

# Natural Heritage Plan 2011 Update



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

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 and the Natural Areas Program: managing and sharing information on the state's biodiversity, setting conservation priorities, providing a framework for establishing a statewide system of natural areas, and protecting and managing 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 2011 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, each of



Washington's nine ecoregions, and the statewide system of natural areas.

**Find this update, the 2007 plan, the list of priority species and ecosystems, and more at: [www.dnr.wa.gov](http://www.dnr.wa.gov)**

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

## NATURAL HERITAGE

# Conservation Based on Science



**C**onservation 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. To do this, the Program has gathered, and will continue to gather, 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 and Prioritization

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 affect the type or level of threat. Through this process, species and ecosystems are assessed and re-assessed to determine which are of concern. This approach assures the highest priority species and ecosystems are selected for conservation actions.

## NATURESERVE

Washington's Natural Heritage Program is part of a network of more than 80 programs in the western hemisphere.

All use the same basic methods to gather, manage and interpret information on biodiversity. The NatureServe Network identifies global conservation ranks for species and ecosystems. Information provided by the network allows Washingtonians to better identify our own conservation priorities. We in turn, provide information and influence conservation beyond our borders.

[www.natureserve.org](http://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](http://www.dnr.wa.gov)



The Natural Heritage Program partners with others to monitor the status of rare plant species, including the Umtanum desert-buckwheat.



## CHANGES TO THE LIST OF PRIORITY SPECIES AND ECOSYSTEMS

	SCIENTIFIC NAME	COMMON NAME	2009 PRIORITY	2011 PRIORITY
<b>Priority Status Changes</b>				
<b>Upgrades—species considered to be at greater risk than in 2009</b>				
Plant	Damasonium californicum	fringed waterplantain	Priority 2	Priority 1
Plant	Lepidium oxycarpum	sharpfruited peppergrass	Priority 2	Priority 1
Plant	Pyrrocoma liatrifomis	Paulouse goldenweed	Priority 2	Priority 1
Plant	Physaria didymocarpa ssp. didymocarpa	common twinpod	Priority 3	Priority 2
<b>Downgrades — species and ecosystems considered to be at less risk than in 2009</b>				
Plant	Sidalcea hirtipes	hairy-stemmed checker-mallow	Priority 1	Priority 2
Plant	Rubus nigerrimus	northwest raspberry	Priority 1	Priority 2
Plant	Anagallis minima	chaffweed	Priority 2	Priority 3
Plant	Euonymus occidentalis var. occidentalis	western wahoo	Priority 2	Priority 3
Ecosystem	Low Elevation Freshwater Wetland**		Priority 1	Priority 2
Ecosystem	Low Elevation Sphagnum Bog**		Priority 2	Priority 3

\*\*These ecosystem types are a lower priority than in 2009 as a result of the successful acquisition of Ink Blot NAP; they now have better representation in the statewide system of natural areas and presumably have better overall protection.

### + Additions

Plant	Allium bisceptrum	twincrest onion		Priority 3
Plant	Carex eburnea	bristleleaf sedge		Priority 3
Plant	Erigeron davisii	Davis' fleabane		Priority 3
Plant	Malaxis monophyllos var. brachypoda	white adder's-mouth orchid		Priority 3
Plant	Monolepis spathulata	prostrate povertyweed		Priority 3
Plant	Muhlenbergia mexicana var. mexicana			Priority 3
Plant	Packera bolanderi var. harfordii	Harford's ragwort		Priority 3
Plant	Packera macounii	Siskiyou Mountain ragwort		Priority 3
Plant	Packera porteri	Porter's butterweed		Priority 3
Plant	Pediocactus nigrispinus	snowball cactus		Priority 3
Plant	Physostegia parviflora	western false dragonhead		Priority 3
Plant	Pyrrocoma scaberula	Palouse goldenweed		Priority 3
Plant	Silene scouleri ssp. scouleri	Scouler's catchfly		Priority 3
Plant	Zeltnera muhlenbergii	Monterey centauray		Priority 2

### 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.

## PRIORITY SPECIES AND ECOSYSTEMS

The Natural Heritage Program tracks about 500 rare species and 300 ecosystems native to Washington State. Prioritizing ecosystems and species for conservation offers a means to evaluate proposed natural areas and other conservation activities.

