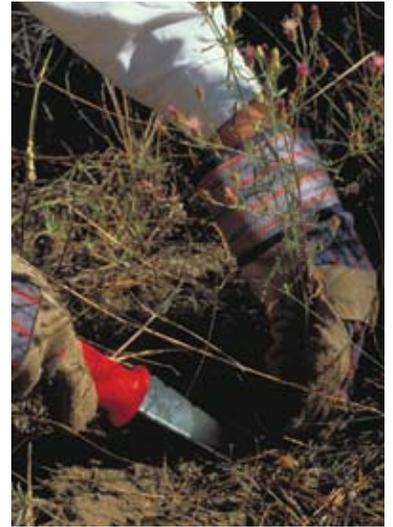




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KITTITAS COUNTY CONSERVATION DISTRICT



PETER DUNWIDDIE

# Recommendations for Action

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## What Needs to Be Done

This strategy builds on existing efforts and targets areas of greatest need and potential in order to achieve outcomes. It is premised on the belief that public, private, and non-profit entities need to work together to achieve a widely shared vision, and on the assessment that:

- New approaches are needed to engage the private sector in voluntary action to conserve biodiversity, and provide more economic returns for good stewardship.
- Existing efforts must be “knit together” to achieve greater outcomes more efficiently and effectively.
- More integrated approaches to research and data management are needed as well as better information to guide efforts on the ground.
- The organizing principle of biodiversity conservation and a landscape approach to managing resources is the best way to move forward.
- Opportunities to engage citizens and students in learning about and stewarding our biodiversity need to be dramatically increased.

**Through this assessment, the Council identified six areas where Washington State has the opportunity to make significant progress to conserve biodiversity, and where stakeholder support to move forward is high.** The Council focused on developing solutions in these areas:

1. **Developing a new tool—the Conservation Opportunity Framework and a set of regional maps to guide conservation investments.** This framework provides the basis for identifying areas of high biodiversity significance and risk as well as strategies to conserve those resources at the regional level. This approach is an excellent way to improve the return on investment of scarce resources and to target future conservation efforts.
2. Developing **incentives and market mechanisms** to encourage voluntary actions that conserve biodiversity on private lands. With over 60% of the state’s lands in private ownership, landowners have a crucial role to play in biodiversity conservation. Making conservation affordable and attractive to landowners is thus a central focus of this strategy.
3. Incorporating biodiversity conservation into **land use plans and development practices**, particularly in areas with high biodiversity value. Local governments regularly make land use and development decisions that have significant impacts to biodiversity. Many opportunities exist to pursue “biodiversity-friendly” development and land use practices. Local governments throughout the state need technical assistance and funding to implement these practices in their jurisdictions.
4. Strengthening the available **science and information** on biodiversity, so it is readily accessible for policymaking. Local decision makers and planners, as well as state and federal agency staff, need comprehensive, up-to-date, and action-oriented data to improve their conservation decisions and approaches.
5. **Educating and engaging the public** to provide Washington residents with information about the value of biodiversity and the steps they can take to help conserve it. The need

for enhanced biodiversity education is great. Improving citizens' understanding of the value of biodiversity will yield long-term returns of public support for conservation investments, programs, and active citizen stewardship.

6. **Achieving results** by improving governance through better integration and coordination among state and local governments, providing funding, and monitoring progress to ensure accountability.

In addition, the Council developed recommendations addressing **acquisition and management of public lands**, two areas where Washington is doing a relatively good job of conservation, but where future efforts could be linked more strongly to this Biodiversity Conservation Strategy. These recommendations are incorporated into the six sections identified above.

Finally, the Council addressed the issue of **laws and regulations**, starting with a review of its initial charge from the Legislature and Governor as set forth in legislation and the executive order. This charge was to advance biodiversity conservation through a voluntary and incentive-based strategy. As the Council engaged in its strategy work, it determined that the current public policy environment in Washington State is particularly ripe for innovation in the use of incentives and markets as tools to accomplish conservation goals. In the last three decades, the public policy discussion surrounding conservation goals has included the development of a number of significant regulatory tools. The result is a regulatory baseline that is vital to Washington's quality of life. In light of these considerations, the Council decided that the focus of the next 30 years should be on the development of new, non-regulatory tools for achieving Washington's biodiversity conservation goals.

The Council and this strategy also recognize that improving the effectiveness of the existing regulatory baseline is important. None of Washington's existing regulatory programs is directed specifically at biodiversity conservation, though many in fact contribute to this goal, especially when considered cumulatively. At the same time, some regulatory programs create disincentives to biodiversity conservation or result in unintended consequences that impede the particular program's intended conservation goal. Thus, within this broader context, the Council recommends an evaluation of existing regulatory programs (see Strategy 2.4).

This chapter presents the action recommendations that comprise the 30-year strategy for biodiversity conservation. These recommendations are intended to capitalize on opportunities as well as to address gaps and thus move the state toward achieving the vision of sustaining our natural heritage for future generations. Chapter 4 then presents more information on the Council's Conservation Opportunity Framework, including its methodology, which is intended to be used to identify and act on conservation opportunities on the landscape.



USDA/NRCS



ELLEN BANNER



SHUTTERSTOCK.COM/MICHAEL J THOMPSON

# 1. Guiding Investments on the Ground: Using the Conservation Opportunity Framework

## Introduction

Resources for biodiversity conservation are finite, so focusing investments in areas that will yield the greatest benefits toward biodiversity conservation goals, based on sound science and a long-term landscape perspective, is desirable. Emphasizing that all citizens can contribute to biodiversity conservation, the Council has invested in the development of a comprehensive set of maps, which assess the distribution of species, plant communities, ecological systems, and human population trends across Washington, to identify regional opportunities for biodiversity conservation.

## Current Practices

Several state and federal agencies are responsible for managing Washington's lands and waters, conducting studies, and protecting individual species or resources. For example, the Washington State Department of Natural Resources manages over 5 million acres of state trust lands, including forests and aquatic systems, and the Washington Department of Fish and Wildlife manages approximately 1 million acres for fish and wildlife. The Washington State Parks and Recreation Commission helps citizens to experience and enjoy the outdoors, and the Washington Conservation Commission guides conservation districts in assisting private landowners in voluntary conservation. Each of these entities manages its lands according to specific mandates and directives from the Governor, commissioners, and the Washington State Legislature.

Many cities and counties also identify and protect important natural areas. These efforts tend to be localized but are connected in important ways to the landscape or ecoregional context of biodiversity. In addition, tribes, land trusts, local stewardship efforts, watershed planning groups, individuals, and countless others make stewardship decisions and undertake conservation actions every day on private lands.

## Gaps and Opportunities

Washington needs better ways to set priorities and implement strategies based on a comprehensive understanding of regional biodiversity values and threats.

**Natural resources are often managed in a fragmented manner.** While many agencies and individuals are hard at work stewarding Washington's lands and waters, their efforts are not always coordinated.

**Resources for conservation are limited.** Stewardship, restoration, protection, and other conservation approaches each require time and money. A geographical approach can help to direct where each type of activity can be implemented most effectively.

**The need for a landscape-based approach to conserving biodiversity is critical.** Many state and local officials, private landowners, and nonprofit entities have expressed a desire for a common understanding of the highest priority areas for conservation. Support for this approach comes from incentive providers, granting organizations, planners, nongovernmental organizations, state and federal agencies, and tribes. This approach has the potential to enhance synergy, efficiency, and effectiveness among different planning levels.

## Recommendations

**Objective: State agencies and local governments, along with their nonprofit and federal government partners, will use the Conservation Opportunity Framework as a basis for identifying opportunities, establishing priorities, and implementing strategies for biodiversity conservation throughout Washington State.**

The Council developed the Conservation Opportunity Framework as part of this comprehensive planning effort. The framework is designed to provide guidance to land managers, landowners, policymakers, and other decision makers about what conservation actions to take depending upon the level of biodiversity significance and the severity of the threats posed to that biodiversity. A brief summary of the framework follows here; for a full description please refer to Chapter 4.

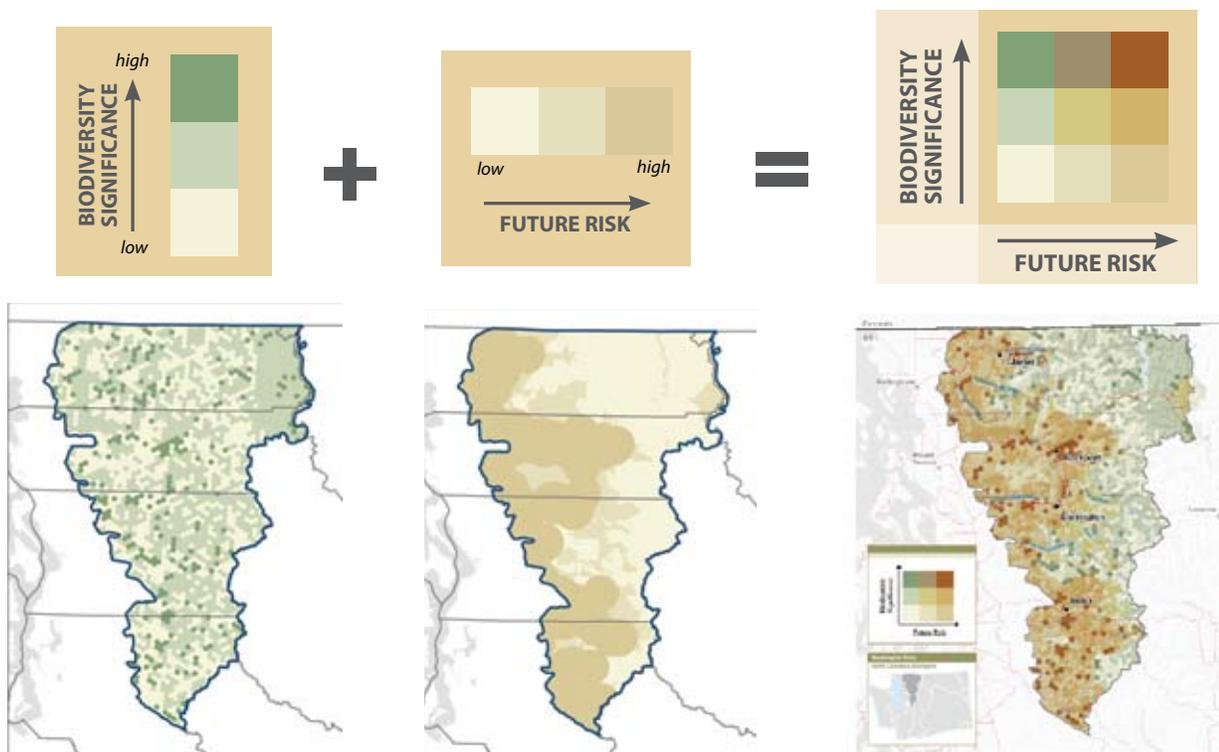
The Council believes that all landowners, citizens, and institutions in this state have a vital role to play in protecting and conserving Washington's landscape and our biodiversity, regardless of where we live, work, and play. The Council's vision is that this Conservation Opportunity Framework will be revised and improved over time to become an essential tool, along with others, to support conservation planning and management at the regional level.

### The Conservation Opportunity Framework

Approaches to assessing relative biodiversity value vary across Washington State. Thus, the Council developed a systematic approach to determine spatially explicit priorities at the regional level, based on existing biodiversity and population trends.

Biodiversity significance and degree of future threats were assessed and mapped in seven of the nine ecoregions found in Washington. Ecoregions were used as the basis for the Council's approach, since they are large enough to encompass landscape-level processes and have shared characteristics of climate, vegetation, geology, and other environmental patterns.

**Biodiversity significance ratings** are based on ecoregional assessments, a scientific analysis of biodiversity value across the landscape, which incorporates concepts of richness, rarity, and representation (For a full description of these criteria, see Chapter 4).



**Figure 4. Biodiversity conservation opportunity maps such as the one on the bottom right are created by combining maps of biodiversity significance (left) with maps of future risk (center). This example shows the North Cascades Ecoregion. For a full-scale map of this ecoregion and others, please see Chapter 4.**

**Future risk** is based on projected population density and land use. These criteria consider the distance from projected population centers as a rough, but reasonably reliable, proxy for future ecosystem stresses (For a full description of these criteria, see Chapter 4).

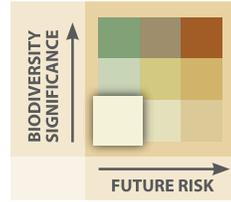
**Conservation opportunity maps for seven ecoregions are found in Chapter 4.**

The maps are designed to be used in concert with local knowledge. These maps do not replace more detailed or specialized assessments for specific watersheds, counties, or other localities; do not prescribe specific actions or strategies; and do not substitute for local conservation priorities. These maps do show where to find representation of all of Washington’s biodiversity, not only the rarest species or the richest habitats. They identify areas that are important to keeping common species and habitats abundant as well as to ensure that we are conserving habitats for rare or imperiled species.

Conservation actions may involve a range of strategies, including incentives for private landowners, acknowledging and encouraging best management practices on working lands, restoring degraded ecosystems, and establishing conservation easements. These actions should be tailored to on-the-ground conditions, with guidance from the conservation opportunity maps. The examples below describe possible actions in areas identified with one of the four corners of the nine-color grid.

**Connect and Discover** —Conserving biodiversity in areas of low biodiversity significance and low future risk.

Lands that are defined as having lower biodiversity significance and risk—the lower left corner—have, relative to others, fewer rare species, less overall biodiversity, and an expected slower rate of population growth.



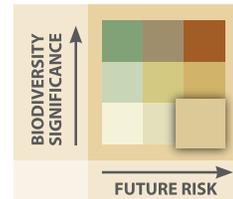
These areas may:

- Be less significant from an ecoregional perspective;
- Be particularly important to biodiversity locally; and/or
- Need more research and study. Known biodiversity may represent a lack of information.

