

Natural Heritage Plan 2009 Update

This sagebrush-dominated landscape near Moses Coulee is an example of just one of the ecosystem types that will be one included in the shrub-steppe conservation strategy that the Natural Heritage Program is developing. See page 4

Washington's Natural Heritage Plan identifies priorities for conserving the native species and ecosystems that make up our state's remarkably rich natural heritage.

The plan describes the work of the Natural Heritage Program, from managing and sharing information, to setting conservation priorities, to providing a framework for establishing a statewide system of natural areas. The program updates the plan every two years to reflect new knowledge and conditions that affect conservation priorities and planning.

The basic method of setting conservation priorities and the criteria for selecting natural areas are described in the 2007 Natural Heritage Plan. This 2009 update provides a summary of changes to the lists of priority species and ecosystems and offers a brief look at some key work for the next two years.

The 2007 Natural Heritage Plan remains a valuable resource with detailed information about Natural Heritage methodology, setting conservation priorities, descriptions of each of Washington's nine ecoregions, and information about the statewide system of natural areas.



Find this update, the 2007 plan, the list of priority

species and ecosystems, and more information about the Natural Heritage Program at: www.dnr.wa.gov

Use the DNR search tool to find "Natural Heritage Program."



WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

NATURAL HERITAGE

Conservation Based on Information

Conservation of Washington's natural heritage requires objective, scientific information. We need to know which species and ecosystems need special conservation attention, where they occur, and how best to manage the land to conserve them.

Gathering, managing and sharing ecological information and applying it to conservation planning is fundamental to the mission of the Washington Natural Heritage Program. The program was created specifically to provide an objective basis for establishing priorities for a broad array of conservation actions, such as establishing natural areas. To do this, the program gathers scientific data that can be synthesized into usable information to help inform conservation decisions and actions by individuals, government agencies and conservation organizations.

METHODOLOGY

The Natural Heritage Program's methodology follows three steps:

1 Classification

What plants, animals and ecosystems are part of the state's natural biodiversity? Which ones need conservation attention?

2 Inventory

Where do the various species and ecosystems occur?

3 Conservation Planning

What needs to be done to protect the individual species and ecosystems?

This methodology is ongoing and iterative. That is, each step—classification, inventory and conservation planning—is repeated as more information is collected and as conservation actions or changes in land use change the type or level of threat. Through this process, species and ecosystems are assessed and re-assessed to determine which are of concern. Under this approach, the highest priority species and ecosystems can be targeted for conservation actions.

The program's methodology also connects Washington's program to partners throughout the western hemisphere. Washington's Natural Heritage Program is part of NatureServe, a network of 80 natural heritage programs located in all 50 states, all Canadian provinces, and in several Latin American and Caribbean countries. Members of the network can readily share information because they all use similar methodologies and data management tools and standards.

www.natureserve.org



For more information about Natural Heritage methodology, see the 2007 Natural Heritage Plan on the program's website: www.dnr.wa.gov



Above: Natural Heritage Program zoologists are finding new populations of the **Makah Copper**, a rare butterfly on the Olympic Peninsula. Such inventory efforts are critical to the process of assigning conservation priorities to species and ecosystems.

Below: Natural Heritage scientists spend considerable time in the field, conducting inventory, monitoring and research projects. Here, botanist Joe Arnett examines a shrub-steppe plant species.



CHANGES TO THE LIST OF PRIORITY SPECIES AND ECOSYSTEMS

	SCIENTIFIC NAME	COMMON NAME	2007 PRIORITY	2009 PRIORITY
+ Additions				
Animal	<i>Tamias minimus</i>	Least Chipmunk		Priority 3
Animal	<i>Spermophilus townsendii</i>	Townsend's Ground Squirrel		Priority 3
Plant	<i>Anagallis minima</i>	Chaffweed		Priority 2
Plant	<i>Impatiens noli-tangere</i>	Western Jewel-weed		Priority 2
Plant	<i>Nuttallanthus texanus</i>	Texas toadflax		Priority 3
Plant	<i>Salix pseudomonticola</i>	False Mountain Willow		Priority 3
Plant	<i>Agoseris lackschewitzii</i>	Pink Agoseris		Priority 3
- Deletions				
Animal	<i>Spermophilus mollis</i>	Piute Ground Squirrel	Priority 2	
Plant	<i>Juncus howellii</i>	Howell's Rush	Priority 2	
Plant	<i>Puccinellia nutkaensis</i>	Alaska Alkaligrass	Priority 3	
Plant	<i>Spiraea splendens</i>	subalpine spiraea	Priority 3	
Plant	<i>Thalictrum dasycarpum</i>	Purple Meadowrue	Priority 3	
Priority Status Changes				
Animal	<i>Ascaphus montanus</i>	Rocky Mountain Tailed Frog	Priority 2	Priority 3
Plant	<i>Agrostis borealis</i>	Northern Bentgrass	Priority 3	Priority 2
Plant	<i>Carex capillaris</i>	Hair-like Sedge	Priority 3	Priority 2
Plant	<i>Parnassia kotzebuei</i>	Kotzebue's Grass-of-parnassus	Priority 3	Priority 2
Ecosystem		Oregon white oak / oval leaf virburnum	Priority 1	Priority 2

