation of the primary features on site, see Appendix 10.

Goal 2: Provide and Manage Access

Current use of the preserve includes scientific research and environmental education. The Natural Areas Program, under the DNR *NAP Public Access Policy* in Appendix 7 (available online at www. xxx.xxxxxx), maximizes the educational value of NAPs through conservation management to preserve natural features for scientific research and environmental education. Where appropriate in terms of location, intensity, timing and type of access, certain non-consumptive and non-damaging recreational uses can be accommodated, predominantly in buffer areas of preserves or in previously impacted locations.

Low-impact use activities in the NAP should not compromise a site's integrity, ecological, geological, scenic, historic or archaeological values. Activities should be constrained in a manner to leave vegetation, animal behavior, soil and water relatively unaffected. Steptoe Butte NAP will be monitored in accordance with WAC 332-52-100, the allowable uses at the site revised, if the protected values of the site are negatively impacted by these activities in a way that affects the site's integrity as measured by direct observation of site condition or an Ecological Integrity Assessment (See Management Goal 1, and Appendix 10).

Objective: Offer Access for Education and Teaching

Use of the site for class field trips or student projects will also be encouraged among local schools and environmental education organizations. The need for educational and interpretive facilities, including interpretive trails and signs, to support educational activities will be monitored.

Individuals or groups interested in accessing the Steptoe Butte NAP must contact the DNR Southeast Region office to request permission. Initial contact can be made by phone or letter. Educational visit requests will be evaluated for approval by the Region on a case-by-case basis. DNR reserves the right to limit use to protect the value of the NAP. Educational site visit requests can be approved by phone, letter, or in person. DNR may, at its sole discretion, require that DNR staff accompany groups or individuals during site visit(s).

The DNR region natural areas manger may coordinate with DNR's Youth Education and Outreach Program to facilitate access and engagement opportunities to local youth. Key opportunities for classroom and community educational projects and activities include:

- Guided school outings
- Native plant and bird groups
- Volunteer activities

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Objective: Offer Access for Research and Monitoring
Research projects are approved by DNR following review and with site protection stipulations. Research activities within the NAP must be pre-approved by the Natural Areas Program statewide ecologist (Appendix 12). Research projects will be encouraged among potential researcher groups, such as colleges, universities, and relevant research laboratories. Sources of funding for specific research topics will be sought and applied for, as applicable. Potential partners for research projects and/or funding will also be sought.

Research proposals must follow Natural Areas Program Research Guidelines, which are available from the region natural areas manager. Official letters of project approval or denial including any specific conditions will be issued by Natural Areas Program staff within approximately two weeks of receipt of a proposal. Multi-year projects will be re-evaluated and notified of approval or denial to continue on a yearly basis.

Additionally, DNR conducts monitoring at natural areas. Natural Areas Program staff conducting research or monitoring within natural areas may draw upon the resources available within DNR's Youth Education and Outreach Program and similar community-based educational or scientific organizations. Advanced educational research or student internships may be available for hands-on learning opportunities in the fields of conservation land management and ecological restoration.

Objective: Collaborate to Ensure that Tribal Practices are Consistent with Conservation Goals
Together with interested Tribal partners, an assessment will be conducted to determine whether and how specific traditional practices can be accommodated at the site while staying consistent with the site's conservation goals.

Objective: Managing Heirloom Orchards
There are approximately 800 heirloom apple trees on and around Steptoe Butte that are of research interest. The heirloom apples at the site are not considered a priority element, nor are they a feature that would generally be consistent with the objectives of a natural area preserve. However, they are retained at this site because of their research and educational value, and because they represent a minimal threat to the primary features of the site at this time. Historical records indicate these orchards were planted by James "Cashup" Davis and Robert Burns in the 1880s, who each owned property on and nearby Steptoe Butte. Pear, plum, and cherry trees were also planted in these orchards. Researchers have found very few apple tree seedlings at the site. However, the plum trees have created dense patches through suckering. All fruit trees will be monitored closely by Natural Areas Program staff to determine impacts to the native vegetation. If trees are negatively impacting the native vegetation, actions may be taken to remove trees as needed.

Objective: Clearly Outline Limitations on Uses
Prohibited uses at Steptoe Butte NAP, as well as activities determined by DNR under this management plan to be in conflict with conservation land management goals, as outlined in RCW 79.70, include the following:

Creation of Unauthorized Social Trails – In accordance with WAC 332-52-405(1), the creation of unauthorized trails within Steptoe Butte Natural Area Preserve is not an appropriate use. Social trails open up bare ground to invasive plants, create paths for water to travel and erode localized areas, and can lead to habitat fragmentation which can inhibit wildlife movement across the landscape. A lack of monitoring and maintenance results in significant negative impacts to the vegetation on and adjacent to social trails. Unauthorized trails are not known to site managers and therefore are not patrolled, maintained, or monitored.