Conservation of common species is especially important in these areas, and voluntary community efforts can help achieve this goal. Ongoing monitoring and management will be needed to understand the effects of climate change, reduce catastrophic fire risk, and prevent degradation of native biodiversity by invasive species. Large-scale state investment generally should not be targeted here to conserve biodiversity as we currently understand it.

**Learn and Restore** —Conserving biodiversity in areas of low biodiversity significance and high future risk.

Lands that are classified in the lower-right corner are defined as places that, relative to others, have less overall biodiversity but higher likelihood of facing growth pressures.



These areas may:

- Have high residential density;
- Be important places for people to have contact with nature and to learn about the natural world; and
- Have biodiversity which, while not generally significant from an ecoregional perspective, is significant for quality of life.

Education, restoration, and proactive land use planning can be emphasized. Citizen science projects can identify locally important areas and fill gaps in biodiversity data, while backyard and community wildlife habitat enhancement efforts can help ensure that common species remain plentiful. Planners and officials can strive to design green spaces that maximize the public’s ability to encounter nature.

**EXAMPLE: CITY PARKS**

City parks containing natural areas allow people to connect with nature. These places may provide important remnant habitats, though relative isolation from other natural areas may limit the ecoregional importance of city parks. Threats may include invasive species, trampling and overuse, and pressure to develop for high-intensity recreation activities. Conservation strategies could include discovery walks to observe birds and wildflowers, neighborhood work parties to control invasive species, and citizen science efforts to monitor changes over time in the species present.

Columbia Park in Kennewick is one such city park. Near the city center, it contains the eight acre Audubon Natural Area, a riparian woodland that is a haven for resident and migrant birds. For more information, see page 104.

**EXAMPLE: COUNTY PLANNING**

County planning can play a vital role in biodiversity conservation, giving people the opportunity to learn about and restore nature close to home. Pressures on open space are increasing, especially in areas undergoing rapid conversion to residential use.

When Spokane County updated its Comprehensive Plan in 2002, it adopted a new category, Rural Conservation. This category encourages low-impact uses and uses clustering and other techniques to protect sensitive areas and preserve open space. For more information, see page 106.

**EXAMPLE:  
CONSERVATION EASEMENTS**

Conservation easements can be used to manage land for its natural values and to maintain forests and farms as working lands. Easements can prevent development that would change a property's uses.

Holm Farm in Thurston County benefits from a family tradition of stewardship. The owners designed their conservation easement to preserve the farm's wildlife habitats. They will be able to bequeath the farm to their heirs, while saving its natural beauty and ecological role forever. For more information, see page 108.

**EXAMPLE: A FULL TOOLBOX**

A full toolbox of conservation approaches is needed in rapidly developing communities that encompass exceptional biodiversity. Innovative thinking and collaboration among diverse interests can develop a suite of successful programs and activities.

The stretch of the Skagit River between Rockport and Marblemount faces many future risks, while hosting abundant salmon and bald eagles. Skagit County's fast-growing economy and proximity to urban centers puts demands on its communities. A primary threat here is conversion of agriculture and forest lands to residential use, resulting in increased habitat degradation and fragmentation. Collaborative conservation efforts include cost-share habitat improvement programs, citizen involvement programs, easements, and ecotourism. For more information, see page 110.

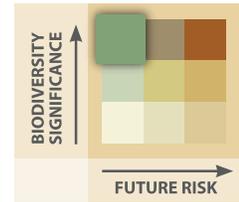
**Manage and maintain—Conserving biodiversity in areas of high biodiversity significance and low future risk.**

Lands classified in the upper left corner are defined as places that, relative to others, have higher biodiversity yet face less development pressure. These areas are a relatively high priority for conservation.

They are likely to:

- Have biodiversity that is important in the regional context;
- Be in protected status that is likely to continue in the future (e.g. public land); and/or
- Lack imminent threats to biodiversity.

In general, these areas are at low risk, but they need to be managed to prevent damages from invasive species, catastrophic fire, and recreation, grazing and other uses. It may also be useful to identify linkages to connect highly significant areas to one another, conduct ongoing monitoring and research on potential effects of global climate change, and assess the accuracy of our understanding of biodiversity and ecological processes.



**Collaborate and innovate—Conserving biodiversity in areas of high biodiversity significance and high future risk.**

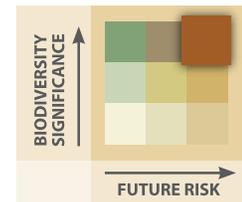
Lands classified in the upper right corner are essentially the highest priority areas for biodiversity conservation. They are places that have the highest biodiversity significance and face the fastest growth.

These areas may have:

- Significant ecoregional biodiversity values;
- Pressures from human population growth and impact; and
- Urgent conservation concern.

A full toolbox of strategies is needed in these areas. Tools might include strategically targeted incentives such as technical assistance and grants, and collaboration among local residents engaging in conservation activities. Restoration for ecological function may be important and these areas could provide mitigation banks and development of other market tools. Targeting state investment here should be considered.

Existing conservation lands are especially important and should be managed for their special features. Linking conservation areas will be increasingly vital for sustaining healthy populations of some animal species.



## Strategy 1.1:

### Use the Conservation Opportunity Framework to guide investments and other conservation actions.

**Problem Addressed:** Guidance is needed to direct a range of voluntary and collaborative strategies, where people and organizations can work together to conserve biodiversity and maintain working landscapes. Increased coordination of conservation actions and investments among different landowners, agencies, and managers can result in better conservation outcomes, potentially at lower costs.

**Potential Partners:** Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Washington State Recreation and Conservation Office, Washington State Conservation Commission, universities, Washington Academy of Sciences, the Puget Sound Partnership Science Panel, local land trusts, and tribes.

#### ACTION 1.1.1

##### Integrate biodiversity conservation maps and other data with existing agency data and guidance documents used by local governments for planning purposes.

To maximize their utility, the regional conservation opportunity maps need to be translated to the local level and fully integrated with other local planning information, such as zoning, growth boundaries, and type of ownership. An important next step is for the Department of Fish and Wildlife to begin working with local governments to provide them with the maps and supporting data and to create models for applying the opportunity framework at the local level. For example, maps could be created at the watershed, ecosystem, and county levels. Such action would enhance local participation in regional conservation efforts.

#### ACTION 1.1.2

##### Use the Conservation Opportunity Framework to facilitate coordination among those responsible for managing lands and waters.

The Conservation Opportunity Framework provides a new tool for agencies, tribes, local governments, nonprofits, and private landowners within a region to work across jurisdictions to coordinate conservation efforts and to target specific approaches where they are likely to be most effective. The maps included in this document may be used as guidance for areas in which to set priorities and focus efforts, including incentive programs and market-based initiatives. Issues of regional concern, such as invasive species, could be incorporated into updates of the ecoregional maps (see Strategy 1.3) to improve applicability.

## Strategy 1.2:

### Fully incorporate biodiversity conservation into existing state acquisition programs.

**Problem Addressed:** Many federal, state, and nonprofit programs exist to acquire lands and water rights for conservation and other public purposes, either through direct purchase or

less-than-fee arrangements such as easements. While some of these programs operate under a specific legal mandate, such as salmon recovery, other programs could readily include biodiversity as a consideration. Including biodiversity conservation as a key factor to guide acquisition programs could lead to a more strategic, effective investment of taxpayer dollars to conserve Washington's natural resources and working lands.

**Potential Partners:** Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Washington State Department of Transportation, Washington State Parks and Recreation Commission, Washington State Association of Counties, Washington State Conservation Commission's Office of Farmland Preservation, U.S. Department of Agriculture including U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service, and tribes.

### **ACTION 1.2.1**

#### **Update the criteria for selecting projects to fund under the Washington Wildlife and Recreation Program.**

The criteria for selecting projects for funding under the Washington Wildlife and Recreation Program should be revised to include biodiversity conservation as an explicit criterion. Biodiversity conservation should be a factor in the appropriate funding categories, although other considerations should remain important as well. The Recreation and Conservation Office could use the Conservation Opportunity Framework approach to screen proposed projects using biodiversity values.

### **ACTION 1.2.2**

#### **Use biodiversity conservation as the basis for coordinating acquisition programs as required by SSB 5236.**

Under the guidance of the Recreation and Conservation Office, the Department of Natural Resources, and Department of Fish and Wildlife, biodiversity conservation and an ecoregional landscape approach should effectively become an organizing principle and key tool to coordinate the many different state programs that purchase habitat and recreation lands and waters. The newly created Habitats and Recreation Lands Coordinating Group should use the Conservation Opportunity Framework and maps as guidance for this purpose.

The Biodiversity Council also recommends that nonprofit organizations and land trusts take advantage of the Conservation Opportunity Framework to target their acquisition activities to maximize of biodiversity conservation benefits.

### **ACTION 1.2.3**

#### **Use funding from existing programs to acquire lands and shorelines of high biodiversity significance.**

Existing acquisition programs should be used where appropriate to acquire lands and shorelines of high biodiversity significance and high future risk. Specifically, the critical habitats, riparian protection, and natural areas categories of the Washington Wildlife and Recreation Program (almost 33% of the total) should be focused on areas of high biodiversity significance.

In acquiring lands, care must be taken to sustain, rather than undermine, the viability of Washington's agricultural and forestry economies. In addition, adequate resources need to be provided for long-term stewardship of lands.

## Strategy 1.3:

### **Produce high quality data products to assist land managers and decision makers to develop conservation plans and strategies.**

**Problem Addressed:** Not all ecosystems (e.g., freshwater, estuary, marine) or conditions (e.g., climate change, restoration potential, connectivity) are addressed in the current maps, due to lack of data, the large scale of the maps, and some incompatibility issues. The framework could be improved with more sophisticated estimates of risk and significance, informed by factors such as climate change and wildlife corridors. Development patterns, population, and other factors are constantly changing, and conservation priorities will need to be regularly updated and reevaluated.

**Potential Partners:** Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Washington State Conservation Commission, tribes, universities, The Nature Conservancy, U.S. Forest Service, U.S. Fish and Wildlife Service, Washington Academy of Sciences, and the Puget Sound Partnership Science Panel.

#### **ACTION 1.3.1**

#### **Develop, and periodically update, future editions of the biodiversity conservation opportunity maps.**

The future updates should:

- Integrate data on freshwater system priorities and habitat connectivity.
- Indicate biodiversity conservation priorities for marine and estuary waters of Washington State.
- Integrate new data from the Washington Biodiversity Inventory, including data on invasive species presence and extent, rare species, and site-specific species richness.
- Work with local jurisdictions to develop data and maps at a scale that is valuable to local planning and conservation efforts.
- Indicate priority areas for restoration activities.
- Address impact of climate change on biodiversity and potential shifts in conservation priority areas.
- Complete the mapping of biodiversity conservation opportunity areas for two remaining ecoregions, the Blue Mountains and Canadian Rockies.



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MIKE O'MALLEY



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## 2. Incentives and Markets

### Introduction

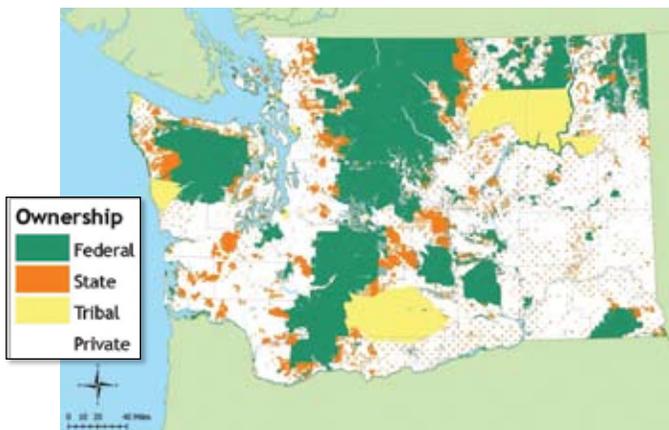
More than 60% of the land in Washington State is in private ownership. These lands include many areas important for biodiversity conservation, such as riparian zones, wetlands, and intact plant communities. The ongoing participation of private landowners is thus essential to biodiversity conservation. This section examines how best to support and encourage landowners in undertaking conservation actions, relying primarily on incentive programs and conservation markets.

### Current Practices

In the current regulatory framework, private landowners generally receive few economic or regulatory benefits for conserving biodiversity. Accordingly, incentive programs, which provide compensation for managing lands for conservation purposes or for protecting lands, are an important component of an effective conservation strategy.

More than 70 governmental and foundation programs offer some form of incentives to private landowners in Washington to promote conservation activities. These programs include direct

financial assistance (e.g., grants, loans, and leases), indirect financial incentives (e.g., property tax relief), technical assistance, and recognition or certification.<sup>1</sup>



**Figure 5: More than 60% of the land in Washington is in private ownership. Map courtesy of the Washington State Department of Natural Resources.**

Most of the assistance for landowners is provided through conservation districts, industry associations, Washington State University Cooperative Extension, state agencies, local government, land trusts, and other community organizations.

The conservation districts are the state's principal providers of technical assistance for agricultural landowners, and are often a trusted source of advice and assistance.

<sup>1</sup> Office of Governor Chris Gregoire, "Governor Gregoire Announces \$103.5 Million in Grants for Recreation, Protection of Farmland, Wildlife Habitat," news release (June 13, 2007).

They often apply as fiscal agents on behalf of landowners to state and federal financial assistance and grant programs.

