

# APPENDIX B. Open Space Conservation Toolbox

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A list of open space conservation tools is provided below. Many of these tools have been used by one or more jurisdictions in the region, but could be enhanced and used more widely. The most effective conservation projects and programs typically use multiple strategies and tools.

Seven of these tools, transfer of development rights, watershed management plans, return on investment analysis, ecosystem service markets, multi-benefit green infrastructure, conservation finance, and hazard mitigation plans, have been identified as highly promising tools to conserve open space, however barriers have been identified that prevent full effectiveness. Work to remove barriers to effectiveness and enhance and promote these tools have been identified as next steps in Chapter 7.

## B.1 Policy Tools

The protection of open space services in the region is supported by policies at the city, county, regional, state, and federal level. However, policies can be added or updated to better protect open spaces. Open space-related policy issues to consider at the regional level are listed in Chapter 7. The laws and plans below form the core of the regional policy framework. Many other laws and plans influence policy in the region.

**Growth Management Act.** The Washington Legislature enacted the Growth Management Act in 1990 to guide planning for growth and development in Washington State.

**Port Susan Marine Stewardship Area**  
In 2014, the Snohomish County Council designated Port Susan as a voluntary marine stewardship area.<sup>1</sup> This designation led to the development of a community based marine stewardship plan that encourages enhanced stewardship through education, citizen science, voluntary measures, increased communications and partnerships and coordinated enforcement of existing regulation. The Snohomish Marine Resources Committee worked with Futurewise to gather input from stakeholders and identify the top incentives to improve shoreline habitat.

**VISION 2040 multicounty planning policies.** VISION 2040, the central Puget Sound’s integrated regional plan, contains multicounty planning policies in the topic areas of environment, development patterns, housing, economy, transportation, and public services. These policies help implement the Growth Management Act.

**Countywide Planning Policies.** The four counties in the region have adopted countywide planning policies consistent with the Growth Management Act and multicounty planning policies.

**City and county comprehensive plans.** The Growth Management Act requires local governments in fast growing and densely populated counties to develop and adopt comprehensive plans. These local comprehensive plans contain policies that are consistent with the policy documents listed above.

## B.2 Acquisition and Easement Tools

Many conservation projects require purchasing land or acquiring easements. Increased funding to support these tools would lead to additional open space protection. Other ways to expand use of these tools is discussed below. The Municipal Research Service Center has compiled information on funding sources for the acquisition of parks and open space<sup>2</sup>. The Snohomish Basin Protection Plan has compiled information on protection tools and funding strategies<sup>3</sup>.

### Local Government Funding Options

**Conservation Futures.** All four counties in the region collect conservation futures taxes. These are a tax on property and may be used to acquire and protect open spaces including habitat, wetlands, farmland and timberland. In 2016, the counties collected a combined \$27 million from conservation futures taxes. Projects must compete for conservation futures funds. Occasional resetting of the tax rate to the original effective rate can preserve this program’s benefit. Resetting the tax rate requires voter approval.

**Parks Levies.** Many jurisdictions in the region, including cities, counties, and special parks districts, levy property taxes to fund parks, trails, and open space operations, maintenance, and acquisition. These parks levies are approved by voters in the district. Pierce County collects a parks sales tax that is used for these types of activities.

**Real Estate Excise Tax.** Cities and counties can levy taxes on the full selling price of real estate in their jurisdiction. Jurisdictions may use a portion of this revenue to fund open space conservation. Currently, money generated from REET cannot be used on maintenance.

**Open Space Bond.** An open space bond is a general obligation bond and would require approval by 60 percent of voters with a voter turnout of at least 40 percent.

**Special Districts.** Special districts are independent governmental units that have taxing authority and a special purpose to provide a function to residents. A Flood Control District is one example of a special purpose district. Flood Control Districts have been established in the region to provide funding, coordination, and oversight to protect public health and safety, public and private properties, and transportation corridors from flooding. An open space district would focus on preserving open space within the district. The Midpeninsula Regional Open Space District in the California Bay Area is an example. It was founded in 1972 with a mission to acquire and preserve regional open space. Funding comes from property taxes and to date, the district has protected 60,000 acres of open space.<sup>4</sup>

**Watershed protection as natural water supply infrastructure.** The most cost-effective way to provide clean and safe drinking water for a community is to protect the watershed of the drinking water supply, whether from

#### **Bremerton Water Supply**

The City of Bremerton’s drinking water comes from surface water from the Union River Reservoir and groundwater from deep wells in the community. All sources are protected and the water quality is so good that Bremerton is one of the few systems in the United States not required to filter its surface water.

surface water or groundwater. It is estimated that every dollar spent on watershed protection saves about \$30 in treatment costs. Watershed protection also provides many co-benefits, such as habitat, carbon sequestration, and stormwater benefits.