Dumping – In accordance with WAC 332-52-120 dumping is not allowed within Steptoe Butte NAP. Dumping results in trampled vegetation at the site and creates a sanitation risk.

Hunting and Trapping – Hunting and trapping are not approved uses for Washington's Natural Area Preserves. DNR does not allow hunting or trapping on NAPs unless it is necessary for management purposes. As mentioned above, the guiding principle for managing the NAP is to permit natural ecological and physical processes to predominate. The pressure applied by opening this small natural area to hunting would exceed limits of acceptable change and put at risk, those features the site was designated to protect. Also, hunting can negatively impact ecological research at the site by violating assumptions about the influence of natural process on study results, introduce variation to the analyses, and potentially damage or eliminate monitored populations or plots from the sample.

Exceptions may occur when a primary feature would be jeopardized without active intervention. Should the need to use hunting as a management tool arise, the DNR natural areas manager will consult with Washington Department of Fish and Wildlife to define the parameters under which animal control methods would be allowed.

Removal (Harvest and Removal) of Plant or Mineral Material – In accordance with WAC 332-52-115(1a,b), the harvest and removal of any amount of plant or mineral material is not an allowable use, other than by DNR land managers for conservation purposes or with written permission from the natural areas manager or the natural areas program ecologists.

Removal or Damage to Historical and Archaeological Objects, Features and Sites – Significant archaeological and cultural resources are protected by state law concerning Archaeological Sites and Resources (RCW 27.53), the National Historic Preservation Act (P.L. 89-665 as amended) and the Archaeological and Historic Preservation Act of 1974 (P.L. 93-291). The removal or alteration of archaeological materials including artifacts, features, sites, and structures from DNR managed lands is not allowed, other than when carried out by DNR cultural resources staff or authorized individuals to project the resource from loss or harm and/or conduct scientific analysis.

Camping – In accordance with WAC 332-52-300(10a, b; 14e), camping is not allowed within Steptoe Butte NAP. The establishment of camp sites results in the clearing and trampling of vegetation at and surrounding the site. In addition, there is no infrastructure to support camping, and there is substantial risk of a campfire-initiated wildfire spreading to

surrounding residents and agricultural fields. Additionally, there are no refuse management or bathroom facilities to support campers. The refuse generated by unauthorized campers would negatively impact the vegetation community on site and pose a hazard to DNR employees and visitors to the site. Camping is not an allowable use of the site.

Pets – Due to the sensitive nature of the plants and soils, and the potential for negative impacts and disturbances upon wildlife species, pets are not permitted within the preserve boundary, except for service animals (WAC 332-52-140(1), which must be leashed at all times on any future designated trails or developed interpretive areas.

Vehicles – Use of vehicles, including motorized and non-motorized vehicles is prohibited in the NAP. Exceptions are limited to use for emergency response, management activities and stewardship activities.

Drones – Use of drones creates disturbance that can affect animal behavior. Drones also create the potential for disturbance to use at the site. As such, they are incompatible with conservation objectives and the quietude users come to the NAP to experience, and thus no takeoff or landing from the preserve is authorized.

Radio controlled toys – Radio controlled toys have the potential to harm sensitive plants and animals, create or exacerbate erosion, and create the potential for disturbance to use at the site. As such, they are incompatible with conservation objectives for the NAP.

Livestock – Horses and other livestock have the potential for significant impacts in the form of trampling native vegetation, soil compaction, and introduction of non-native and/or invasive species. Grazing is not currently an approved use within the site. However, for management purposes, grazing may be considered in the future.

Paragliding – The top portion of Steptoe Butte that is managed by State Parks is a popular launch site for paragliders and hang gliders. To limit vegetation trampling and the creation of social trails, launching and landing for paragliders, hang gliders and the like are prohibited within the NAP boundary.

Other Uses Not Outlined Above – Uses and activities within Steptoe Butte NAP determined by DNR to be inconsistent with the conservation purpose of the Natural Area Preserves Act as outlined in RCW 79.70 are considered incompatible with conservation management and are not approved uses. DNR's existing law enforcement policies will apply. DNR will comply with applicable regulations in the management of Steptoe Butte NAP and will cooperate with local and state enforcement agencies when necessary to curb unauthorized use.

Goal 3: Manage the Site in Response to a Changing Climate

Natural areas play a significant role in ecological climate resilience. Natural areas are considered a key component in mitigating climate impacts and play a strategic role in protecting the biodiversity and natural heritage of Washington State. They provide

environmental services, such as sequestration and storage of carbon, provision of habitat refugia for rare species, maintenance or improvement of water quality and watershed processes, and protection of rare plant communities and ecosystems. Steptoe Butte specifically provides protected habitat for Spalding's catchfly, a federally threatened native forb, that is at risk because of shifting temperature variation and precipitation patterns.