Conservation markets are an alternative, newly developing venue to reward private landowners for stewardship and conservation practices. Building on existing examples such as fishing quotas or tradable emissions programs, such markets would be designed to encourage stewardship and conservation by allowing conservation actions to be bought or sold. Emerging markets in Washington State include the pilot “mitigation marketplace” in Clark County and innovations associated with offsite restoration as a means to meet Clean Water Act permitting requirements. In addition, the City of Bainbridge Island is working with the international partnership Business and Biodiversity Offset Program to explore the use of biodiversity “offsets” to compensate for development impacts.<sup>2</sup>

## Gaps and Opportunities

While the current list of incentive programs is substantial, the programs as a whole have several limitations and collectively many opportunities exist to provide a more cohesive and effective suite of services. In addition, accelerating development pressures heighten the need to reassess and improve the current structure of market mechanisms for conservation.

**Incentive programs are not always well coordinated or integrated.** Many incentive program providers operate independently and have limited opportunity to coordinate on program design and delivery. State government does not collectively track all of the conservation incentive programs operating in Washington, either by dollars expended or by results (e.g., acres restored). Consequently, it is difficult to assess progress systematically, identify overall program improvements, or develop more targeted or strategic approaches.

**Incentive programs are often difficult for property owners to join.** The sheer number of programs, combined with sometimes cumbersome application processes, can create barriers to landowner participation. Currently, conservation districts serve as the primary source of assistance for landowners in developing and implementing conservation plans as well as locating funding sources. Increased funding for this type of assistance and coordination among such services could encourage broader landowner participation in incentive programs.



AARON BARNA

### Examples of Incentive Programs in Washington

- The federal **Conservation Reserve Program** offers farmers direct financial assistance to establish long-term conservation practices; this program supports conservation actions on more than 1.4 million acres of farmland in Washington.
- The **Public Benefit Rating System** (PBRs) allows counties to provide property tax relief to landowners participating in conservation actions. Of Washington’s 39 counties, 16 Washington counties participate in the PBRs program.
- The **Washington Wildlife and Recreation Program** (WWRP) has directed \$544 million in state funds for permanent protection of critical habitat, natural areas, and recreational areas since 1990.
- **Farming and the Environment** annually recognizes Washington farming families employing exceptional stewardship practices with the Vim Wright Stewardship award.

<sup>2</sup> See the website: <http://www.forest-trends.org/biodiversityoffsetprogram/>.

**Incentive programs tend to be opportunistic rather than strategic.** Assistance is generally provided to landowners on a first-come, first-served basis, rather than directed at areas of greatest biodiversity conservation value or landowner need. Because incentive programs are generally targeted toward producers of food and fiber, many other owners of rural land with valuable biodiversity attributes are not eligible for incentive programs.

**Many incentive programs are oversubscribed and lack adequate funding.** Resources are insufficient to meet current demand for several programs, and many willing property owners are unable to secure funding for projects.<sup>3</sup> More funding is needed for programs critical to maintaining habitat and for projects with high biodiversity conservation value. The size of financial assistance packages must keep pace with escalating land values for conservation incentive programs to be an attractive alternative to land conversion.

**Leadership for the development of conservation markets is lacking.** The Department of Ecology's wetland banking program is designed to offer a coordinated strategy for the developing wetlands mitigation market. No similar statewide lead entity exists for developing conservation markets, however. Such an entity would establish a regulatory framework, coordinate related efforts, and otherwise ensure that the market is created in a manner that benefits both biodiversity and the involved parties.

**Current use taxation could be used more effectively to preserve working lands and open space.** State current use taxation law enables counties to lower property taxes for open space, timber, forestry, or agricultural uses. This tax provision is underused and under-marketed, however, as many county officials expect current use taxation to lower their tax revenues.

## Recommendations

**OBJECTIVE: Washington will offer an expanded, integrated suite of incentives and market based programs that are easily accessible to private landowners, and that make voluntary stewardship and conservation a practical and rewarding option. Incentive programs will be structured to especially encourage investment in high priority landscapes.**

The Council's long-term vision is that incentives, markets, and other voluntary measures will become well-established, effective, efficient, and widely used mechanisms to conserve and manage biodiversity resources on private lands. For this change to occur, private landowners will need to become more aware of conservation priorities, receive adequate assistance, and be treated as stewardship partners. State and federal programs will need to offer a full range of financial incentives, provide adequate funding for technical assistance, and offer recognition programs and opportunities for landowners to profit from good stewardship.

The recommendations below are intended to ensure that private landowners are treated as stewardship partners and have access to financial incentive programs, technical assistance, recognition

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<sup>3</sup> The list of oversubscribed incentive programs includes, but is not limited to, Conservation Reserve Enhancement Program (CREP), Environmental Quality Incentives Program (EQIP), Grassland Reserve Program (GRP), Wildlife Habitat Incentives Program (WHIP), and Family Forest Fish Passage Program (FFFFP).

programs, and other opportunities to profit from good stewardship. These recommendations are linked with and build on existing efforts, initiatives, reforms, and programs underway throughout the state to strengthen private landowners' contributions to biodiversity conservation.

The impact and viability of these incentive and market based strategies will depend to a significant extent on effective compliance with existing laws and regulations. Incentives and market based programs work best in the context of a fair and efficient regulatory framework, where all parties adhere to the same rules. The result is a level playing field, a baseline for accountability and performance, and the opportunity for incentive based efforts to deliver win-win benefits. Incentives can then be deployed to encourage landowners to go beyond the minimum and markets can be set up to more efficiently achieve conservation outcomes. The recommendations in this section are linked to those in the land use and development section, particularly those related to compliance and capacity of state and local governments to fulfill their statutory requirements.

## Strategy 2.1:

### **Make existing landowner incentive programs more accessible, easier to use, and strategic.**

**Problem Addressed:** Incentive programs are not well-coordinated among providers; application processes are often confusing and burdensome; and some programs are not well marketed.

**Potential Partners:** Washington State Conservation Commission including its Office of Farmland Preservation, Washington Farm Forestry Association, conservation districts, nonprofit land trusts, conservation organizations, Puget Sound Partnership, Washington State Department of Agriculture, Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Natural Resources Conservation Service, local government planning and natural resource departments, and other incentive providers.

#### **ACTION 2.1.1**

##### **Assign responsibility for coordinating landowner incentive programs to a single state entity.**

The state has an immediate, high-priority need to provide overarching coordination of landowner incentive programs. Taking a comprehensive approach to incentive programs would facilitate strategic opportunities, improve efficiency, and better address the needs of landowners. The result should be improved service to landowners and greater return on state and federal investments.

This coordinating entity would likely be located within an existing office, such as the Office of Farmland Preservation or the Washington State Recreation and Conservation Office, and its general responsibilities would include:

- Tracking investments of all programs collectively across the state and identifying opportunities to serve landowners better and to improve efficiency;
- Ensuring that conservation incentive programs achieve desired outcomes across all sectors and landscape types.

### **ACTION 2.1.2**

#### **Establish a clearinghouse to distribute information and provide technical assistance on conservation incentives.**

The benefits of a clearinghouse would include increased accessibility and more landowner participation. A single statewide clearinghouse could be established, or regional clearinghouse services could work with conservation districts in providing customized information on the programs available in each region and in delivering hands-on technical assistance.

In either case, the clearinghouse function should be linked to the existing services of conservation districts. Additionally, a partnership should be explored with the Office of Farmland Preservation, which is charged with developing a clearinghouse for agricultural programs.

### **ACTION 2.1.3**

#### **Create a program of regional “brokers” or matchmakers in high-priority areas for biodiversity conservation, beginning with a pilot project.**

Regional brokers would develop packages of incentives to make conservation financially viable for owners of land with high conservation significance and either high biodiversity risk or high potential return. High-priority landscapes include those that have high biodiversity significance and face medium to high risk, as discussed in the previous Conservation Opportunity Framework section (Strategies 1.1 to 1.3).

These services could be provided as an additional service by conservation districts, expanding the geographic scope and extent of those already provided. Brokers, in partnership with conservation districts, would link owners of lands with high conservation value to suitable incentive programs. They would focus on education and outreach to landowners about available incentives for conservation. Initial implementation of this action through a pilot project is linked to Recommended Action 3.4.2.

### **ACTION 2.1.4**

#### **Improve and expand public recognition for voluntary private sector stewardship of lands.**

It is essential that property owners who are serving as good stewards of their natural resources and biodiversity be recognized for their contributions and encouraged to continue their efforts.

Multiple approaches should be taken to heighten public recognition for services that owners and operators of working lands provide. This effort is largely educational; thus, this recommendation would be developed and delivered in the context of Strategy 4.1 in the Education section. Existing recognition programs, such as those offered by Farming and the Environment or Sustainable Northwest, could be promoted and expanded to raise their visibility and increase their value. Other options would be to produce and distribute a series of fact sheets on the ecosystem services that well-managed forests, agricultural lands, aquaculture, and fisheries provide; a series of newspaper articles heralding environmentally conscious local landowners; and booths recognizing local landowners at events such as fairs and conferences.

## Strategy 2.2:

### **Strategically expand incentive programs to target high-priority conservation areas and meet the needs of underserved landowners.**

**Problem Addressed:** The current incentive program structure is not targeted to meet biodiversity conservation needs, and limited resources are not always directed toward areas of greatest landowner need or greatest conservation value. Programs are applied unevenly across landowner sectors, such that some groups (e.g., small forest landowners) do not have access to the same number of programs and resources as others.

**Potential Partners:** Washington State Conservation Commission, conservation districts, Governor's Office, Washington Farm Forestry Association, Washington State Department of Natural Resources' Small Forest Landowner Office, Puget Sound Partnership, The Nature Conservancy, Cascade Land Conservancy, incentive program providers, local government planning and natural resource departments, and land trusts.

#### **ACTION 2.2.1**

##### **Dedicate incentive funding toward meeting the needs of landowners in high-priority areas for biodiversity conservation.**

Targeted funding for conservation activities on private lands in high-priority conservation areas would immediately demonstrate to rural landowners, local government officials, and other key stakeholders the state's commitment to conserving its biodiversity. Targeted funding would also ensure that resources are strategically invested to provide Washington State with the greatest return possible.

The Conservation Opportunity Framework methodology (Strategies 1.1 to 1.3) would inform the identification of priority areas. A regional pilot incentive program could be established for these locations. This effort could build on the work of the North Central Washington Healthy Lands Initiative, which has already begun to identify local priorities for conservation of landscapes and water bodies. An alternative option would be to provide better terms on incentive programs, such as higher cost-share rates or bonus points for funding eligibility ranking, for practices in targeted high-priority areas. (This action is linked to Recommended Action 2.1.3.)

#### **ACTION 2.2.2**

##### **Develop new programs for underserved landowners, including small farmers and owners of non-working rural lands.**

Small rural landowners in particular face increasing pressures to convert their lands to more developed uses. These pressures are distributed over forested, agricultural, and non-working lands; however, agricultural lands most frequently qualify for the current suite of incentive programs. Additional incentive programs targeted toward landowners underserved by existing programs would help preserve rural lands that offer valuable habitat.

### **ACTION 2.2.3**

#### **Provide additional funding for selected highly effective existing incentive programs.**

Many highly effective and extremely popular conservation incentive programs exist, and frequently they have more interested participants than funding will allow. Examples include the Conservation Reserve Program, the Environmental Quality Incentives Program, the Grassland Reserve Program, the Wildlife Habitat Incentives Program, and the Family Forest Fish Passage Program. Providing enhanced funding for key programs will enable greater participation in programs that protect vital habitat.

### **ACTION 2.2.4**

#### **Facilitate the expansion of new or enhanced incentives for landowners to control invasive species.**

The Biodiversity Council has been working with the Washington Invasive Species Council to identify needed actions to address the threat that invasive species pose to Washington's biodiversity. As part of this work, the Invasive Species Council will identify incentives for invasive species management, control, and eradication methods that can be linked to biodiversity conservation.

## **Strategy 2.3:**

### **Accelerate the development of conservation markets to create new income streams for conservation actions.**

**Problem Addressed:** Biodiversity markets, or “conservation banking” services, are only beginning to emerge. They lack coordination with carbon and water markets, and few examples exist of biodiversity markets from which to draw insights. In the development of carbon and water markets, consideration of biodiversity conservation objectives needs to be explicit, and markets must be formulated to enhance conservation. Development of these markets could also be facilitated through enhanced capacity in state government to coordinate response to private-sector interest and to create consistent regulatory approaches.

**Potential Partners:** Washington State Department of Natural Resources, Washington State Department of Ecology, Washington Department of Fish and Wildlife, Washington State University's Center for Sustaining Agriculture and Natural Resources, Washington State Conservation Commission, conservation districts, Governor's Office, Ecotrust, Defenders of Wildlife, American Farmland Trust, and Cascade Land Conservancy.

### **ACTION 2.3.1**

#### **Provide leadership within state government to develop conservation markets in Washington.**

Designation of a lead entity responsible for creating an overall structure for conservation markets would allow coordination of the state's response to emerging markets in carbon, water quality and quantity, and biodiversity.

The lead entity could be either an existing agency or office or a new office. The entity would engage regulators, bankers, agencies, developers, non-profits, and other key stakeholders to facilitate the creation of new markets for biodiversity and ecosystem services. The entity would address issues and concerns related to the development of these markets, including:

- Coordinating carbon, water, and biodiversity markets;
- Ensuring that emerging markets are credible and scientifically-based;
- Identifying ways to “bundle” credits from different programs to maximize benefits;
- Creating an ongoing relationship with landowners and building trust among nongovernmental organizations, agencies, and landowners;
- Addressing the role of a regulatory structure to drive conservation markets;
- Making the case for investing in conservation markets; and
- Enforcing existing laws that drive conservation markets.