Few changes have been made to the lists of priority species and ecosystems since the 2009 Natural Heritage Plan Update. Changes are the result of the program 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 are summarized in the table at left. The full 2011 list, current priority status and details are on the Program website, at [www.dnr.wa.gov](http://www.dnr.wa.gov)

## Natural Heritage | Project Priorities

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

# 11 THROUGH 13

**About 15 to 20 major inventory, monitoring, classification, data enhancement and information-sharing projects are underway at any given time. Some of the most significant for 2011-2013 are featured below.**

### Rare Plant Inventory

The Natural Heritage Program manages the state's only comprehensive database of information on rare plant species and their locations. The database is critical for setting conservation priorities.

Adding new information is an ongoing priority. The Program is conducting inventories of rare plants in several ecosystems around the state, often as part of projects funded under the federal Endangered Species Act. Species inventory efforts include Kincaid's lupine and Bradshaw's lomatium in remnant south Puget Trough prairies, showy stickseed and Wenatchee Mountain checker mallow in the Wenatchee Mountains, Ute lady's-tresses in Columbia River riparian areas, pale blue-eyed grass and obscure buttercup in the Columbia Hills, Umtanum desert-buckwheat and White Bluffs bladderpod within the Hanford Monument, and Spalding's catchfly in the Palouse.

Work also continues with partners on recovering golden paintbrush in the Puget Sound area.



**Bradshaw's lomatium** (the yellow flower), a federally listed species, is one of the Program's priorities for conservation action.

### Rare Animal Projects

The Program works with other agencies and organizations on many animal species projects. Program scientists are synthesizing known information to help inform decisions by the U.S. Fish and Wildlife Service regarding potential listing of species under the Endangered Species Act.

The Program is identifying insect pollinators for a number of federally listed plant species.

The Program also is providing expertise about animal species to support a habitat connectivity assessment for the Columbia Plateau.

The Program updates NatureServe data on both animal and plant species to ensure that global conservation status rankings assigned to Washington species are based on current information.

### Federal Agency Partnerships

The U.S. Forest Service and Bureau of Land Management have agreements with the Natural Heritage Program to develop data on species and ecosystems. The Program will continue to develop information on the elements of biodiversity in Washington with these federal partners.

The Program anticipates continued work to classify and map vegetation on National Park Service lands in the state. The Program also will continue to monitor rare plants and vernal pools on Fairchild Air Force Base through the 2011-2013 Biennium.

The Natural Heritage Program successfully leverages state funding by using it as a match for federal funds acquired through grants and contracts.



**The Arid Lands Initiative** is a public/private partnership attempting to develop strategies to conserve the species and ecosystems found within Washington's arid landscapes.

### Arid Lands Initiative

Arid land ecosystems are some of the most threatened in Washington State. As a result, about 30 agencies and organizations are coordinating a strategy to conserve native plant and animal species and ecosystems while supporting local communities and economic development that is compatible with resource conservation.

The Natural Heritage Program is a key participant, helping identify conservation targets, major threats and potential strategies to address the threats. Over the next two years, strategies will be fine-tuned and roles and responsibilities identified to implement them. A key role for the Program will be to continue to gather and share information on the biological diversity of the arid lands.

## Natural Heritage | Partnering with Others

The Natural Heritage Program has 30 years of experience compiling, analyzing and sharing objective scientific information on Washington's biodiversity. No other agency or organization has a comparable database on these plant species and ecosystems. This puts the Program in a unique position to support conservation efforts across the state.

### Updating and Refining Wetland Conservation Priorities for Western Washington

Protecting the most significant wetlands—whether through wetland permitting decisions or general land use planning—requires up-to-date, comprehensive and reliable information.

The Natural Heritage Program recently received a U.S. Environmental Protection Agency grant to update the database of high quality wetlands in western Washington, particularly as the data relates to the state Department of Ecology's Wetland Rating System. The project will help refine wetland conservation priorities, and offer more detailed and transparent documentation and reporting of ecological values present within each wetland.