Objective: Review and Adapt Management Practices as Needed to Address Impacts of Climate Change

In recognition of the importance of consideration of climate change in conservation planning, land management approaches may need to adjust to continue to preserve protected elements in state natural areas. Natural Areas Program land managers and ecologists regularly review and consider existing approaches to the following as a part of general site management at Steptoe Butte NAP:

- Collaborate with interested Tribal specialists and Washington Natural Heritage Program staff to inventory significant plants in the NAP and determine their vulnerability and response to climate change.
- Review the adequacy of the NAP boundary to protect primary features against climate change.
- Consult available climate change vulnerability assessments applicable to the primary features of the site to identify primary concerns and potential management actions. The Natural Heritage Program Climate Change Vulnerability Index assessments for rare plants and Habitat Climate Change Vulnerability Index assessments for ecosystems (https://www.dnr.wa.gov/NHPclimate) are primary resources.
- Review management options to support Spalding's catchfly.
- Review invasive species management practices (see Natural Heritage Program invasive species ecological impact reports)
- Review the need for prescribed fire on the landscape, and alternatives to fire as a tool to achieve similar ends.
- Review the balance between inherent ecological and scientific value and recreational use and update policies as needed.
- Review restoration targets informed by shifting climatic conditions. (see above, climate change vulnerability assessments).
- In consultation with Natural Areas Program and Natural Heritage Program scientists, review the use of certain species in restoration projects in light of ongoing climate changes to plants and insect pests (i.e. reduction in use of species that are not doing well with climate change for restoration purposes).
- In consultation with Natural Areas Program and Natural Heritage Program scientists as well as the Natural Heritage Advisory Council, review the potential need for assisted migration of near-by native plant and animal species.

Goal 4: Minimize the Impacts of Wildfire Management

Wildfire suppression in Steptoe Butte NAP focuses on protecting life, resources, and property, and will be conducted to the degree possible with Minimum Impact Suppression Tactics (MIST) to minimize impacts to conservation features. See Appendix 1 for the "Wildfire Management Strategy for Steptoe Butte NAP, attached.

Objective: Follow the Wildfire Management Strategy Emphasizing Minimum Impact Suppression Tactics

Fire is a natural part of the Palouse prairie ecosystem and may benefit the plant communities and ecosystem processes in some circumstances. Sensitive areas identified on maps should be avoided whenever possible, particularly for use of retardants or heavy equipment. After fires have been suppressed, site restoration will be supervised by the region natural areas manager in consultation with the natural areas program ecologist.

Goal 5: Control Invasive Species

For the purposes of this management plan, an invasive species is a plant species that is not native to the State of Washington and poses a threat to site management goals. Invasive introduced species can repress or exclude native species and are widely viewed as one of the greatest threats to ecosystem health and biodiversity worldwide. Inventory, assessment and control of invasive weed species are top priorities in the management of the preserve. Useful sources of information on invasive species ecology, control, and ecological impacts include state and county weed control board information, Invasive Species Profiles (https://www.invasivespeciesinfo.gov/species-profiles-list), Center for Invasive Species and Ecosystem Health (https://www.invasive.org/), and the *Washington Invasive Ranking System* (Ramm-Granberg et al., 2024). This information can be used to identify species that may be potential threats to the site as well as to help prioritize species for control.

Several invasive weed species are present at Steptoe Butte; management of these species at the site will require persistent efforts to control their spread. Table 2 includes the weed species of concern at Steptoe Butte.

In general, invasive weed species are found more frequently on south and west-facing hillsides throughout the Natural Area Preserve. These aspects receive more direct sunlight and therefore are functionally more arid due to increased heat, evaporation, and transpiration. This aridity renders south and west-facing hillsides more fragile and prone to damage from domestic livestock grazing, which occurred for decades on Steptoe Butte from European settlement through the early 2000s. The north and east facing slopes contain lower invasive species cover compared to the rest of the site.

Table 2. Priority invasive species of concern documented on Steptoe Butte NAP. From weed survey conducted by BFI Native Seeds LLC in 2017.

Common Name	Scientific Name	Status*	Distribution
Diffuse knapweed	*Centaurea diffusa*	Class B	Scattered along roadside and top of butte
Rush skeletonweed	*Chondrilla juncea*	Class B	Widespread on south and west-facing
Canada thistle	*Circium canadensis*	Class C	Common on mesic sites throughout site
Bull thistle	*Cirsium vulgare*	Class C	Sporadic across area on mesic sites

Poison hemlock	*Conium maculatum*	Class B	One patch documented
Houndstongue	*Cynoglossum officinale*	Class B	Sporadic across area on mesic sites
Dalmatian toadflax	*Linaria dalmatica*	Class B	One patch documented
Dog rose	*Rosa canina*	not listed; invasive	Common across site
Common tansy	*Tanacetum vulgare*	Class C	Patchy along roads
Mullein	*Verbascum thaspus*	not listed; invasive	Sporadic across area on mesic sites
White bryony	*Bryonia alba*	Class B	Patch in northeast corner of site.