PRIORITY SPECIES AND ECOSYSTEMS

The Natural Heritage Program tracks about 500 rare species and more than 300 ecosystems native to Washington State. By prioritizing ecosystems and plant and animal species for conservation, the Natural Heritage Program creates an objective means for evaluating proposed natural areas and other conservation activities.

Relatively few changes have been made to the lists of priority species and ecosystems since the 2007 Natural Heritage Plan. The changes are the result of the program's pursuit of better information through inventory, research, monitoring and extensive literature review, and through communication with knowledgeable individuals. Species and ecosystems added to the list or changed to higher priorities were found to be more at risk than before. Those deleted or changed to lower priorities were found to be less at risk than before.

Changes to the list are summarized in the table above. The full list of priority species and ecosystems, their current priority status and details of the 2009 changes to the list can be found on the Natural Heritage Program website.

SPECIES PRIORITY RANKINGS*

PRIORITY 1

These species are in danger of extinction across their range, including Washington. Their populations are critically low or their habitats are significantly degraded or reduced.

PRIORITY 2

These species may become endangered across their range or in Washington if factors contributing to their decline or habitat loss continue.

PRIORITY 3

These species are vulnerable or declining and could become endangered or threatened throughout their range without active management or removal of threats to their existence.

* For ecosystems, priorities are based on how well each is represented within existing natural areas, rarity and degree of threat.



Top: Conservation actions can affect the priority status assigned to species and ecosystems. A significant acquisition within the **Washougal Oaks NAP/NRCA** in 2008 has improved the protection for the Oregon white oak / oval leaf virburnum ecosystem. As a result, this ecosystem type has been lowered from Priority 1 to Priority 2.

Bottom: **Texas toadflax** is one new addition to the list of priority elements. Careful review and input from botanists around the state provided the information needed to list it as a Priority 3 element.

Natural Heritage | Project Priorities

Natural Heritage methodology provides an objective means of setting conservation priorities. These priorities then help guide the Natural Heritage Program's projects and its work with partners on conservation issues and efforts across the state.

09 THROUGH 11

The Natural Heritage Program has 15-20 major inventory, monitoring, classification, data enhancement and information-sharing projects underway at any given time. Two of the most significant for 2009-2011 are featured below.

Shrub-Steppe Conservation Strategy

Shrub-steppe ecosystems are among the most threatened in the state. More than 50 percent of Washington's original shrub-steppe has been lost to changes in land use. The remaining shrub-steppe is highly fragmented and is rapidly being lost or compromised, as more acres are developed to accommodate a growing population. In fact, 15 distinctive ecosystem types (including shrub-steppe, grassland, and wetland types) within the Columbia Plateau Ecoregion are Priority 1 in the 2009 Natural Heritage Plan.

In 2009-2011, the Natural Heritage Program will continue to develop a shrub-steppe conservation strategy. Assessing the condition of shrub-steppe ecosystems and inventorying the rare species they contain has been underway for more than two years. The Natural Heritage Program already has assessed the shrub-steppe ecosystems on 100,000 acres of state Department of Natural Resources-managed lands.

Mapping the data gathered during this inventory effort—seeing what is where—is a key part of the Natural Heritage Program's effort. With a current and comprehensive map, the program can identify priorities for conservation actions, including identifying potential natural areas. The Natural Heritage Program is seeking the help of partner agencies and organizations. Working together, a more complete picture of shrub-steppe conservation opportunities and information needs can be created.

LandScape Washington / LandScape America

Washington's Natural Heritage Program is one of only five state programs to be chosen to participate in the development of LandScape, an online guide to conserving America's natural places. Conservation partners and the public will have access to user-friendly maps and other information about Washington's conservation efforts and opportunities when LandScape America launches in 2009.