#### **ACTION 2.3.2**

#### **Conduct feasibility studies and pilot projects to grow markets for biodiversity conservation.**

Conducting feasibility studies and pilot projects would help build experience and generate data for good design and administration as conservation markets continue to develop. Potential projects and studies include the following efforts:

- A feasibility study for a statewide and regional habitat conservation banking system;
- A feasibility study of funding restoration by combining in-lieu fees and voluntary investment;
- An exploration of the potential for bundling credits for water, carbon, and biodiversity;
- A regional pilot project on ecosystem service payments;
- An exploration of using state bonds to finance acquisition of certain ecosystem services that private landowners provide; and
- An examination of the model that Clark County’s mitigation marketplace offers.

### **Strategy 2.4:**

#### **Improve the effectiveness of existing regulatory programs.**

**Problem addressed:** We do not fully understand the degree to which existing regulatory programs contribute to biodiversity conservation, individually or cumulatively. Existing regulatory programs can be a disincentive to biodiversity conservation. For example, they may encourage owners of agricultural and commercial forest lands to convert their land to other uses that have a lesser conservation value. Currently, consensus about specific policies to address these issues is lacking, and more study is needed to determine appropriate solutions.

**Potential Partners:** Washington Forest Protection Association, Washington Farm Forestry Association, Washington Farm Bureau, Ruckelshaus Policy Consensus Center, Washington State Department of Agriculture, Washington State Department of Ecology, Washington State Department of Natural Resources, Washington Department of Fish and Wildlife, Washington State Department of Transportation, Washington State Conservation Commission, tribes, Northwest Environmental Forum at the University of Washington, and environmental interest groups.

#### **ACTION 2.4.1**

#### **Commission a study to review the effectiveness of existing regulatory programs.**

Charge a working group to analyze and report on the following topics:

- How existing federal, state, and local regulatory programs create disincentives to biodiversity conservation, and how these disincentives might be removed while achieving the regulatory program's conservation goal. This analysis should include an assessment of the capacity of government agencies to pursue voluntary approaches, including determining existing authority, technical knowledge, level of interest, and potential solutions to other institutional barriers.
- How existing federal, state, and local regulatory programs contribute to biodiversity conservation in Washington, both individually and cumulatively, and how these efforts might be improved to make further contributions to biodiversity conservation. This analysis should take into consideration unintended consequences regulatory changes, including encouraging the owners of agricultural and commercial forest lands to convert their land to other uses that have a lesser conservation value.
- How to track the measurable results of existing regulatory programs.

### **Strategy 2.5:**

#### **Maximize the use of current use taxation as a property tax incentive for biodiversity conservation.**

**Problem Addressed:** Not all counties are using their current use taxation authority to the maximum extent possible. Opportunities exist to help local governments develop a better understanding of the costs and benefits of using this tool to preserve working lands and open space. The recommended approach also addresses limitations in the statute that currently restrict its application to conserve biodiversity. This strategy is linked to Recommended Action 2.4.1.

**Potential Partners:** Local governments, Washington State Conservation Commission's Office of Farmland Preservation, Washington State Association of Counties, Washington Association of County Officials, land trusts, and environmental interest groups.

### **ACTION 2.5.1**

#### **Identify and overcome barriers to using current use taxation to conserve biodiversity.**

Current use taxation supports biodiversity conservation by keeping taxes lower on lands that might otherwise be converted to more developed uses. Several barriers hinder its use, however, including the concern of many county officials that current use taxation will lower their tax revenues. Action is needed in the following areas:

- Identifying and assessing barriers at the local level, both for landowners and local officials.
- Providing assistance and outreach on current use taxation to landowners and assessors.
- Assembling data on the economic value, including both costs and benefits, of open space to counties, along with data on impacts of current use taxation policies on biodiversity.
- Providing outreach to local decision makers on the value of biodiversity conservation.
- Providing incentives to counties to adopt current use taxation.

### **ACTION 2.5.2**

#### **Clarify how the Open Space Tax Act can be used to address biodiversity through current use taxation and Public Benefit Rating Systems.**

Currently, counties have flexibility in determining open space qualifying criteria for taxation purposes through their current use programs and Public Benefit Rating Systems. Some counties have adopted point systems that address wildlife habitat. In some cases, current use taxation programs address active farmland and forestland, but wildlife and habitat may not qualify. Changes to this statute could include explicitly designating wildlife and habitat as qualifying uses and adopting a model point system that local communities can readily understand and accept as balanced and fair.



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## 3. Land Use and Development

### Introduction

Population growth trends and accompanying increases in land conversion rates in Washington make changes in land use and development approaches central to the Biodiversity Conservation Strategy. Development in many parts of Washington State is occurring in a sprawling fashion, which can rapidly

consume habitat. As development occurs, it puts more pressure on both private and public lands. Achieving the vision of a future where communities grow and thrive in ways that conserve open space and important biodiversity resources will require substantial changes in current practices and patterns of growth over both the short and long terms.

### Current Practices

Existing state and federal laws and regulations can help manage development in ways that conserve biodiversity. The state Growth Management Act contains specific conservation goals that local jurisdictions must address when planning growth, while the Shoreline Management Act places preference on shoreline uses that protect water quality and the natural environment. Local governments administer both of these laws. Other key laws affecting land use and development include the State Environmental Policy Act (SEPA), the federal Endangered Species Act (ESA), and the Federal Water Pollution Control Act (Clean Water Act).

Using these existing laws, local governments have many opportunities to incorporate biodiversity considerations into land use and development practices. The sidebar provides examples of local jurisdictions and organizations that have begun incorporating conservation goals into land use planning and development strategies.

#### Examples of land use planning and development in Washington that foster conservation:

- Spokane and Pierce Counties each created “biodiversity networks” in their open space and comprehensive plans.
- The Cascade Land Conservancy has worked to channel growth and development in the Puget Sound region in ways that protect open space and natural systems.
- King County and the Trust for Public Land developed a smart-growth strategy for the County that emphasizes land conservation.\*
- Stewardship Partners and the Nisqually River Council developed a set of low-impact development and architectural guidelines for the watershed, and they are working to encourage its adoption.
- Kitsap County and the Washington Department of Fish and Wildlife worked together on a local habitat assessment that is being used in developing watershed plans.

\* Trust for Public Land, “King County and TPL: A Partnership in Conservation,” [http://www.tpl.org/tier3\\_cd.cfm?content\\_item\\_id=18178&folder\\_id=262](http://www.tpl.org/tier3_cd.cfm?content_item_id=18178&folder_id=262), last accessed July 2007.

## Gaps and Opportunities

Opportunities exist to integrate biodiversity conservation into land use and development plans in a comprehensive way and to address gaps in the current system.

**Local jurisdictions often lack capacity to apply and integrate scientific information about conservation into land use and development plans.** Biodiversity conservation is rarely explicitly integrated into land use and development plans in a comprehensive way. Local planners often lack both the political support and the necessary resources to address biodiversity conservation needs in their planning processes. More training, technical assistance, and financial support is needed to ensure that landowners, local officials, planners, and developers are aware of, and have the tools and strategies to address, issues such as wildlife corridors.

**Compliance with and enforcement of existing laws is inconsistent.** A strong regulatory framework exists to address many of the key threats to biodiversity related to growth and land conversion. However, compliance and enforcement problems include a lack of capacity, particularly at the local level; the need for technical assistance to achieve compliance; distrust between government and property owners; the complexity of many laws; and the lack of political support or a clear set of priorities.

**Mitigation could be employed more effectively.** Mitigation processes offer the potential for important restoration or protection to occur concurrently with development. Many environmentalists and scientists have questioned the conservation value of such programs, however, and some mitigation bankers and developers view the regulatory environment surrounding these programs as difficult and cumbersome.

**Innovative approaches to development could be adopted.** A host of emerging approaches to development offer promise, including green building programs, such as Built Green or the Leadership in Energy and Environmental Design (LEED) green building rating system; low impact development strategies; incentives directed toward developers; and transfer of development rights (TDR) programs. Individuals and entities from the public, private, and nonprofit sectors are providing leadership on these changes throughout Washington.

**Biodiversity concepts could be better integrated into management of public lands.** State and federal agencies often manage their lands with goals that have a positive impact on biodiversity conservation, but biodiversity conservation goals could be made more comprehensive, explicit, and congruent among adjacent landowners.

## Recommendations

**OBJECTIVE: Biodiversity conservation priorities and tools are incorporated into land use planning processes, development actions, and management activities.**

Achieving the vision of a future where communities grow and thrive in ways that conserve open space and important biodiversity resources will require substantial changes in current practices and patterns of growth over both the short and long terms.

In local jurisdictions, regional biodiversity conservation priorities will need to be incorporated into long-range comprehensive planning, program implementation, specific development projects, and funding programs. Local planners will need both political support and the resources, including budgets, maps, and best management practices. Other changes might include tools and incentives for directing development toward existing urban areas as well as increased support for landowners to maintain their properties as working land or native habitat.

The five strategies presented below include recommended actions that can provide local governments as well as state agencies with the resources and capacity needed to incorporate biodiversity conservation into today's planning and development activities. These actions also address how the state can encourage the adoption of innovative new tools and practices. Actions here can take place in the near term – through pilots, studies, and proof-of-concept feasibility analyses as well as policy changes – with the payoff realized over the long term.

## Strategy 3.1:

### **Provide direct assistance to local governments through funding and technical assistance.**

**Problem Addressed:** Local governments play a key role in managing growth and development. Smaller jurisdictions that are experiencing rapid growth and are in areas of high biodiversity in particular often have limited capacity to procure and integrate biodiversity maps and assessments into their planning processes. Opportunities exist to work collaboratively with local governments and provide them with the tools and resources needed to address biodiversity conservation in their plans and development practices.

**Potential Partners:** Washington State Department of Community, Trade, and Economic Development, Washington Department of Fish and Wildlife, Washington State Conservation Commission, conservation districts, Puget Sound Partnership, Washington State Association of Counties, Association of Washington Cities, American Planning Association, and the Planning Association of Washington.

#### **ACTION 3.1.1**

#### **Provide funding to improve the ability of local governments to plan and manage for biodiversity and to integrate biodiversity assessments into comprehensive plans.**

Specific needs include mapping, conducting local assessments, incorporating existing assessments into planning processes, and updating plans. Direct funding to local governments to build capacity could be offered through either a competitive or need-based grant program that enables such jurisdictions to have dedicated staff to address conservation issues. Additional resources are particularly important for smaller jurisdictions facing rapid growth, such as the Okanogan, parts of central Washington, and Lewis County.

### **ACTION 3.1.2**

#### **Expand technical assistance to support the efforts of local governments to plan and manage for biodiversity conservation.**

Additional investment in staff resources at state natural resource agencies is needed to ensure sufficient support and guidance to local governments. For example, the Washington Department of Fish and Wildlife already provides this function, often in partnership with other state agencies, but it requires additional resources to meet the needs of local governments for high-quality and timely technical assistance geared toward biodiversity protection. Assistance areas include training; use of modeling tools; mapping and assessment; and workshops to help planners and developers understand critical biodiversity features, such as wildlife corridors, and how to accommodate those features in planning and permitting processes. Additionally, technical resources could be provided to local governments to describe the economic value of ecosystem services that areas rich in biological diversity provide as well as to quantify the potential economic losses associated with land conversion.

### **ACTION 3.1.3**

#### **Increase funding to local governments to accelerate the adoption of low impact development and other green building practices.**

Existing grant programs available in some parts of the state have proved effective at helping local jurisdictions conduct feasibility studies, rewrite codes, and provide outreach to encourage low impact development and green building. These programs should be expanded and made statewide, to allow for more rapid adoption of these “win-win” building and development practices. Providing developers with access to grant funds and expanded technical assistance could also increase the market share of green building. These programs should apply to retrofits of existing buildings as well as new construction.

## **Strategy 3.2:**

### **Ensure consistency and compliance with existing laws, plans, and regulations.**

**Problem Addressed:** A long-term approach is needed to ensure accountability and to realize durable support for a regulatory framework that effectively protects biodiversity, supports market approaches to conservation, and is sensitive to the constraints on landowners.

**Potential Partners:** Local governments, Washington State Department of Natural Resources, Washington Department of Fish and Wildlife, Washington State Department of Ecology, Washington State Conservation Commission, conservation districts, Ruckelshaus Policy Consensus Center, Office of Farmland Preservation, environmental interest groups, and landowner interest groups.

### **ACTION 3.2.1**

#### **Provide funding to local governments to ensure consistency and compliance with existing laws, plans, and regulations.**

Directed funding to local governments would facilitate enforcement of existing ordinances, policies, and plans that can protect biodiversity. Such funding would enable many jurisdictions to hire staff to provide the assistance and oversight needed to increase voluntary compliance as well as to enforce regulations when necessary.

### ACTION 3.2.2

#### Enhance consistency and enforcement of invasive species regulations for effective control of invasive species.

The Biodiversity Council has been working with the Washington Invasive Species Council to identify needed actions to address the threat invasive species pose to Washington's biodiversity. The Washington Invasive Species Council will review existing statutes and regulations to look for gaps and overlaps, and will propose prioritized legislative or regulatory solutions to address these gaps and barriers.

## Strategy 3.3:

### Make mitigation more efficient for developers and effective for conservation.

**Problem Addressed:** Mitigation programs need reform to conserve biodiversity more effectively and to make mitigation more efficient.

**Potential Partners:** Washington State Department of Ecology, Washington Department of Fish and Wildlife, Governor's Office of Regulatory Assistance, Washington State Conservation Commission, wetland bankers, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Cascade Land Conservancy, Puget Sound Partnership, and Washington State Department of Transportation.

### ACTION 3.3.1

#### Improve the process for developing innovative mitigation alternatives including, but not limited to, mitigation banks, advance mitigation, and fee-in-lieu programs for aquatic, marine, and terrestrial habitats.

### ACTION 3.3.2

#### Develop and provide guidance on appropriate mitigation for terrestrial habitats.

### ACTION 3.3.3

#### Establish pilot projects to explore opportunities for valuing ecosystem components and services in offsite mitigation activities.