Objective: Follow the Site Weed Management Plan and Coordinate with Partners to Reduce Overall Cover of Invasive Weeds.
Invasive species management will vary both in timing and approach to maximize control of each target species and minimize negative impacts to non-target species. Some combination of mechanical and chemical approaches will be the primary tools. See Appendix 11 for species specific methods of control and removal.

To facilitate management efforts of species in Table 2, invasive species populations will be mapped through survey efforts focused on areas with a high likelihood of species introduction (e.g., roadsides and wildlife trails). Additional surveys will be conducted following disturbance events (e.g., wildfires, public misuse, and road maintenance).

Other weed species of concern should be addressed through documentation and treatment of nascent populations and the containment and control of established populations. In addition to ongoing vegetation surveys, monitoring for invasive species should focus on roadside buffers and areas impacted in the future by disturbance such as fire.

Objective: Coordinate with Those Authorized to Collect Plant Material and Share Treatment Plans.
Natural areas managers will review and/or update the treatment plan with parties requesting permission to gather plant material from the site. Suggestions for altering the plan with regard to the timing or treatment method, and notification pathways with interested parties will be considered to avoid impacts to health or research results.

Goal 6: Ensure the Persistence of Habitat Structure for Wildlife

No formal wildlife inventory has been conducted on the site; however, the habitat within Steptoe Butte NAP supports a rich diversity of wildlife including the Giant Palouse Earthworms, a Species of Greatest Conservation Need. This species is the only earthworm native to the Palouse prairie (Xu et al. 2013). The preserve supports a relatively large population of Mule Deer (Odocoileus hemionus hemionus). This species is identified as a

Priority Species under Washington Department of Fish and Wildlife's Priority Habitat and Species Program (WDFW 2008, 2016).

Per the adopted *NAP Public Access Policy* in Appendix 7 removal of wildlife only occurs as a DNR-approved management action, if necessary, and no access is allowed for hunting.

Objective: Ensure the Goals for Protecting Primary Features are Met.
The wildlife protected in Steptoe Butte NAP are native to these natural ecosystems. Species presence may vary with diurnal, seasonal, or annual cycles. Whether or not a species is documented on site at a discrete point in time, the ability for the habitat to support that species when it is present is the goal. Protecting the primary ecosystem features of the site maintains the habitat that supports a diversity of wildlife including those identified by the Washington State Natural Heritage Plan as conservation priorities.

Goal 7: Protect Archaeological and Cultural Sites

The lands in and surrounding the preserve are known to have been inhabited or used by past peoples and may include important cultural resources. In compliance with Governor's Executive Order 21-02 (GEO 21-02) and in cases where natural area projects have a Federal nexus under Section 106 of the National Historic Preservation Act (NHPA), State Department of Archaeology and Historic Preservation records shall be reviewed prior to the implementation of any research, education or management activity. Any alteration to an archaeological site would require a permit from the Department of Archaeology and Historic Preservation (RCW 27.44 and RCW 27.53). Confidential cultural data is protected and exempt from disclosure under RCW 42.56.300 to prevent looting and depredation of the artifacts. All employees working at Steptoe Butte NAP should become familiar with DNR's Inadvertent Discovery Plan (Appendix 14) to understand how to proceed if an artifact is found during the course of work.

Process for Historical and Archaeological Preservation
Natural areas managers will initiate informal Tribal consultation with affiliated Tribes and work with professional archaeologists to ensure cultural resource compliance with GEO 21-02. GEO-21-02 mandates that:

- DNR shall consult with DAHP and affected Tribes on the potential effects of projects on cultural resources proposed in state-funded construction or acquisition projects. Consultation should occur early in the project planning process and must be completed prior to the expiration of state funds for construction, demolition or acquisition.

- DNR shall take all reasonable action to avoid or mitigate adverse effects to archaeological sites, historic buildings or structures, traditional cultural places, sacred sites, or other cultural resources

- DNR shall retain the responsibility to ensure an adequate consultation process and will be responsible for holding all records related to the Tribal consultation process.

DNR will provide the records to DAHP to demonstrate completion of the Tribal consultation process.

- A cultural resources study may be needed before a project may proceed and DNR must consult with DAHP and the affected Tribes for the purpose of seeking agreement on studies.
- If an archaeological site, historic building or structure, or cultural or sacred place is identified during a study, DNR shall consult with DAHP and the affected Tribes on avoidance strategies or methods to minimize harm if the project poses a direct or indirect effect on cultural resources.
- In the case of historic buildings or structures, DNR shall develop mitigation strategies in consultation with DAHP and if requested, affected Tribes. For all other cultural resources including archaeological and historic archaeological sites or traditional and sacred places DNR may only develop mitigation strategies upon notifying DAHP and the affected Tribes that avoidance cannot be attained.
- Mitigation strategies for archaeological, cultural and sacred sites shall be identified through consultation with DAHP and the affected Tribes.