The project's grant funding and website tools have given the program the opportunity to reach out to a broad audience and better coordinate with land trusts and other conservation organizations across the state, as well as with partners across the nation. This website is a collaboration of NatureServe, the National Geographic Society, state natural heritage programs and many other partners.

www.landscape.org

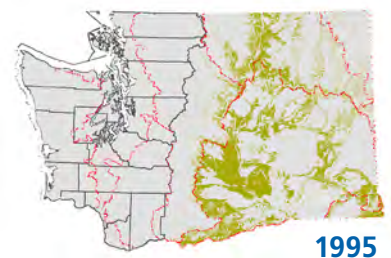
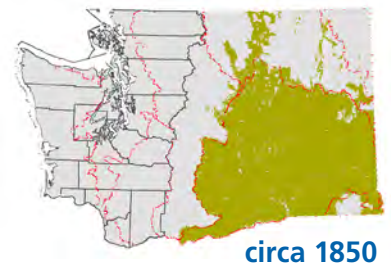


For more information about Natural Heritage Project Priorities, see the 2007 Natural Heritage Plan on the program's website: www.dnr.wa.gov



▲ LandScape America will provide Web users in our state and around the world with a new opportunity to learn about conservation priorities and efforts in Washington.

DISTRIBUTION OF SHRUB-STEPPE IN WASHINGTON



▲ The green area on the map above shows the extent of shrub-steppe circa 1850, while the one below shows what remained in 1995. Since then, even more has been converted.

SOURCE: JOHNSON, D.A. AND T. O'NEIL. 2001. WILDLIFE-HABITAT RELATIONSHIPS IN OREGON AND WASHINGTON. OREGON STATE UNIVERSITY PRESS, CORVALLIS, OREGON. 736 P.

Natural Heritage | Partnering with Others

The Washington Natural Heritage Program (NHP) has more than 30 years of experience compiling, analyzing and sharing objective scientific information about Washington's biodiversity. This puts the NHP in a unique position to support a variety of conservation efforts across the state. In 2009-2011, the program will pursue partnerships, including:

Washington Biodiversity Council

Implementing the Washington Biodiversity Strategy. The strategy aims to build on the strength and expertise of existing programs while incorporating conservation of biodiversity into more aspects of our daily lives. The NHP provides critical information for many parts of this strategy.

www.biodiversity.wa.gov

The Puget Sound Partnership

Developing a science-based roadmap for restoring Puget Sound. The NHP will provide biodiversity data and expertise regarding the estuaries and uplands in the Puget Sound watershed.

www.psp.wa.gov

Audubon Washington

Implementing the Important Bird Areas Program. The NHP will use Audubon's data on Important Bird Areas in the NHP's conservation planning efforts, and will share NHP-managed data with Audubon for their use in conservation planning efforts.

wa.audubon.org

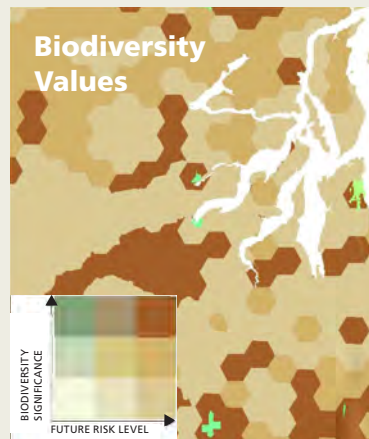
Washington Department of Fish and Wildlife

Developing ecoregion action plans. The NHP will continue to provide data and expertise for this effort, ensuring that county planners, conservation organizations and others have the best information available as they make land-use decisions.

www.wdfw.wa.gov



▲ Natural Heritage data are used to identify important sites for conservation, such as **Kennedy Creek Natural Area Preserve**. Data on such estuaries and adjacent uplands can be an important resource for the Puget Sound Partnership's efforts to restore Puget Sound.



▲ The Conservation Opportunity Framework developed by the Biodiversity Council provides a snapshot of relative biodiversity values and risks to those values across the landscape. The effectiveness of conservation opportunity maps relies largely on data from the Natural Heritage Program, Washington Department of Fish and Wildlife, and others.

NATURAL HERITAGE ADVISORY COUNCIL

The work of the Natural Heritage and Natural Areas programs is guided by the Natural Heritage Advisory Council. This advisory group consists of ten voting members appointed by the Commissioner of Public Lands and five non-voting representatives from the departments of Ecology, Fish and Wildlife and Natural Resources, the State Parks and Recreation Commission, and the Recreation and Conservation Office.