Mitigation measures offer means for development activities that impair biodiversity to fund conservation efforts in nearby areas or other locations of comparable value. While they do not necessarily result in a net increase in biodiversity, offset, mitigation, and conservation "banking" structures may include enough flexibility to encourage or require net biodiversity improvements.

Under federal and state regulations, environmental impacts of construction on wetlands must be mitigated by contributing to an offsite restoration project. The same concept could be applied more broadly (beyond wetlands) to include other biodiversity values, including habitat for particular species.

Washington State already has several existing wetlands banks, and new momentum may be underway for expanded conservation banking in Washington. Both the Department of Ecology and the Department of Transportation are working on changes to improve both the ecological

benefits and efficiency of these programs. Issues to be addressed in the implementation of these recommendations include assignment of long-term responsibility for newly established banks as well as ensuring proper application of in-lieu mitigation. This strategy is linked to Strategy 2.3.

## Strategy 3.4:

### **Further the development and widespread adoption of innovative approaches to development that promote biodiversity conservation.**

**Problem Addressed:** Development in many parts of Washington is occurring in a sprawling fashion that rapidly consumes habitat, increases impervious surfaces, and raises stormwater runoff. To conserve biodiversity resources over the long term, Washingtonians will need to change these development practices substantially. Development and testing of alternative low impact development practices should be expanded, and proven new approaches should be adopted throughout the state.

**Potential Partners:** Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Washington State Department of Ecology, Washington State Association of Counties, Association of Washington Cities, Washington Invasive Species Council, Office of Farmland Preservation, environmental interest groups, tribes, Washington Forest Protection Association, Washington Farm Bureau, Cascade Land Conservancy, Washington Farm Forestry Association, Puget Sound Partnership, and universities.

#### **ACTION 3.4.1**

##### **Conduct pilot projects with local governments to explore and test programs such as tiered building permits and reduced fees for conservation-oriented development projects.**

Incentive strategies can also be applied to land use and permitting to encourage conservation-oriented development, such as green building programs and low impact development strategies. Pilot projects to learn more about the types of incentives that are most cost-effective for government, attractive for developers, and beneficial for conservation can help achieve this goal.

#### **ACTION 3.4.2**

##### **Test models for regional coordination on biodiversity issues and priorities.**

Many biodiversity conservation priorities affect more than one jurisdiction or may require action by multiple government agencies. Currently, few effective ways exist to coordinate the efforts of these jurisdictions and agencies related to biodiversity at the landscape level.

This recommendation involves testing alternative approaches to regional coordination to determine which ones work best. The pilot Healthy Lands Initiative and Pierce County Biodiversity Alliance offer several ideas, including establishing regional biodiversity councils or habitat-based stewardship councils, funding a regional biodiversity council coordinator, and developing regional websites. This action is linked to Recommended Action 2.1.3.

### ACTION 3.4.3

#### Conduct research to document costs of development and the impact of patterns of development on biodiversity.

Local government officials and planners need better information on the cumulative costs and benefits associated with development – in terms of both finances and impacts on natural resources – to make informed decisions about growth. The American Farmland Trust and Methow Conservancy recently completed a Cost of Community Services Study for Okanogan County that could serve as a model for such efforts.<sup>4</sup>

### ACTION 3.4.4

#### Expand use of transfer of development rights in areas facing rapid development.

Transfer of development rights (TDR) programs are market-based mechanisms to sever development rights from one parcel and sell them for use on another parcel. TDR programs have been used effectively in several instances to direct greater densities into existing urban development and achieve conservation goals. The development of regional markets would increase the significance of TDR programs. Such markets would also help foster incentives for cities to accept increased densities. Smaller jurisdictions may need increased staffing and capacity to conduct transfers of development rights. The Biodiversity Council supports ongoing efforts, including legislative initiatives and the work of conservation organizations such as the Cascade Land Conservancy, that enable and expand TDRs in a manner that is consistent with the conservation of biodiversity.

## Strategy 3.5:

### Fully incorporate biodiversity conservation strategies into the management of public lands.

**Problem Addressed:** State and federal agencies manage public lands in Washington for multiple purposes including for recreation (e.g., hunting, birding, fishing, hiking, wildlife viewing), commercial forestry, agriculture, and habitat protection. Biodiversity conservation is an important consideration for management decisions such as in the Department of Natural Resources' Natural Areas program. However, often public land managers lack the mandate, resources, and tools to consider biodiversity effectively in decision making and operating practices. This issue may become more significant in the future, as more private lands are developed, increasing the importance of biodiversity on public lands.

**Potential Partners:** Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Washington State Department of Transportation, Washington State Parks and Recreation Commission, Washington State Association of Counties, tribes, Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service, and National Park Service.

### ACTION 3.5.1

#### Improve knowledge of biodiversity on public lands.

In conjunction with Strategy 4.2, the state Department of Natural Resources, Department of Fish and Wildlife, Parks and Recreation Commission, local governments and relevant federal agencies should

assess the current state of knowledge about biodiversity on their respective lands, identify data gaps, and subsequently conduct an inventory of biodiversity resources on those lands. In conjunction with Recommended Action 6.2.1, state agencies should contribute to the Biodiversity Scorecard, reporting on the status of biodiversity in Washington.

### **ACTION 3.5.2**

#### **Explicitly integrate the ecoregional Conservation Opportunity Framework into existing planning and conservation programs for public lands and waters.**

The Conservation Opportunity Framework presented in Strategies 1.1 to 1.3 and detailed in Chapter 4 identifies biodiversity conservation priorities and strategies for each ecoregion, considering significance and future risks. This framework should be considered and used as appropriate by the Department of Fish and Wildlife, Parks and Recreation Commission, and Department of Natural Resources in their respective land management plans and programs.

At the federal level, the Conservation Opportunity Framework could be used as a resource for the management of National Parks, wilderness areas, and Forest Service lands. In addition, the framework could assist with the development and implementation of Habitat Conservation Plans associated with implementation of the Endangered Species Act.

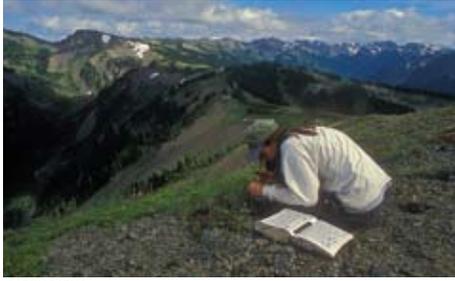
Finally, land managers from different state and local government agencies can use the Conservation Opportunity Framework as the basis for coordinating with each other to adopt a landscape-based approach to land management and conservation, with biodiversity as the common denominator. Such coordination would parallel the 2007 directive from the Washington State Legislature in SSB 5236 that has led to a land acquisition task force in the Recreation and Conservation Office.

### **ACTION 3.5.3**

#### **Manage public lands in a manner that conserves biodiversity.**

With better information and an integrated planning framework, public land managers will be in a strong position to take action on public lands to conserve biodiversity. Such actions could include the following efforts:

- Focusing restoration actions on public lands with high biodiversity significance;
- Funding for programs to manage landscapes for biodiversity conservation purposes;
- Adopting a consistent set of land management practices on adjacent public lands that different agencies manage;
- Coordinating across public agencies to allow for recreation and commercial use of public lands, while protecting habitats with high biodiversity significance; and
- Managing the maintenance of roads, forestry practices, and fire regimes on forest lands to ensure forest health in the context of biodiversity conservation.



AARON BARNA



HARLEY SOLTES



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## 4. Science and Information

### Introduction

Decades of scientific inquiry and study contribute to our understanding of biodiversity in Washington State. We need to learn more, however, and develop a more integrated approach to research and management of data. A need also exists for improved information to assist land managers, government officials, and others in decision making.

#### Statewide resources for biodiversity include:

- The Washington State Department of Natural Resources, through its Natural Heritage Program, collects and distributes information on native ecosystems and rare species for use in prioritizing conservation actions as part of the national natural heritage information system.
- The Washington Department of Fish and Wildlife manages the following:
  - A database of priority habitats and species;
  - The Comprehensive Wildlife Conservation Strategy, a management framework for the protection of species and habitats; and
- The Gap Analysis Program, a nationwide program designed to identify elements of biodiversity that are inadequately represented in the nation's network of protected areas.

For more information visit [www.biodiversity.wa.gov](http://www.biodiversity.wa.gov)

### Current Practices

A number of institutions in Washington State inventory, assess, research, manage, and monitor lands and waters of the state. Many of these institutions, including state agencies, universities, and nongovernmental organizations, are involved in statewide efforts to assemble data related to the status of species and habitats. These assessments informed the development of the ecoregional assessments described in Chapter 4, Conservation Opportunity Framework, which are essential building blocks for implementation of the Biodiversity Conservation Strategy.

### Gaps and Opportunities

**New leadership and partnerships are needed to build a biodiversity science foundation to inform policy and land management decisions.** Landowners, land managers, planners, and policymakers need access to specific conservation-related information to inform policymaking and priority-setting. Information relevant to these decision makers could be made more accessible and user-friendly.

**Critical gaps exist in our understanding of Washington's biodiversity.** The existing scientific base can be both strengthened and better applied to inform effective biodiversity conservation. Many groups of species (e.g., lichens, microorganisms, and invertebrates) are poorly studied, and we know little about their occurrence in the state. Comprehensive information on the status and trends in

species and ecosystem health and function needs to be collected and managed in a cost-effective manner.

**Regularly updated, high-quality data products are needed.** Ecosystem and population assessments are rarely coordinated or standardized in either design or implementation. As a result, the assessment products often cover different geographic and time scales, and they are difficult to integrate or use comprehensively. Furthermore, the status and quality of ecosystem processes are rarely included in such assessments, and threats such as land conversion are usually identified only in terms of impacts on particular high-risk species or locations. Updates are necessary to keep pace with changes on the landscape and to ensure that the information is useful and applicable to planning and permitting decisions.

## Recommendations

**OBJECTIVE: Establish a comprehensive scientific understanding of Washington's biodiversity and effective conservation practices and make available information readily accessible and useful for land managers and decision makers.**

The three strategies presented below are designed to achieve this two-part objective of improving our scientific knowledge of biodiversity and enhancing the ability of planners, developers, and landowners to incorporate biodiversity considerations into land use and development decisions on a real-time basis. Building our scientific knowledge will take time. Continued research at our universities as well as studies and inventories commissioned by government and nonprofits can help achieve this goal, and the efforts of citizen scientists can also contribute to these efforts. Improving the accessibility and utility of existing information can begin immediately with concerted effort and leadership from state agencies and help from nonprofit organizations and universities. It is important to coordinate these efforts with those of neighboring states, as well as the province of British Columbia, to inform regional biodiversity conservation efforts.

### Strategy 4.1:

**Through new leadership and partnerships, create a strong science foundation to inform policy and action on biodiversity conservation.**

**Problem Addressed:** Significant gaps exist in our understanding of the state's biodiversity and how best to conserve it. Responsibilities and expertise in this field are scattered among institutions around the state. Data are not systematically collected, organized, or shared in ways that allow for a comprehensive understanding of the state's biodiversity status and relevant priorities for action. Leadership is needed to coordinate efforts in Washington related to the science of biodiversity and to implement significant components of the strategy.

**Potential Partners:** Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Washington State Department of Ecology, the Washington State Recreation and Conservation Office, Washington State Conservation Commission, universities, The Nature

Conservancy, Washington Academy of Sciences, Defenders of Wildlife, U.S. Forest Service's Pacific Northwest Research Lab, Puget Sound Partnership, tribes, and educators.

#### **ACTION 4.1.1**

##### **Establish a Biodiversity Science Panel and affiliated Center to address science questions in implementing the Biodiversity Conservation Strategy.**

A Biodiversity Science Panel and an affiliated Biodiversity Science Center would provide the leadership and resources to advance our understanding of the science needed to conserve the state's biodiversity effectively in the face of growth and climate change.

The core members of the Biodiversity Science Panel would include experts from the major organizations involved in biodiversity conservation, natural resource management agencies, and academia. The Panel's responsibility would be to lead the development of science-related products associated with the strategy, including the Biodiversity Scorecard, the Biodiversity Data Partnership, and the Washington Biodiversity Inventory. Areas of expertise represented on the team should include conservation biology, ecology, biological taxonomy, economics, political science, and communication of science concepts to the public and policymakers.

The Biodiversity Science Center should be affiliated with the newly established Washington Academy of Sciences, but it should be a distinct entity, with a clear and focused charge for research and collaboration focused on biodiversity. In contrast, the Washington Academy of Sciences is charged with addressing the breadth of science-related issues facing the state, and so it is composed of members whose expertise goes far beyond biology and the science of biological diversity. The Center should have a strong association with the higher education system, and perhaps it could be housed at one of the state's universities. The Center should also be linked to the state's lead agencies for natural resource management.

#### **ACTION 4.1.2**

##### **Create a Biodiversity Data Partnership to address the needs for improved integration of biodiversity data systems and better information for decision makers.**

The Biodiversity Data Partnership will address existing barriers to collecting and sharing biodiversity-related data effectively and efficiently within state government as well as with federal agencies, tribes, and nongovernmental organizations.

The partnership is to consist of members from all the state agencies that collect and manage such data as well as representatives of nonprofit groups, tribes, and the federal government. The partnership should report to the Biodiversity Science Panel. It should complete the initial phase of its work within three years, formulating recommendations for how to improve integration, efficiency, and data products. The Biodiversity Data Partnership should specifically address the following issues:

- Development of stronger links among groups that collect data, with an emphasis on collection of policy- and management-relevant data;

- Standardization of data collection methods;
- The value and feasibility of building a central hub for biodiversity information that state government collects and manages; and
- The benefits of developing a web-based state Biodiversity Clearinghouse, for non-technical audiences outside of state government.