In instances where DNR works in conjunction with a federal agency or under a federal nexus, natural area managers and professional archaeologists will work with the appropriate federal agency on Section 106 requirements and compliance. Confidential cultural data is protected and exempt from disclosure under RCW 42.56.300 to prevent looting and depredation of the artifacts. Contact the DNR Southeast Region natural areas manager for more information.

Goal 8: Maintain Roads and Utility Rights-of-Way

State Parks manages and maintains the access road that spirals to the top of the butte. This road travels through the preserve. This access road is the most intrusive element within and adjacent to the preserve and has been the source for solid waste dumping as well as the spread of noxious weeds. In addition, both DNR and State Parks lease sites on state lands that support communications equipment. Lessees access these sites via the main State Park road to monitor and maintain the leased sites.

Objective: Natural Areas Staff will Routinely Monitor Roads and Easement Corridors for Impacts that May Affect the Natural Area if Left Unaddressed.
DNR Natural Areas Program staff in coordination with State Parks will regularly monitor for encroachment of invasive weeds, impacts of weed treatment that drift beyond the right-of-way, the presence of trash, unauthorized access points, evidence of recreational fire, and other signs of activity that could threaten the integrity of the Natural Area.

Objective: Natural Areas Managers Will Take Action to Investigate, Identify, and Rectify Issues when Observations Indicate that Impacts on Rights-of-Way may Affect the Natural Area.
When routine monitoring of easements and rights-of-way identifies an issue that could potentially present a risk to the ecological integrity of the site or to safety, the natural areas manager will take appropriate action to rectify it.

Management Goals, Actions and Activity Details

Table 3. Management Guidance for Steptoe Butte NAP

Goal	Management Action	Activity Detail
Protect Primary Features	• Implement a strategy to protect the site's primary features based on reference conditions defined by EIA metrics, the global and state element descriptions, and other relevant information.	• Manage for highly invasive species • Regularly monitor roads for incursions into the preserve, and for invasive weeds • Pursue funding and facilitate partnerships to meet site management and needs • Assess and prioritize areas for restoration to improve condition of EO plant associations relative to reference conditions • Encourage research on priority topics to assist with site management <u>Priority Research Topics</u> See Appendix 9
	• Gather and maintain information necessary for site management	<u>Highest Priority Monitoring Needs</u> • Ecological monitoring of primary ecosystem features including EIA and supplemental long-term plots • Rare plant population monitoring via census or plot sampling • Invasive species distribution, abundance, and control efforts <u>Additional Monitoring Needs</u> • Restoration site according to monitoring plan • Coordinate monitoring goals with State Parks

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Goal	Management Action	Activity Detail
		• Monitor potential impacts to natural features from site uses
Provide and Manage Access	• Monitor potential impacts to natural features from site uses • Maintain ecological integrity to allow use of the site by researchers • Encourage research on priority topics to assist with site management • Promote educational use of the preserve	• Coordinate with State Parks on developing messaging/interpretive signs at agency shared kiosk(s) • Sponsor spring and summer field trips for local residents and students. • Coordinate with DNR Youth Education and Outreach Program to connect with interested education groups for interpretive site visits, service projects, research and monitoring.
Manage Site for a Changing Climate	• Address key non-climate stressors • Monitor primary features and species • Monitor invasive species • Monitor potential impacts to natural features from site uses • Maintain ecological integrity to allow use of the site by researchers • Encourage research on priority topics to assist with site management	<u>Highest Priority Management Needs</u> • Ecological monitoring of species populations and primary ecosystem functions • Invasive species distribution <u>Additional Monitoring Needs</u> • Restoration site revisitation according to monitoring plan <u>Primary Research Topics</u> • Climate change impacts
Minimize impacts of Wildfire Management	• Follow the Wildfire Management Strategy emphasizing Minimum Impact Suppression Tactics (MIST)	• Coordinate with Incident Management team in event of wildfire threats to NAP • Conduct regular updates to the Southeast Region Fire Mobilization Guide
Control invasive species	• Create and implement site-specific weed management plan	• Coordinate invasive species mapping and control efforts with State Parks • Work with local partners such as Phoenix Conservancy to conduct