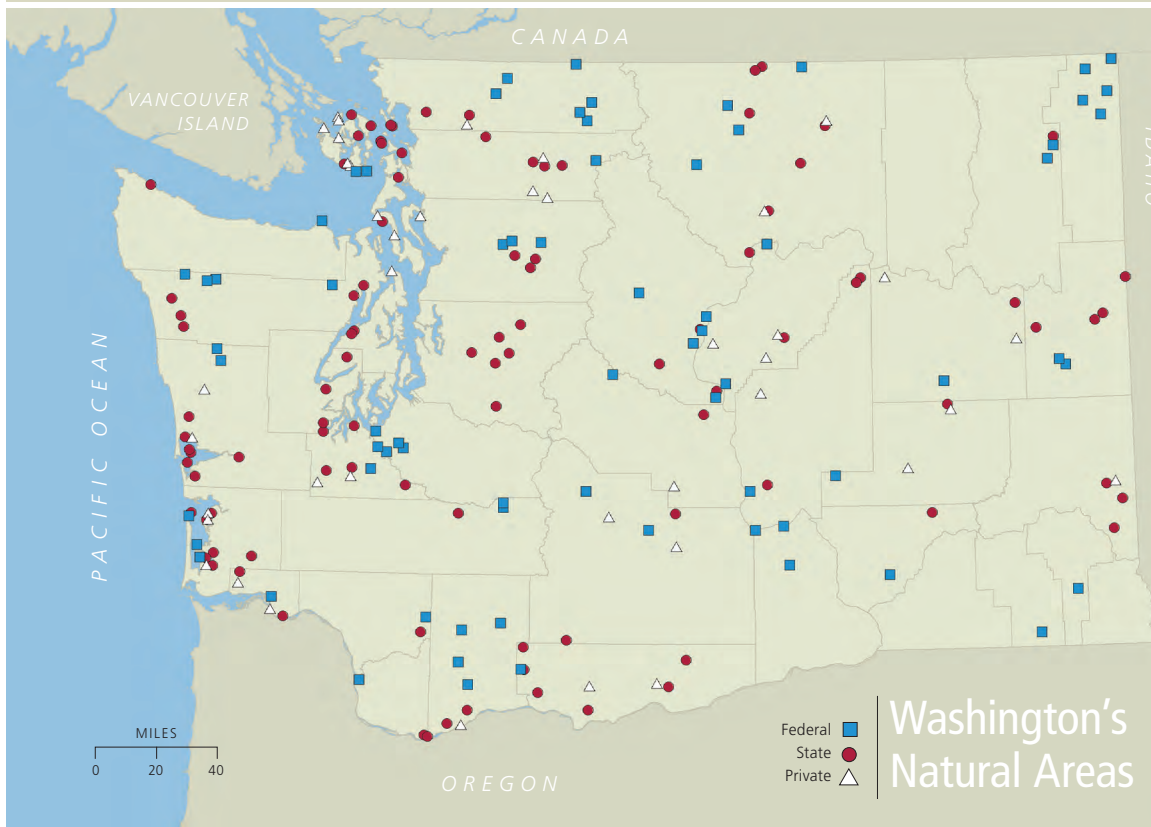
The Council must approve of the methodology used by the Natural Heritage Program to set conservation priorities (see pages 2 and 3). It provides guidance regarding biennial revisions to the State of Washington Natural Heritage Plan. It advises the Department of Natural Resources, the Department of Fish and Wildlife, and State Parks regarding additions to the statewide system of natural areas and management of natural areas already in the system.



For more information about Natural Heritage Advisory Council, see the 2007 Natural Heritage Plan on the program's website: www.dnr.wa.gov

NATURAL AREAS

Natural Areas: A Statewide System



Natural areas have been designated in nearly every Washington county. The Natural Heritage Plan recognizes 196 natural areas owned and managed by a variety of agencies and organizations.

88 in state ownership
Dept. of Natural Resources
Dept. of Fish and Wildlife
State Parks and Recreation
Commission

68 in federal ownership
US Forest Service
Bureau of Land Management
National Park Service
US Fish and Wildlife Service
Dept. of Defense

40 in private ownership
The Nature Conservancy
Others

One of the ways the classification, inventory and conservation planning work of the Natural Heritage Program bears fruit is through the designation of natural areas. Natural areas maintain habitats for rare species and conserve important examples of native ecosystems.