## Strategy 4.2:

### Fill critical gaps in our knowledge of Washington’s biodiversity and how best to conserve it.

**Problem Addressed:** Significant gaps exist in our understanding of the state’s biodiversity and how best to conserve it. Importantly, the state lacks a thorough and rigorous inventory of the distribution of species in Washington, particularly less studied organisms. Also, little knowledge exists on how to respond to climate change in the context of conservation. The data collected through implementing these recommendations will be used to develop strategic priorities and assess the success of conservation actions. The research and inventory efforts outlined in the actions below should be conducted in collaboration with those efforts undertaken in neighboring states and British Columbia as well as broader regional or international projects.

**Potential Partners:** Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Washington State Conservation Commission, University of Washington, The Nature Conservancy, Pacific Biodiversity Institute, Puget Sound Partnership, Washington Invasive Species Council, participants in citizen science programs, and natural resource agencies and organizations in Oregon, Idaho, and British Columbia.

#### ACTION 4.2.1

#### Initiate the Washington Biodiversity Inventory, a long-term project to survey and inventory all species in the state.

This inventory is intended to provide, over time, a comprehensive understanding of Washington’s biodiversity and to foster an increased public awareness of and connection with that biodiversity. The inventory would be developed through collaboration among state agencies, academics, public schools, and citizen volunteers. These connections would enable the inventory to serve as a low-cost, powerful vehicle to galvanize interest, support, and resources for biodiversity monitoring and conservation. The citizen science network [Strategy 5.3] would be an essential resource to implement this recommendation. Linkages would also be created with the kindergarten through graduate school (K-20) educational efforts outlined in Strategy 5.2.

**E.O. Wilson has spearheaded an Encyclopedia of Life—an online effort to “make all key information about life on Earth accessible to anyone, anywhere in the world” (see <http://www.eol.org/>). The Washington Biodiversity Inventory would be similar to this effort, on a smaller scale.**

#### **ACTION 4.2.2**

##### **Develop a statewide Biodiversity Monitoring Plan in close coordination with the Governor's Monitoring Forum and other state and regional monitoring efforts.**

This monitoring plan is needed to ensure that the full range of species, habitats, and ecological functions are represented in state monitoring programs. This plan would include the following elements:

- Identify key biodiversity monitoring targets and opportunities to fill gaps;
- Define strategies to conduct biodiversity monitoring on public lands and to encourage biodiversity monitoring on private lands [Strategy 3.5];
- Develop or adopt protocols to ensure data quality;
- Ensure that the monitoring framework will provide scientifically credible and management-relevant data to decision makers as well as data on indicators for the Biodiversity Scorecard [Strategy 6.2]; and
- Include a commitment to participate in regional and national biodiversity monitoring efforts.

#### **ACTION 4.2.3**

##### **Develop conservation strategies to address the impact of climate change on biodiversity and Washington's natural resource base.**

Further research is needed on the likely impacts of climate change on biodiversity, the vulnerability and resilience of ecological systems and species, and ways to alleviate those impacts by, for example, improving habitat connectivity. This information should be incorporated into the setting of conservation priorities as soon as possible. Biodiversity inventory and monitoring projects should consider climate change, and research efforts should collect data to help understand the effects of climate change on biological systems.

#### **ACTION 4.2.4**

##### **Develop a research program to quantify the economic value of ecosystem services.**

Throughout the Council's research and study, stakeholders mentioned the importance of being able to quantify the value of biodiversity and to consider such values in management decisions. Existing resources on the economic value of ecosystem services in Washington are not well developed. Similarly, data on the mechanisms behind the relationship between biodiversity and ecosystem services are not well understood, nor are they available in a way that facilitates informed management decisions.

#### **ACTION 4.2.5**

##### **Conduct a baseline assessment to develop and review current invasive species data.**

The Washington Biodiversity Council has been working with the Washington Invasive Species Council to identify needed actions to address the threat that invasive species pose to Washington's biodiversity. A statewide, comprehensive baseline assessment could determine the extent of the

invasive species threats to Washington State. The assessment would bring together, for the first time, the multitude of invasive species data that county, state, federal, tribal, and nongovernmental organizations have compiled, including geographic information system (GIS) data and maps created by local noxious weed management boards. Assessing the conditions of invasive species would allow for prioritized action and would help to establish a baseline to monitor the success of current control and management activities. The assessment would provide valuable information about the number and location of invasive species present in the state and the severity of infestations. It would also help identify current management programs and future threats to the state.

**ACTION 4.2.6**  
**Develop and refine management prescriptions designed to conserve biodiversity.**

Currently, land managers have an array of possible prescriptions, or operational practices, to address conservation needs. The effectiveness of many of these prescriptions is variable and uncertain, owing to the complexity of factors affecting the health of lands and waters. A need exists for additional, applied research to refine these management prescriptions and provide improved guidance for land managers. This effort would be coordinated by the Science Panel [Strategy 4.1].



CLAYTON J. ANTIEAU



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THE NATURE CONSERVANCY



AARON BARNA



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WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

## 5. Education and Public Engagement

### Introduction

#### Current Practices

Washington State has a number of institutions and programs that provide opportunities for students of all ages to learn about biodiversity. These educational opportunities include informal learning centers, such as nature centers; national and state parks; environmental education organizations, such as the Pacific Education Institute; and consumer education campaigns, such as Salmon Safe and the Food Alliance; elementary, middle, and high schools; and colleges and universities.

**The Pacific Education Institute develops and implements experiential, outdoor learning programs to help students understand the relationships between our natural and social worlds.**

**The Curriculum for the Bioregion initiative is developing new approaches to place-based learning at the college and university level in the Puget Sound region.**

#### Gaps and Opportunities

The 2004 report card on the *Status of Environmental Education in Washington State*, requested by the Washington State Legislature, rates general awareness of environmental education in Washington as average and state support of environmental education as below average.<sup>5</sup>

Biodiversity components are included in some curricula for K-20 (kindergarten through graduate school) education. Institutional support is lacking, however, for nature-centered learning, field investigation, and curricula focused on Washington’s unique biodiversity. Expanded support for these new and innovative biodiversity curricula efforts within individual school districts would further the state’s environmental education goals and increase student understanding of the science and importance of biodiversity.

Rich opportunities exist to focus on understanding natural systems and the role they play in our lives and to enhance the ability for citizens to have meaningful contact with the natural world. The value of outdoor education and learning could be emphasized and encouraged to a far greater extent than it is today. Citizen science pro-

<sup>5</sup> Environmental Education Association of Washington, *Report Card on the Status of Environmental Education in Washington State*.(2004).

grams, a tested methodology for both engaging adults in learning about their environment and in collecting data to help scientists fill gaps, offer one such opportunity for environmental education.

## Recommendations

**OBJECTIVE: Inform, educate, and engage Washingtonians—decision makers, students, adult learners, and the general public—to create an understanding of biodiversity’s importance to our quality of life and to build capacity to take action to conserve, care for, and restore ecosystems.**

Education is a crucial component of this Biodiversity Conservation Strategy. The Council’s vision is that, within 10 years, the educational system will provide students with a comprehensive understanding of the science and value of biodiversity. Over the next two to four years, building on existing efforts, new messages need to be developed and communicated to the public and key decision makers about the value of biodiversity. These two sets of activities will increase citizens’ active support of conservation efforts.

The four strategies presented below are designed to achieve this objective, by enhancing and strengthening the existing programs and through close collaboration with the organizations and institutions currently involved in environmental education. These strategies are also linked to the approaches described in Strategies 1.1 to 1.3, as an important part of the toolbox of conservation measures.

### Strategy 5.1: Develop effective messages and conduct outreach.

**Problem Addressed:** Consistent and well-designed messages are needed to increase awareness of the importance of biodiversity and the actions that citizens can take to help conserve biodiversity. Funding for development of such messages is limited, and a great number of organizations could collaborate on delivering them. The recommendations below are put forth with the purpose of building stronger networks, developing partnerships, and leveraging and supporting existing programs and initiatives.

**Potential Partners:** Environmental interest groups, Environmental Education Association of Washington, Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Washington State Department of Ecology, Washington State Department of Tourism, Washington State Parks and Recreation Commission, Puget Sound Partnership, Washington State Conservation Commission, conservation districts, tribes, The Nature Conservancy, Conservation Northwest, People for Puget Sound, Initiative for Rural Innovation and Stewardship, and existing nature centers and nature-based education programs.

### **ACTION 5.1.1**

#### **Invest in the development and delivery of effective messages and materials about biodiversity value and conservation opportunities.**

Achieving delivery of consistent messages from a range of organizations that reach out to students, adult learners, and the general public would help citizens gain a better understanding of the importance of biodiversity and stimulate behavior change to conserve biodiversity.

A high-powered biodiversity messaging team would be created in cooperation with local, regional, and statewide groups conducting education and outreach on topics related to biodiversity. The team would identify specific needs for educational pieces, such as recognition of landowner stewardship efforts [Recommended Action 2.1.4], and it would work to incorporate the biodiversity messages into key documents produced by the Puget Sound Partnership, the Governor's Ocean Policy workgroup, E3 Initiative, and other related organizations.

### **ACTION 5.1.2**

#### **Facilitate ongoing communication and collaboration among organizations that engage in nature-based learning.**

Creating vibrant networks among those entities specifically working in nature-based education is essential to fostering communication, consistent messaging, and useful sharing of resources.

Workshops and other outreach events would be held to convene these organizations. Among other objectives, these events would be an opportunity for collaboration on and adoption of the biodiversity messages discussed in Recommended Action 5.1.1. Additional actions would include creating a list-serve and greater support and investment in the Washington Biodiversity Project website as a hub for sharing information.

### **ACTION 5.1.3**

#### **Develop and provide decision-making tools related to biodiversity conservation for local officials and leaders.**

Educational materials would be developed that specifically target the needs of local officials and the issues they face in their jurisdictions. These needs and issues include quantifying and describing the benefits of healthy ecosystems to citizens and communities as well as fostering a general understanding of the range of tools and services available for education and conservation.

### **ACTION 5.1.4**

#### **Coordinate state, local, and federal government programs conducting education on invasive species; facilitate the sharing of materials.**

The Washington Biodiversity Council has been working with the Washington Invasive Species Council to identify needed actions to address the threat that invasive species pose to Washington's biodiversity. The Invasive Species Council will develop a coordinated outreach campaign closely linked to the efforts of the Biodiversity Council to enhance and develop methods for more involvement in invasive species programs, including the following elements:

- Use the outreach campaign to educate the public on the threats of invasive species with tools for volunteer and citizen activists;
- Develop a comprehensive and consistent media plan for the Invasive Species Council that encourages shared resources and management of information; and
- Use the web to display information and to allow access to key invasive species information for a “one-stop shop” resource.

## Strategy 5.2: Significantly enhance learning opportunities about biodiversity for K-20 students.

**Problem Addressed:** The curriculum for kindergarten through graduate school (K-20) in Washington increasingly emphasizes environmental education, thanks in large part to the work of those organizations listed below as potential partners. Biodiversity is not consistently integrated into K-20 curricula, however. Continued collaboration with and leverage of existing organizations and efforts would expand teachers’ and students’ understanding of and concern for biodiversity. Such efforts would help existing statewide environmental education efforts to complement one another.

**Potential Partners:** Pacific Education Institute, Washington Office of the Superintendent of Public Instruction, Environmental Education Association of Washington, Governor’s Council for Environmental Education, E3 Washington and the E3 Initiative’s Comprehensive Plan for Environmental Education, University of Washington’s NatureMapping Program, Facing the Future, IslandWood, Woodland Park Zoo, Puget Sound Partnership, Washington Forest Protection Association, Washington State Department of Fish and Wildlife, Washington State Parks and Recreation Commission, Washington State Conservation Commission, regional learning centers, and nature centers across the state.

### ACTION 5.2.1 Create a biodiversity education component as part of the Washington Learns innovations for math and science.

Biodiversity education should be incorporated within the science emphasis of Washington Learns, the Governor’s plan for statewide education. Biodiversity could be linked to several of the math and science strategies. Conservation science conducted in conjunction with the owners of working lands would be an excellent example of the public-private learning partnerships envisioned in Washington Learns. Understanding of biodiversity and conservation science would be increasingly valuable in the future, both for tackling our own local environmental challenges as well as a marketable skill in a national and global marketplace.

### **ACTION 5.2.2**

#### **Work with the Washington Academy of Sciences to create a Washington Academy of Sciences for Youth.**

The Washington Academy of Sciences has authority to conduct public education, science fairs, and similar programs that promote science for the public, in addition to its research duties. A Washington Academy of Sciences for Youth would connect to the public school curriculum and provide opportunities for students to conduct meaningful research in biodiversity conservation and other issues. Programs that demonstrate the ability of students to generate credible data on conservation would encourage and validate other youth- and community-based scientific studies. This recommendation may be implemented in partnership with the Pacific Education Institute, which has the capacity to create K-20 programs with the Office of the Superintendent of Public Instruction, and school districts, to conduct research in biodiversity conservation that informs the Biodiversity Scorecard and other field study needs.

### **ACTION 5.2.3**

#### **Create a Washington Outdoor Academy to produce tomorrow's leaders in natural resources management.**

Direct experience with the natural world is key to inspiring students of all ages to learn more about biodiversity conservation. Programs are needed that encourage young people to enter the professions of natural resources management, environmental science, agriculture, and forestry. The Washington Outdoor Academy would enable students to gain meaningful hands-on experience and understanding of natural resource management in concert with the public school system. For example, high school students could conduct biodiversity stewardship projects in their communities through collaboration between the Academy, the Pacific Education Institute, the Association of Washington School Principals, and the Office of the Superintendent of Public Instruction.