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Goal	Management Action	Activity Detail
	• Restore areas where native vegetation has been damaged	surveys and implement control efforts
Ensure the Persistence of Habitat Structure for Wildlife	• Protect the primary features to maintain them at an EIA rank of B+ or better	• Maintain the general structure of a healthy Palouse Prairie habitat to support wildlife that depends on the resources of the site.
Protect Archaeological and Cultural Sites	• Coordinate with area Tribes to ensure that cultural sites are not disturbed and to exchange information about the preserve • Follow the process for historical and archaeological preservation outlined in Goal 7	• Establish primary contacts for outreach about DNR projects and management activities • Learn about Tribal interests and concerns • Consult with Tribes on cultural resources reviews for projects • Follow mandated state and federal processes for Tribal consultation
Foster Environmental Education	• Promote educational use of the preserve	• Coordinate with DNR Youth Education and Outreach Program to connect with interested education groups for interpretive site visits, service projects, research and monitoring
Maintain Roads and Utility Rights-of-Way	• Coordinate with State Parks on invasive non-native species and control along roadway • Coordinate with communication towers lessees regarding leased-site maintenance	• Annual control of invasive species along roadside and utility access points • Periodically review communication site leases

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Routine Management Actions in Appendix 2
Routine management actions, the work required to steward the site on a daily basis, exclusive of significant project-related work that requires special fiscal appropriation, is described in Appendix 2. A list of actions required to accomplish the routine site management and an estimate of DNR staff time and goods and services that will be necessary is presented in Appendix 2 Table 2-1.

Costs associated with managing Steptoe Butte NAP are expected to change over time due to general economic factors (such as inflation), identification of new land and resource management challenges, or to meet newly identified opportunities for research, environmental education or access. The Department of Natural Resources pursues a variety of state and federal grant funding to assist with land and resource management, restoration, research, and development of access and educational facilities, including development of educational curricula and materials by DNR's Youth Education and Outreach Program for use at this site.

Near-Term Project List in Appendix 3
The one-time projects noted in Appendix 3 should be pursued to complete necessary planning and make investments for implementation of land management or access projects. An estimate for the level of investment required to accomplish these projects is presented in the description of the work and an estimate of DNR staff time that will be assigned to the work in Appendix 3 Table 3-1. The one-time projects noted in in the appendix should be pursued to complete necessary planning and make investments in other-than-routine land management activities or capital budget projects.

Costs estimates are expected to change over time due to general economic factors (such as inflation) or to rise to challenges during implementation. The Department of Natural Resources pursues a variety of state and federal grant funding to assist with project implementation.

Duration of this Management Plan
This management plan and the near-term actions and projects will be reviewed as necessary and updated by the DNR Natural Areas Program. Significant changes in management direction or policy guidance will include consultation with the Natural Heritage Advisory Council, and potential revisions to the management plan and appendices, which is expected to happen infrequently. The list of near-term actions will be updated as needed for the cost factors noted above. The near-term project list outlined in Appendix 3 may be periodically revised absent consultation with the Natural Heritage Advisory Council, so long as all such work is consistent with the management goals and objectives described above.

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APPENDICES

The appendices for this document are in various stages of development and may include a placeholder for material that is in development. Note that Appendices 2 and 3 may be updated with each state budget cycle. When finalized, Appendices 4 – 14 will be available on the Steptoe Butte Natural Area Preserve website at: (In development).

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APPENDIX 1 WILDFIRE MANAGEMENT STRATEGY for Steptoe Butte NAP

Management Jurisdiction

Steptoe Butte NAP lies within Whitman County Fire Protection District 11. For questions regarding the Wildfire Management Strategy please contact the natural areas manager (Appendix 12).

Ignition Sources

Potential ignition sources include cigarettes thrown from vehicles or by site visitors, parked vehicles, fireworks and lightning.

Preferred Suppression Tactics

Minimum Impact Suppression Tactics should be employed whenever possible, with specific guidelines listed below. Sensitive areas identified on maps should be avoided whenever possible, particularly for use of retardants or heavy equipment. These sensitive areas are primarily located on the northern and eastern portions of the site. The following are preferred fire suppression tactics:

- When safe and reasonable, use natural fuel breaks or control lines outside the NAP boundary for fire suppression.
- Water and hand tools should be used to stop the spread of wildfire, except under extreme conditions or if an improved structure is threatened. Crews should use a mist (instead of straight stream) water application where possible.
- Helicopter landing areas and fire camps shall not be established within the NAP
- Under extreme conditions or when an improved structure is threatened, foam or retardants are preferable to bulldozers.
- Fire vehicles will be confined to roads and, when applicable, bulldozed fire trails.
- Trees and snags will not be felled unless they pose a threat to firefighters.
- Location and extent of mop-up, and type of mop up activity will be determined by the Incident Commander in consultation with Natural Areas Program staff. Mop-up activities should be minimized in the sensitive areas identified on maps and soil disturbance minimized by using water as much as possible.

After fires have been suppressed, site restoration will be supervised by the region natural areas manager in consultation with the natural areas ecologist.