Washington's statewide system of natural areas is critical to the long-term persistence of the state's unique natural heritage.

Natural areas also provide unique opportunities for research, education, and low-impact recreation. They serve as baseline reference sites to document environmental change and to learn how ecosystems function. Research on natural areas can be used not only for conservation lands, but also for improving the management of managed forests, rangelands and more. For example, such research has provided information about invasive species and prescribed fire, and documentation regarding what a reasonably natural ecosystem looks like and how it functions.



▲ Students from Spokane's North Central High School use **Pineroft Natural Area Preserve** as an outdoor laboratory. Each year they conduct research, present their findings at a public symposium, and publish reports in their school's Journal of Science.



For more information about

designating natural areas, and about the DNR's Natural Areas Program, see our website:
www.dnr.wa.gov

DNR's Natural Areas Program

The state Department of Natural Resources (DNR) manages more than 40 percent of the designated natural areas in Washington. More than 126,000 acres are protected in DNR's 82 Natural Area Preserves (NAP) and Natural Resources Conservation Areas (NRCA). DNR's investments in natural areas are guided by the conservation priorities of the Natural Heritage Plan. From acquisitions to management and research activities, each biennium's investments help shape future conservation efforts and support the long-term persistence of Washington's natural heritage.

DNR NATURAL AREA ACQUISITIONS JULY 2007 – NOVEMBER 2008

In the first three quarters of the 2007-2009 biennium, DNR added more than 2,100 acres to the statewide system of natural areas, an investment of nearly \$17 million.

Natural Area	County	Acres
Camas Meadows	Chelan	650
Cypress Island NRCA	Island	12
Hamma Hamma Balds NAP	Mason	657
Kennedy Creek NAP	Mason	39
Methow Rapids NAP	Okanogan	19
Niawiakum River NAP	Pacific	94
Stavis NRCA	Kitsap	249
Trout Lake NAP	Klickitat	200
Washougal Oaks NAP/ NRCA	Clark	115
Woodard Bay NRCA	Thurston	90
TOTAL		2125

Natural Areas Program Project Priorities

09 THROUGH 11

Natural Heritage methodology provides an objective means of setting conservation priorities. These priorities help guide the Natural Areas Program's projects and its work with partners on conservation issues and efforts across the state.

New Sites and Expansions

DNR will pursue designation and acquisition of new natural areas during the 2009-2011 biennium. Two proposed natural areas—Wanapum, and Trombetta Canyon—are featured in the photos at right.

DNR also continues to evaluate individual natural area boundaries to assess how well they meet the long-term conservation needs of the site's natural features. Two possible site expansions currently being studied are at the Camas Meadows and Columbia Hills NAPs.

Management Planning

The Natural Areas Program identifies actions it can take to help ensure the protection of the ecological features of each site. Site-specific management plans are created with community involvement and public agency review, including information about conservation features, public access opportunities, invasive species, and restoration needs. Site-specific planning priorities for 2009-2011 include Elk River, Stavis Creek and Morningstar NRCAs.

Restoration

Natural area management often includes restoration projects designed to allow ecosystems to function as naturally as possible. Several restoration projects are generally underway at any one time across the DNR-managed natural area system. Priority projects for 2009-2011 include restoration of estuarine function at the Chehalis River Surge Plain NAP and restoration of grassland plant communities at Bald Hills NAP and other South Sound prairie sites.



Above: Natural Heritage inventory work has shown that designation of a new natural area (**Wanapum NAP**) is needed to help conserve the **Striped Whipsnake** and other significant ecological features near the Columbia River in Grant County.

Below: **Trombetta Canyon** is home to two species that are restricted to limestone. A transfer of DNR-managed trust land to natural area status is anticipated during the 2009-2011 biennium.

Research

Natural areas serve as reference sites for Washington's natural features. DNR conducts research on natural areas to better understand species and ecosystems and to help guide restoration activities. For example, shoreline restoration work at Woodard Bay NRCA will provide valuable information about returning natural function to an altered ecosystem, which will help guide restoration projects throughout Puget Sound.

ACKNOWLEDGMENTS

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Snoqualmie Bog
Natural Area Preserve
in King County



It is, therefore,
the public policy
of the State of
Washington to secure
for the people of
present and future
generations the
benefit of an enduring
resource of natural
areas by establishing a
system of natural area
preserves and to
provide for the
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