### **ACTION 5.2.4**

#### **Further the development and widespread adoption of innovative approaches to biodiversity education.**

Many experts have suggested ideas to build on existing programs or develop new approaches to fostering enhanced biodiversity education. The Council supports either using existing networks of environmental educators or convening a working group to develop options in this rich area, including the following efforts:

- Ensure that all Washington students participate in field-based investigations. This goal may be tied with the citizen science network [Strategy 5.3] or with the Washington Outdoor Academy [Recommended Action 5.2.3].
- Tailor existing state programs to biodiversity, such as the Washington State Leadership and Assistance for Science Education Reform (LASER) program's provision of science inquiry kits to classrooms.
- Work in concert with House Bill 1495 to invite tribes to bring tribal histories of interactions with the natural world and current biodiversity management practices into public schools.

- Encourage changes in teacher education and continuing education programs to increase opportunities for biodiversity conservation training.
- Enhance existing biodiversity research and education at the university level. For example, the University of Washington’s College of Forest Resources and The Evergreen State College have important research and offerings related to biodiversity. These efforts could be expanded and linked to other recommendations in this report, including establishing a Biodiversity Science Center [Recommended Action 4.1.1] and initiating a Washington Biodiversity inventory [Recommended Action 4.2.1].

## Strategy 5.3:

### Use expanded citizen science networks to engage people in conservation and to inventory and monitor biodiversity.

**Problem Addressed :** Citizen science programs have a dual purpose of engaging and educating the public, while providing an efficient opportunity for the collection of scientific data related to biodiversity. A well-designed and well-implemented system will use trained volunteers in efficient collection of data. Building a robust science network of citizens will support many other recommendations found in this report, notably in gathering data for the Biodiversity Scorecard [Strategy 6.2].

**Potential Partners:** Washington Department of Fish and Wildlife, universities, museums, environmental and science volunteer programs, Environmental Education Association of Washington, Puget Sound Partnership, University of Washington’s NatureMapping Program, Pacific Education Institute, conservation districts and regional learning centers.

#### ACTION 5.3.1

#### Bring together existing programs to create a collaborative statewide citizen science initiative for biodiversity monitoring.

Universities could provide valuable input and coordination in implementing these recommendations, with expertise in data management, monitoring, and training citizens and K-12 teachers in data-gathering and information management methods. Actions would include the following efforts:

- Establish an action-oriented steering committee to launch the statewide initiative.
- Focus efforts on collecting data for biodiversity indicators, which would contribute to the production of the Biodiversity Scorecard.
- Hire a coordinator for the project and ensure adequate funding for information technology support.
- Ensure that professionals and natural resource agencies are involved in design of the protocols and database.
- Ensure that the data collected are stored at a scale that is of benefit to the widest possible range of users, including local jurisdictions.

- Create a grant program for local centers to develop capacity to participate in the project. Grants should cover staffing, technology, training, and other aspects of participation.
- Ensure that monitoring for invasive species occurs.

#### **ACTION 5.3.2**

**Organize a conference for participants in the citizen science initiative to share knowledge and improve capacity.**

#### **Strategy 5.4:**

**Support community stewardship programs in conserving biodiversity and restoring and caring for ecosystems.**

**Problem Addressed:** Washington’s numerous community stewardship programs provide biodiversity conservation benefits both locally and statewide. These citizen-led programs, which are locally based around specific geographies and school districts, typically lack sustained funding. Program leaders and sponsors often are not well-connected to other similar programs. Increased investment in and communication among volunteers, landowners, and organizations would result in a sharing of ideas and build capacity to benefit collaborative conservation efforts.

**Potential Partners:** Local governments, existing community stewardship programs, land trusts and conservancy organizations, environmental education organizations, Puget Sound Partnership, Environmental Education Association of Washington, Pacific Environmental Institute, Washington State Department of Natural Resources’ Small Forest Landowner Office, grange organizations, conservation districts, and cooperative extension services.

#### **ACTION 5.4.1 Provide training and recognition to community stewardship programs.**

Elements of this action would include the following efforts:

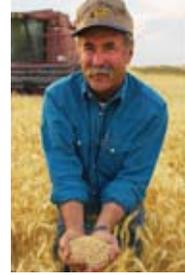
- Build a component into the Biodiversity Project website targeted specifically toward the needs of community stewardship groups;
- Host workshops to provide opportunities for networking and synergy among groups;
- Initiate a recognition program through publication of a set of success stories or case studies and through profiles on the Biodiversity Project website;
- Link community stewardship programs to the citizen science initiative where appropriate; and
- Assist community stewardship programs in quantifying and demonstrating the ecosystem services provided by the resources they work to conserve.



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## 6. Achieving Results

The Biodiversity Conservation Strategy offers many benefits to Washington citizens. By implementing the recommendations described in this document, we will make progress toward restoring and protecting functioning and intact ecosystems, conserving and restoring viable populations of native species, and ensuring that healthy ecosystems sustain and support a high quality of life for humans.

The work of the Biodiversity Council has already fostered progress toward these goals. For example, the Healthy Lands Initiative in north central Washington and the Pierce County Biodiversity Alliance have leveraged small grants from the Council toward regional conservation efforts (see Appendix B). It is important to build on these early successes and move forward to achieve the Council's vision.

This section presents strategies to take immediate action and achieve results. Strategy 6.1 is designed to provide leadership to implement the Biodiversity Conservation Strategy, through extension of the Biodiversity Council and establishment of biodiversity as an organizing principle to guide the state's natural resource investments and programs. Strategy 6.2 is designed to provide information and accountability to the public and decision makers, primarily through development of a Biodiversity Scorecard and enhancement of the existing Biodiversity Project website. Strategy 6.3 provides for identification and recommendation of funding sources, including for regional pilot projects.

### **Pilot projects have begun achieving the goals of the Biodiversity Conservation Strategy.**

The **Pierce County Biodiversity Alliance** organized a BioBlitz, or rapid biological inventory, in the lower White River Biodiversity Management Area (BMA). Landowners in Pierce County BMAs are eligible for reduced property taxes. The BioBlitz ground-truthed species diversity, engaged citizen scientists, and served as a kick-off for community planning.

The **Healthy Lands Initiative** brought together the agriculture, land conservation, planning, and economic development communities to learn about the biodiversity in north central Washington and to explore conservation tools and resources, both existing and potential.

## Recommendations

**OBJECTIVE: Provide leadership, accountability, and funding to ensure successful implementation of the Biodiversity Conservation Strategy.**

### Strategy 6.1:

**Provide leadership to implement the Biodiversity Conservation Strategy.**

**Problem Addressed:** Coordinated, focused leadership will be essential to achieve the goals of the Biodiversity Conservation Strategy and initiate implementation of key recommendations. Responsibilities for implementation will be spread among several different agencies and organizations and will involve extensive engagement of local governments. Leadership on the goals of the strategy will be needed at the highest levels of government to integrate the work of different agencies and deliver results to the Governor and Legislature.

However, providing such leadership by either creating a new entity or charging an existing entity with the lead responsibility for implementation requires a high level of consensus and political support. This support will take time and effort to achieve and will need extensive engagement of the state's senior leadership on natural resource issues.

**Potential Partners:** Office of the Governor, Washington State Recreation and Conservation Office, Washington State Department of Natural Resources, Washington Department of Fish and Wildlife, Washington State Conservation Commission, Washington Invasive Species Council, Governor's Climate Working Group, Legislature, and tribes.

#### ACTION 6.1.1

**Extend the tenure of the Washington Biodiversity Council with the charge of guiding initial implementation of the Biodiversity Conservation Strategy**

Key actions to be undertaken in 2008 and 2009 include the following steps:

- Providing leadership to implement the early action recommendations.
- Developing and implementing regional pilot programs [Recommended Action 6.3.1]
- Convening senior leaders and key staff in natural resource agencies to develop consensus on an approach to provide ongoing leadership and accountability for biodiversity conservation.
- Working with the Governor's office, legislators, and natural resource agencies to prepare a Biodiversity Conservation Strategy legislative package for 2009.
- Creating the Biodiversity Science Panel, which will in turn help develop the Biodiversity Scorecard.
- Directing the creation of the state's first Biodiversity Scorecard to provide a baseline status of the health of Washington's biodiversity resources and the effectiveness of current actions to conserve those resources [Recommended Action 6.2.1].

### **ACTION 6.1.2**

#### **Through legislation, establish biodiversity conservation as an organizing principle to guide the state's natural resource investments and programs.**

Support among the stakeholders and agency officials who provided input on this strategy was strong for making biodiversity conservation an organizing principle to guide those state agencies involved in managing and regulating natural resources. Most agree that taking a bigger picture ecosystem or ecoregional approach, determining the biodiversity values at that system or regional level, and then coordinating on actions and strategies to conserve biodiversity is smart policy. Such an approach will lead to better natural resource policies, programs, and investments. Stakeholders also agree on the challenge of coordinating the work of different agencies, not to mention local and federal governments, to achieve shared objectives.

Accordingly, this recommendation intends to enshrine, through state law, biodiversity conservation as an organizing principle for natural resource management. Legislation recognizing the importance of biodiversity would spur greater integration and coordination of efforts toward common ends, covering all state agencies. This recommendation would be similar to SSB 5236, which directed state agencies to coordinate on land acquisition programs.

Manifestations of this recommendation could include incorporation of biodiversity goals into public land management activities and procedures for agencies such as transportation, parks, schools, and prisons. It could also involve changes to the legislative mandates of natural resource agencies to recognize their stewardship responsibilities. For example, Washington Department of Fish and Wildlife's Comprehensive Wildlife Conservation Strategy recognized biodiversity as a guiding principle for the agency, one that will be implemented through regional wildlife action plans.

### **Strategy 6.2:**

#### **Provide information on the status of biodiversity and accountability for the effectiveness of conservation programs.**

**Problem Addressed:** Accountability for results begins with having accurate and timely information on the status of the state's biodiversity and the effectiveness of state and local actions to conserve that biodiversity. A Biodiversity Scorecard can help to ensure that investments by the state, private sector, and nonprofits in biodiversity conservation deliver the expected benefits.

An effective website can serve multiple objectives, including providing information, ensuring accountability, educating the public, and helping to coordinate government, private, and non-profit conservation actions.

**Potential Partners:** Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Washington State Conservation Commission, Washington State Recreation and Conservation Office, Washington Invasive Species Council, The Nature Conservancy, and conservation organizations.

### ACTION 6.2.1

Prepare, and regularly update, a Biodiversity Scorecard that illustrates trends in the health of our state's biodiversity and reports on the effectiveness of our actions to conserve that biodiversity.

The Biodiversity Scorecard will be designed for communication with decision makers, leaders, the Legislature, and the public. It will contain a status report on the health of Washington's biodiversity; an accountability report on the performance of government, nonprofits, and the

private sector in taking action to conserve biodiversity; and indicators of quality of life for Washingtonians.

The Biodiversity Council, working in conjunction with the Biodiversity Science Panel [Recommended Action 4.1.1], should take the lead on producing this scorecard, with a prototype developed in 2008. The Biodiversity Scorecard would be updated every two years, with a more comprehensive report on biodiversity status and trends developed every six years to review progress as well as to update priorities and strategies to preserve biodiversity.

Government accountability indicators could include the following items:

- Scope and effectiveness of incentive programs, including land owner participation, funds used for incentives, and acres in conservation programs,
- Availability of market-based programs, including number of programs and participation levels.
- Extent to which the Conservation Opportunity Framework is being used by state and local officials.
- Percent of high-priority lands in conservation status.
- Number and level of participation of citizens involved in citizen science networks.

#### Biodiversity Scorecard indicators could include the following topics:

##### Goal: Restore and care for ecosystems.

###### Sample Indicators

- Ecological status of public lands
- Normality of variability of disturbance regimes (e.g., fire, flood, insects)

##### Goal: Conserve species diversity.

###### Sample Indicators

- Number of threatened or endangered species
- Number of non-native, invasive species

##### Goal: Protect quality of life for people.

###### Sample Indicators

- Access to natural areas
- Number of schools that have hands-on experiential nature programs

Appendix C includes a more detailed list of potential indicators. Relevant agencies and the citizen science network [Strategy 5.3] would collect data on these indicators.

### ACTION 6.2.2 Invest in the Biodiversity Project website.

A robust biodiversity website has the potential to be a state hub for biodiversity information, resources, and data, fostering networking among agencies and individuals interested in conserving biodiversity in their region. The current Biodiversity Project website is a start toward achieving this vision. With a modest investment of resources, an expanded and upgraded website can offer the following services:

- Provide ready access to maps and data about biodiversity significance and risk to interested parties;
- Share up-to-date information on the status of Washington’s biodiversity at the local, regional, and state levels;
- Provide a platform for the development of regional biodiversity websites;
- Foster networking among agencies and individuals interested in conserving biodiversity in the region;
- Be a portal for biodiversity data;
- Host a biodiversity library; and
- Provide educational resources for teachers and students.

The Biodiversity Council [Recommended Action 6.1.1] with adequate staff and funding can take the lead on building this website. For the educational component, the Council staff should work with the Environmental Education Association of Washington and others to establish a steering committee representing a range of institutions involved in nature-based education. These advisors should help guide the development of the website to ensure that it effectively serves the needs of nature educators throughout the state.

### Strategy 6.3: Identify and recommend funding options to implement the strategy.

**Problem Addressed:** Resources will be needed to implement this strategy and so conserve the state’s biodiversity resources. Some funds are likely to be available through the state’s general fund, the capital budget, and the federal government, but not enough to move forcefully to implement many of the key recommendations, particularly those related to incentives and support for local governments. Fortunately, many opportunities exist to find new ways to fund biodiversity conservation, and many entities are hard at work developing alternative funding strategies. Gaining the political consensus needed to move forward also poses a challenge, and competition is high for the limited funds available from existing sources.