Site Representatives

If wildfire involves or threatens the NAP, one of the following DNR personnel shall be contacted and placed as a consultant to the Fire Incident, using the closest available person first:

Natural Areas Manager, Southeast Region
(509) 607-1851; region office (509) 925-8510

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Natural Areas Program Ecologist, *Recreation, Conservation & Transactions Division*
(360) 902-1600

Natural Areas Eastside Assistant Ecologist, Southeast Region
(509) 856-5505

Updated Natural Areas Program staff lists are available in Appendix 12 and on DNR's website at:
xxxx.xxxxxx.xxx

In the event that coordination with the local fire district is required, staff can coordinate with:

Whitman County Fire Protection District 11-Steptoe Volunteer Fire Department, (509) 397-4341

If the incident occurs after normal working hours, contact emergency services #911. Emergency services will contact the DNR Southeast Region standby staff, who will then contact a Natural Areas representative from the above list at home.
The representative will inform the Incident Commander of:

1. The purpose of the NAP.
2. The management objectives for the primary features of the NAP.
3. Information regarding existing structures and communication towers, and
4. The need to employ Minimum Impact Suppression Tactics when possible. The Incident Commander should contact the Region representative or the Division before beginning mop-up activities within the NAP.

Post-Fire Rehabilitation

Wildfire Rehabilitation Guideline(s): Following wildfires, the preserve should be allowed to regenerate naturally without human intervention. Post-fire revegetation will not be undertaken unless natural revegetation is impeded or slowed to such an extent that ecological features or processes in the area will be negatively affected. Areas with significant soil disturbance due to fire suppression efforts, *e.g.* berms and fire lines, may be restored by returning soil to its original location. Soil rehabilitation and revegetation efforts will only be undertaken after consultation with the natural areas ecologist. If revegetation is necessary following wildfire, only native plants or seed of native plant species will be used for seeding or propagation of plants; exceptions may occur for the use of short-term, transient non-native plants if determined by the natural areas ecologist to be warranted.

Implementation: Ensure that Southeast Region personnel are informed of the natural revegetation policy of the Preserve. In the event of a wildfire, the natural areas ecologist will determine whether revegetation is required to protect ecological features of the preserve.

Natural recolonization by native vegetation is the preferred restoration strategy when damage to vegetation has occurred. Revegetation (planting or reseeding with native vegetation) will only occur if natural recolonization is impeded by factors such as lack of seed source and proliferation of exotic weed species, or if extreme soil erosion presents a threat to natural features or processes. If revegetation is deemed necessary, a plan will be developed by the natural areas ecologist, and any restoration costs above and beyond erosion control measures typically implemented by Fire Control will be the responsibility of the Natural Areas Program.

The Role of Fire in the Development and Maintenance of this Native Ecosystem

Historically, fires were low intensity due to limited fuel and significant internal spacing between fuel patches. The historic frequency was 50 years to maintain this grassland (Landfire 2007). More recently fire frequency in Palouse prairie has been estimated at 5-8 years based on fire scars from multiple sites in the region (Morgan et al. 2020). Fires would historically have been low intensity due to the predominance of fine fuels and significant internal spacing between fuel patches. Extending fire frequency to >50 years leads to increased shrub cover and shrub regeneration (Landfire 2007). Currently, longer fire intervals have led to increases in shrub and/or tree cover in some Palouse prairie remnants, altering vegetation structure and composition and potentially leading to higher intensity fires due to increased fuel loading. With the prevalence of cheatgrass (*Bromus tectorum)* and other introduced grasses in the current landscape, fires may result in increased dominance by these species, building up a dense fuel bed that creates frequent, high-intensity fires that are lethal to native perennial grasses (Landfire 2007).

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APPENDIX 2 Routine Management Actions for Steptoe Butte

A reasonable base budget for routine management of the NAP will support Southeast Region Natural Areas Program staff including all costs related to the staffing such as travel and materials. Funding typically comes in the form of the Natural Areas Program biennial state budget.

Costs associated with managing Steptoe Butte NAP are expected to change over time due to general economic factors (such as inflation), identification of new land and resource management challenges, or to meet newly identified opportunities for research, environmental education or access. DNR pursues a variety of state and federal grant funding to assist with land and resource management, restoration, research, and development of access and educational facilities, including development of educational curricula and materials by DNR's Youth Education and Outreach Program for use at this site.