### Developing Ecological Integrity Assessments

How are the health and condition of an ecosystem measured? The Natural Heritage Program, the Department of Fish and Wildlife, and State Parks are developing a tool to do just that. The Ecological Integrity Assessments take a systematic approach to measuring ecological conditions at a variety of spatial scales helping conservation planners and managers establish and meet land management goals.



**Program ecologists** are standardizing the approach to assessing ecological conditions of sites, referred to as Ecological Integrity Assessments—partnering with state agencies and others on this approach.



**EPA has provided grant funding** to update the Natural Heritage Programs database on high quality wetlands. The database is used to help implement the state's wetlands rating system.



**The Program's zoologist** is helping to identify rare plant pollinators with a grant from the U.S. Fish and Wildlife Service.

## NATURAL HERITAGE ADVISORY COUNCIL

The work of the Natural Heritage Program and Natural Areas Program 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.



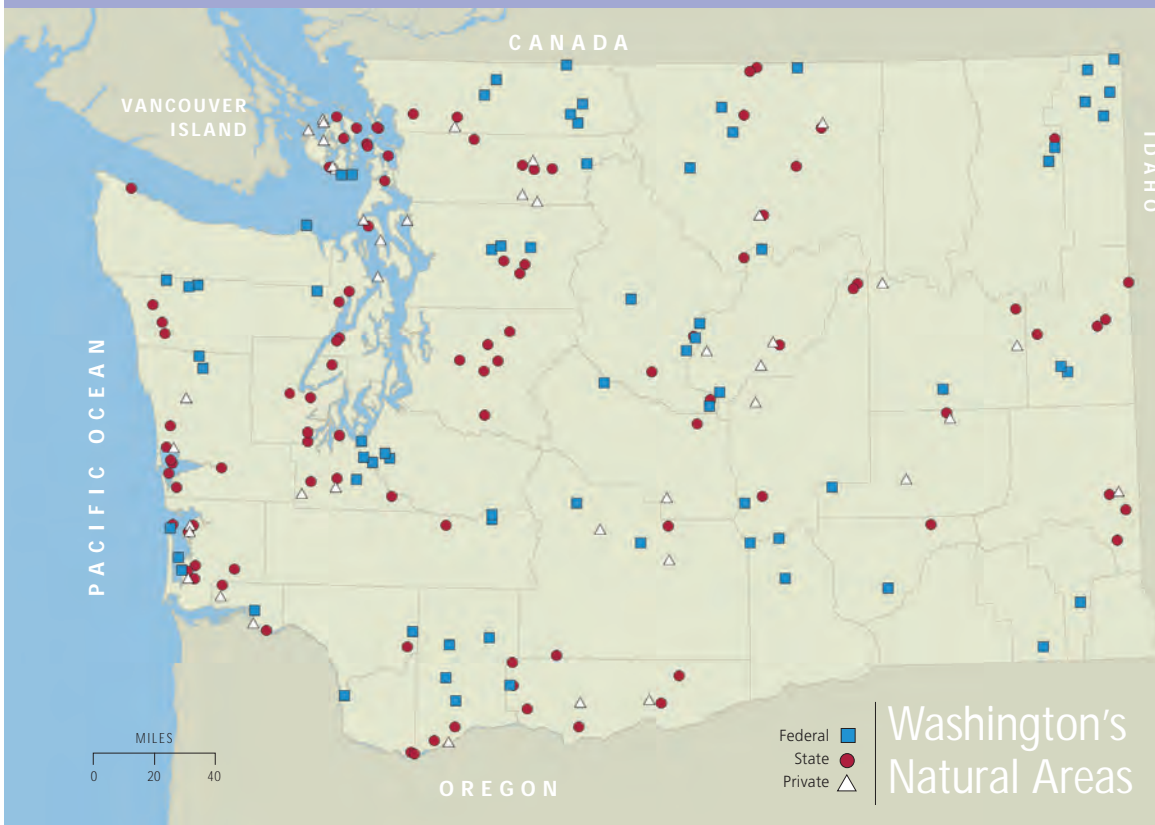
For more information about Natural Heritage

Advisory Council, see the 2007 Natural Heritage Plan on the Program's website: [www.dnr.wa.gov](http://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 197 natural areas owned and managed by a variety of agencies and organizations.