**Potential Partners:** Washington State Legislature, Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Washington State Department of Ecology, Washington State Conservation Commission, Trust for Public Lands, The Nature Conservancy, Cascade Land Conservancy, Association of Realtors, Washington State Association of Counties, Washington Farm Bureau, Ruckelshaus Policy Consensus Center, Office of Farmland Preservation, Puget Sound Partnership, Washington Invasive Species Council, U.S. Department of Agriculture, and Washington’s U.S. Congressional delegation.

### **ACTION 6.3.1**

#### **Provide funding from the supplemental budget to initiate one or more regional pilot programs and develop the Biodiversity Scorecard.**

The Biodiversity Council is requesting funding for Fiscal Year 2008-2009 to implement a regional pilot program and develop a Biodiversity Scorecard and accountability measures for biodiversity conservation.

The Council is proposing to establish several regional pilot programs in areas identified as a high priority in the Council's conservation opportunity mapping process. These projects would fund regional coordinators to work with landowners, local officials, conservation districts, community members, and others to direct resources to critical conservation needs. The Healthy Lands Initiative and the Pierce County Biodiversity Alliance are examples of existing biodiversity pilot projects that could be further leveraged with continued funding. Such an effort would include refining the regional maps to a local scale, directing technical assistance and outreach about incentives to key landowners in the area, and working in partnerships to secure resources to support and fund education and conservation work.

### **ACTION 6.3.2**

#### **Convene a working group to identify and recommend innovative funding to generate income from and for conservation.**

Over the long term, a substantial injection of new resources will be required to achieve the state's biodiversity conservation objectives. Expanding incentive programs as recommended in Strategy 2.2 will cost money, as will providing additional resources for local governments to incorporate biodiversity conservation into planning and to provide increased assistance to landowners to achieve compliance. Accordingly, Washington State will need to develop new funding sources which will require creative thinking and political support for implementation. Many new initiatives to finance conservation are being developed in Washington and elsewhere, including expanded use of tax incentives, public-private investment instruments, mitigation banking, establishment of a conservation investment bank, and financing habitat banking using state bonds. For more detail, see Appendix A, "Options for Financing Biodiversity Conservation in Washington."

It was beyond the scope of the Biodiversity Council to evaluate fully the feasibility of these options and other related efforts or to build political support for a preferred alternative. The Council recommends that a working group consisting of stakeholders from representatives of government, conservation organizations, trade associations, and the private sector be convened to address this issue and to recommend a long-term strategy to the Governor and Legislature. This working group should be supported by experts and conduct a study of options. This effort can be linked to similar initiatives underway for the Puget Sound Partnership.

### ACTION 6.3.3 Review funding mechanisms for efforts to control invasive species.

The Washington Biodiversity Council has been working with the Washington Invasive Species Council to identify needed actions to address the threat that invasive species pose to Washington's biodiversity. The Invasive Species Council will review budgeting and funding allocations on invasive species projects with an emphasis on state agencies. This review will focus on determining whether current allocations are adequate for effective invasive species management, research, and eradication efforts. The effort will result in a compilation of funding tools with which to make recommendations for the Washington Invasive Species Strategic Plan.

#### Invasive Species in Washington



WASHINGTON DEPARTMENT OF FISH AND WILDLIFE



RICHARD OLD



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ART WAGNER



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# Summary of Recommendations

## ■ Guiding Investments on the Ground: Using the Conservation Opportunity Framework

**Objective: State agencies and local governments, along with their nonprofit and federal government partners, will use the Conservation Opportunity Framework as a basis for identifying opportunities, establishing priorities, and implementing strategies for biodiversity conservation throughout Washington State.**

### Strategy 1.1:

**Use the Conservation Opportunity Framework to guide investments and other conservation activities.**

- 1.1.1 Integrate biodiversity conservation maps and other data with existing agency data and guidance documents used by local governments for planning purposes.
- 1.1.2 Use the Conservation Opportunity Framework to facilitate coordination among those responsible for managing lands and waters.

### Strategy 1.2:

**Fully incorporate biodiversity conservation into existing state acquisition programs.**

- 1.1.1 Update the criteria for selecting projects to fund under the Washington Wildlife and Recreation Program.
- 1.1.2 Use biodiversity conservation as the basis for coordinating acquisition programs as required by SSB 5236.
- 1.2.3 Use funding from existing programs to acquire lands and shorelines of high biodiversity significance.

### Strategy 1.3:

**Produce high quality data products to assist land managers and decision makers to develop conservation plans and strategies.**

- 1.3.1 Develop, and periodically update, future editions of the biodiversity conservation opportunity maps.

# ■ Incentives and Markets

**OBJECTIVE: Washington will offer an expanded, integrated suite of incentives and market based programs that are easily accessible to private landowners, and that make voluntary stewardship and conservation a practical and rewarding option. Incentive programs will be structured to especially encourage investment in high priority landscapes.**

## Strategy 2.1:

**Make existing landowner incentive programs more accessible, easier to use, and strategic.**

- 2.1.1 Assign responsibility for coordinating landowner incentive programs to a single state entity.
- 2.1.2 Establish a clearinghouse to distribute information and provide technical assistance on conservation incentives.
- 2.1.3 Create a program of regional “brokers” or matchmakers in high-priority areas for biodiversity conservation, beginning with a pilot project.
- 2.1.4 Improve and expand public recognition for voluntary private sector stewardship of lands.

## Strategy 2.2:

**Strategically expand incentive programs to target high-priority conservation areas and meet needs of underserved landowners.**

- 2.2.1 Dedicate incentive funding toward meeting the needs of landowners in high-priority areas for biodiversity conservation.
- 2.2.2 Develop new programs for underserved landowners, including small farmers and owners of non-working rural lands.
- 2.2.3 Provide additional funding for selected highly effective existing incentive programs.
- 2.2.4 Facilitate the expansion of new or enhanced incentives for landowners to control invasive species.

## Strategy 2.3:

**Accelerate the development of conservation markets to create new income streams for conservation actions.**

- 2.3.1 Provide leadership within state government to develop conservation markets in Washington.
- 2.3.2 Conduct feasibility studies and pilot projects to grow markets for biodiversity conservation.

## Strategy 2.4:

**Improve the effectiveness of existing regulatory programs.**

- 2.4.1 Commission a study to review the effectiveness of existing regulatory programs.

## Strategy 2.5:

**Maximize the use of current use taxation as a property tax incentive for biodiversity conservation.**

- 2.5.1 Identify and overcome barriers to using current use taxation to conserve biodiversity.
- 2.5.2 Clarify how the Open Space Tax Act can be used to address biodiversity through current use taxation and Public Benefit Rating Systems.

# Land Use and Development

**OBJECTIVE: Biodiversity conservation priorities and tools are incorporated into land use planning processes, development actions, and management activities.**

## Strategy 3.1:

**Provide direct assistance to local governments through funding and technical assistance.**

- 3.1.1 Provide funding to improve the ability of local governments to plan and manage for biodiversity and to integrate biodiversity assessments into comprehensive plans.
- 3.1.2 Expand technical assistance to support the efforts of local governments to plan and manage for biodiversity conservation.
- 3.1.3 Increase funding to local governments to accelerate the adoption of low impact development and other green building practices.

## Strategy 3.2:

**Ensure consistency and compliance with existing laws, plans, and regulations.**

- 3.2.1 Provide funding to local governments to ensure consistency and compliance with existing laws, plans, and regulations.
- 3.2.2 Enhance consistency and enforcement of invasive species regulations for effective control of invasive species.

## Strategy 3.3:

**Make mitigation more efficient for developers and effective for conservation.**

- 3.3.1 Improve the process for developing innovative mitigation alternatives including mitigation banks, advance mitigation, and fee-in-lieu programs.
- 3.3.2 Develop and provide guidance on appropriate mitigation for terrestrial habitats.
- 3.3.3 Establish pilot projects to explore opportunities for valuing ecosystem components and services in offsite mitigation activities.

## Strategy 3.4:

**Further the development and widespread adoption of innovative approaches to development that promote biodiversity conservation.**

- 3.4.1 Conduct pilot projects with local governments to explore and test programs such as tiered building permits and reduced fees for conservation-oriented development projects.
- 3.4.2 Test models for regional coordination on biodiversity issues and priorities.
- 3.4.3 Conduct research to document the impact of patterns of development on biodiversity.
- 3.4.4 Expand use of transfer of development rights in areas facing rapid development.

## Strategy 3.5:

**Fully incorporate biodiversity conservation strategies into the management of public lands.**

- 3.5.1 Improve knowledge of biodiversity on public lands.
- 3.5.2 Explicitly integrate the ecoregional Conservation Opportunity Framework into existing planning and conservation programs for public lands and waters.
- 3.5.3 Manage public lands in a manner that conserves biodiversity.

# ■ Science and Information

**OBJECTIVE: Establish a comprehensive scientific understanding of Washington’s biodiversity and effective conservation practices and make available information readily accessible and useful for land managers and decision makers.**

## Strategy 4.1:

**Through new leadership and partnerships, create a strong science foundation to inform policy and action on biodiversity conservation.**

- 4.1.1 Establish a Biodiversity Science Panel and affiliated Center to address science questions in implementing the Biodiversity Conservation Strategy.
- 4.1.2 Create a Biodiversity Data Partnership to address the needs for improved integration of biodiversity data systems and better information for decision makers.

## Strategy 4.2:

**Fill critical gaps in our knowledge of Washington’s biodiversity and how best to conserve it.**

- 4.2.1 Initiate the Washington Biodiversity Inventory, a long-term project to survey and inventory all species in the state.
- 4.2.2 Develop a statewide Biodiversity Monitoring Plan in close coordination with the Governor’s Monitoring Forum and other state and regional monitoring efforts.
- 4.2.3 Develop conservation strategies to address the impact of climate change on biodiversity and Washington’s natural resource base.
- 4.2.4 Develop a research program to quantify the economic value of ecosystem services.
- 4.2.5 Conduct a baseline assessment to develop and review current invasive species data.
- 4.2.6 Develop and refine management prescriptions designed to conserve biodiversity.

# Education

**OBJECTIVE: Inform, educate, and engage Washingtonians—decision makers, students, adult learners, and the general public—to create an understanding of biodiversity’s importance to our quality of life and to build capacity to take action to conserve, care for, and restore ecosystems.**

## Strategy 5.1:

**Develop effective messages and conduct outreach.**

- 5.1.1 Invest in the development and delivery of effective messages and materials about biodiversity value and conservation opportunities.
- 5.1.2 Facilitate ongoing communication and collaboration among organizations that engage in nature-based learning.
- 5.1.3 Develop and provide decision-making tools related to biodiversity conservation for local officials and leaders.
- 5.1.4 Coordinate state, local, and federal government programs conducting education on invasive species; facilitate the sharing of materials.

## Strategy 5.2:

**Significantly enhance learning opportunities about biodiversity for K-20 students.**

- 5.2.1 Create a biodiversity education component as part of Washington Learns innovations for math and science.
- 5.2.2 Work with the Washington Academy of Sciences to create a Washington Academy of Sciences for youth.
- 5.2.3 Create a Washington Outdoor Academy to produce tomorrow’s leaders in natural resources management.
- 5.2.4 Further the development and widespread adoption of innovative approaches to biodiversity education.

## Strategy 5.3:

**Use expanded citizen-science networks to engage people in conservation and to inventory and monitor biodiversity.**

- 5.3.1 Bring together existing programs to create a collaborative statewide citizen science initiative for biodiversity monitoring.
- 5.3.2 Organize a conference for participants in the citizen science initiative to share knowledge and improve capacity.

## Strategy 5.4:

**Support community stewardship programs in conserving biodiversity and restoring and caring for ecosystems.**

- 5.4.1 Provide training and recognition to community stewardship programs.

# Achieving Results

**OBJECTIVE: Provide leadership, accountability, and funding to ensure successful implementation of the Biodiversity Conservation Strategy.**

## Strategy 6.1:

**Provide leadership to implement the Biodiversity Strategy.**

- 6.1.1 Extend the tenure of the Washington Biodiversity Council with the charge of guiding initial implementation of the Biodiversity Conservation Strategy.
- 6.1.2 Through legislation, establish biodiversity conservation as an organizing principle to guide the state's natural resource investments and programs.

## Strategy 6.2:

**Provide information on the status of biodiversity and accountability for the effectiveness of conservation programs.**

- 6.2.1 Prepare, and regularly update, a Biodiversity Scorecard that illustrates trends in the health of our state's biodiversity and reports on the effectiveness of our actions to conserve that biodiversity.
- 6.2.2 Invest in the Biodiversity Project website.

## Strategy 6.3:

**Identify and recommend funding options to implement the Biodiversity Conservation Strategy.**

- 6.3.1 Provide funding from the supplemental budget to initiate one or more regional pilot programs and develop the Biodiversity Scorecard.
- 6.3.2 Convene a working group to identify and recommend innovative funding to generate income from and for conservation.
- 6.3.3 Review funding mechanisms for efforts to control invasive species.

### Native Species in Washington



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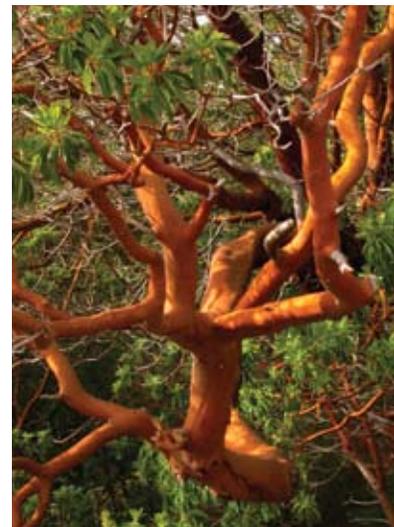
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