Table 2-1 Routine Management Activities List Created January 2025

Activity	**Description**	**Estimated Staffing and Resources Required** with Potential Fund Source
Invasive species control	• Follow the site weed management plan to reduce and minimize the persistence of invasive weeds • *See Goal 5: Control Non-native Invasive Weed Species*	0.05 FTE per biennium for Natural Areas Manager 0.05 FTE per biennium for Natural Areas Steward Annual weed control contract with Phoenix Conservancy 2-3 gallons of Herbicide 1-2 gallons of Surfactant Funding: Natural Areas Program budget; Washington Conservation Corps crew allocation, revenue from communication tower leases
Ecological and Adverse Impacts Monitoring	• Invasive species distribution mapping and treatment monitoring • Conduct baseline EIA for primary features • Monitor primary species	Map and monitor invasive species (0.05 FTE per biennium for Natural Areas Steward; contract with Phoenix Conservancy) Conduct EIA (0.05 FTE every 5 years-Assistant Ecologist & Natural Areas Ecologist); unfunded

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	• Impacts of uses along roadside • Impacts from unauthorized uses, such as dumping, off-roading, or theft • Impacts from communication towers	Establish and monitor long-term plots (0.05 FTE every 5 years- Assistant Ecologist & Natural Areas Ecologist); unfunded Coordinate Spalding's catchfly monitoring with Palouse Conservation District (Annual surveys) Monitor Scouler's catchfly, small flowered goldenweed, broadfruit mariposa lily (.05 FTE every 5 years- Assistant Ecologist); unfunded Routine site visits to monitor use impacts (0.10 FTE per biennium for Natural Areas Staff) Funding: USFWS ESA Recovery Implementation Funds, Natural Areas Program funds
Environmental Education ·	• Promote site research prospects to regional universities, high schools, organizations • Promote education use on the preserve	0.10 FTE per biennium for Outreach and Planning specialist Funding: Natural Areas Program
Site Maintenance	• Post boundary signs around site • Remove old fence as needed	0.05 FTE per biennium for Natural Areas Staff Funding: Natural Areas Captial, Washington Conservation Corps crew allotment
Communication Leases	• Maintain communication lease agreements and update as needed	.0.01 FTE DNR Communication Site Manager .0.01 FTE Natural Areas Manager Coordinate with DNR communication site leasing staff on lease agreements Funding: Revenue from communication leases

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APPENDIX 3 Near-Term Project List for Steptoe Butte NAP

The one-time costs noted in Project List Table below, should be pursued to complete necessary planning and make initial investments for site management, restoration, and enhancement.

Costs associated with implementing these projects are expected to change depending on how long it takes to fund and begin implementation of the project. Costs change because of various reasons including general economic factors (such as inflation), materials sourcing, and changes in the environment that affect project design. DNR pursues a variety of state and federal capital and grant funding to assist with land and resource management, restoration, research, and development of access and educational facilities, including development of educational curricula and materials by DNR's Youth Education and Outreach Program for use at this site.

This initial project list will be updated by the Natural Areas Program as projects are implemented and new activities or new costs are identified.

Table 3-1 Priority Project Needs at Steptoe Butte as of Winter 2025

Activity	**Description**	**Estimated Staffing and Resources Required** with Potential Fund Source
Restoration- Phase 1	Map distribution of annual grasses on site and assess impact to primary features Develop restoration plan to restore plant communities to EIA B or better rank	0.1 FTE natural areas manager 0.2 FTE Eastside Ecologist and Stewardship staff 0.05 FTE natural areas ecologist Contract with Phoenix Conservancy for survey. Potential Funding: Revenue from communication leases, Natural Areas Program budget
Restoration- Phase 2	Implement restoration actions based on the restoration plan developed in phase 1. Monitor plant communities before and after treatment to ensure objectives have been met.	0.1 FTE natural areas manager 0.5 FTE Eastside Ecologist and Stewardship staff Contract with Phoenix Conservancy and Palouse Conservation district for implementation of restoration activities and monitoring impacts. Potential Funding: Recreation and Conservation Office grants, Natural Areas Program budget

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Spalding's Catchfly Recovery actions	Implement recovery actions as part of the recovery plan/ Habitat Management Plan	0.1 FTE natural areas manager 0.2 FTE Eastside Ecologist and Stewardship staff Coordinate recovery actions with Palouse Conservation District Potential Funding: USFWS ESA Recovery Implementation Funds
Managing use	Coordinate with State Parks on developing messaging/interpretive signs at agency shared kiosk(s)	0.2 FTE Outreach and planning specialist Potential funding: Recreation and Conservation development grant, Natural Areas capital

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APPENDICES 4 through 14 are under development

Location: (((add www. address.xxxxxxxxx Won't have a webpage until after approval of this plan))) as of (Month Year)

Appendix 4: Natural Heritage Program report including info on topography, geology, soils, hydrology, and additional conservation features
Appendix 5: Plant list
Appendix 6: Animal list
Appendix 7: Public Access Policy.
Appendix 8: Science, Research and Monitoring History
Appendix 9: Research Needs in Support of Site Management
Appendix 10: Management Goals and Actions for Priority Features
Appendix 11: Invasive Species Treatment Plan
Appendix 12: Natural Areas Staff Contact Information
Appendix 13: Restoration History
Appendix 14: Inadvertent Discovery Plan

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