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

**68 in federal ownership**  
U.S. Forest Service  
Bureau of Land Management  
National Park Service  
U.S. Fish and Wildlife Service  
Dept. of Defense  
Dept. of Energy

**40 in private ownership**  
The Nature Conservancy  
Columbia Land Trust  
Others

## Washington's Natural Areas

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 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.



**Long-time volunteer Cliff Snyder** plants seedlings at a wetland restoration project in the Chehalis River Surge Plain NAP.

## 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 134,000 acres are protected in 84 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 2009 – DECEMBER 2010

In the first three quarters of the 2009-2011 Biennium, DNR added more than 1,900 acres to the statewide system of natural areas, an investment of more than \$29 million.

Natural Area	County	Acres
Chehalis River Surge Plain NAP	Grays Harbor	375
Columbia Falls NAP	Skamania	680
Dabob Bay NAP/NRCA	Jefferson	174
Elk River NRCA	Grays Harbor	121
Ink Blot NAP	Mason	153
Klickitat Canyon NRCA	Yakima	128
Lummi Island NRCA	Whatcom	10
Morning Star NRCA	Snohomish	122
Mount Si NRCA	King	41
Stavis NRCA	Kitsap	115
Washougal Oaks NAP/NRCA	Clark	20
<b>TOTAL</b>		<b>1,939</b>

## Natural Areas Program Priorities

11 THROUGH 13

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.

### Natural Area Acquisition

Land transactions are essentially about people. Good relationships are key to long-term conservation. When Natural Heritage Program scientists identify a site, it is merely the first step to acquiring lands for a new natural area—a journey that may take many years. Ink Blot NAP is such an example. In 1987, the Natural Heritage Advisory Council recommended this wetland and bog complex in Mason County for protection. DNR only acquires land from willing sellers—and this acquisition took 23 years. The owner wanted to retain the core wetland feature within a managed timber landscape. By building a long-term relationship and checking in with the landowner occasionally, DNR's Special Lands Acquisition Program closed the deal in 2010.

### Research in Natural Areas

DNR's natural areas network is the largest conservation land base in Washington, and offers unequalled opportunities for research and monitoring. To date, 359 projects have been conducted by state, federal or local agencies, universities and colleges, high schools, non-profits, volunteers or consultants. The information gained from these projects is beneficial to all engaged in natural resources management. Among many active projects in 30 natural areas are:

- A long-term study of potential climate change-driven vegetation shifts at Upper Dry Gulch NAP—a cooperative effort of several universities and The Nature Conservancy.

- A study of climatic controls on growth and distribution of Garry oak at Mima Mounds NAP and Washougal Oaks NAP conducted by the University of Guelph, Ontario.
- An investigation of old-growth forest characteristics by The Nature Conservancy at South Nemah NRCA—part of a study to help define forest restoration goals for a nearby preserve.

During 2011-2013, the Natural Areas Program will research and monitor influences of climate change on native species and ecosystems, invasive species ecology, rare species ecology and restoration and ecosystem and plant community ecology.

### Environmental Education and Volunteerism

In managing the highest quality—and often rarest—species and ecosystems, the Natural Areas Program leverages state funds with volunteer "stewardship" hours. Volunteers are critical to keeping facilities open.

Also, natural areas serve as outdoor classrooms for K-12 through college education. Volunteerism and environmental education often are combined through service-learning, whereby students research and analyze the effects of their projects, such as monitoring water quality at restoration sites.

Visitors often return to assist with weed control or cleanup days, or become site stewards. Volunteer Cliff Snyder (see photo) has lent a hand on projects and environmental education for 11 years—offering helpful guidance as visitors explore the mysterious mounded prairie of Mima Mounds NAP where he serves as site steward.



## ACKNOWLEDGMENTS

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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  
protection of these  
natural areas."

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