**Coordinated countywide funding.** Within a county, acquisition of open space important to a variety of departments and jurisdictions can be coordinated. Interlocal agreements between jurisdictions in King County Water Resource Inventory Areas (WRIAs) help coordinate the implementation of each WRIA’s salmon habitat plan<sup>5</sup>. The purpose of the interlocal agreements is to provide a mechanism, staffing, and governance structure for the joint funding and implementation of the plans. With its Land Conservation Initiative, King County is working with cities to conserve more than 66,000 acres of high conservation value lands within a generation<sup>6</sup>. These lands include farmland, forestland, natural areas, trails and urban parks.

**Floodplains for the Future**

The Floodplains for the Future program is a cross-sector and inter-organizational partnership hosted by Pierce County working to recover floodplain functions and to protect the health and safety of communities around the Puyallup, White & Carbon Rivers. Floodplains for the Future works to balance farm, fish, and flood management values, to provide a safe place to voice varied opinions and needs, and to advance integrated floodplain management solutions.

**Coordinated agency funding.** Agencies can provide joint, streamlined, and prioritized funding for projects that meet multiple objectives for recreation, habitat, stormwater management, etc. One example is Floodplains by Design, a program that funds multi-benefit flood hazard reduction projects<sup>7</sup>. These projects must demonstrate that they provide benefits beyond flood hazard reduction, including but not limited to salmon recovery, habitat restoration, water quality improvement, and channel migration zone protections, among others. Other state agencies are looking into this concept of encouraging multi-benefit projects and will hopefully develop supportive policies and programs.

[Funding Options from State and Federal Programs](#)

**Agricultural Conservation Easement Program.** This program within the Natural Resources Conservation Service provides financial and technical assistance to local jurisdictions working to conserve agricultural lands and wetlands. This includes funding for easements on farmlands and wetlands.

**Healthy Forest Reserve Program.** The Health Forest Reserve Program is administered by the Natural Resources Conservation Service and has a goal of helping landowners restore, enhance and protect forest resources. Part of this program provides payments for permanent easements on working forest lands.

**Forest Legacy Program.** The Forest Legacy Program is administered by US Forest Service and is locally

**Puyallup Watershed Partnership**

This partnership, which includes the Pierce Conservation District, Pierce County, Forterra, PCC Farmland Trust and other diverse partners, received funding from the Natural Resources Conservation Service’s Regional Conservation Partnership Program. The funding will help the partners assist landowners with permanent conservation easements and implement restoration activities.

implemented by the Washington Department of Natural Resources. This grant program works to protect working forests that are under threat of conversion to non-forest uses such as commercial or residential development. Grants pay for the purchase of conservation easements that remove development rights from the forestland while leaving the land in private ownership.

**Washington State Recreation and Conservation Office.** The Recreation and Conservation Office administers 17 different grants that aim to support a variety of conservation activities including new recreation opportunities and land conservation for wild lands, working lands, and salmon habitat. The Washington Wildlife and Recreation Coalition can provide information on grant programs and connect communities in need to assistance in developing grant proposals. Several online mapping tools are available to help with grant applications and planning<sup>8</sup>. Some communities may be eligible for a match reduction.<sup>9</sup>

**Floodplains by Design.** Floodplains By Design is a program that funds integrated floodplain planning and projects identified from such planning<sup>10</sup>. It is a public-private partnership led by Washington State Department of Ecology, Puget Sound Partnership, and The Nature Conservancy.

**Federal Emergency Management Agency (FEMA) Hazard Mitigation Grants.** Counties develop countywide hazard mitigation plans in partnership with the jurisdictions in their county. A potential source of funding for open space projects is FEMA hazard mitigation grants. FEMA funds hazard mitigation because studies have shown that every \$1 spent equals \$4 of future damages mitigated. For projects to be eligible for these grants, projects must be listed in county hazard mitigation plans. Typical hazards such as flooding and wildfire can be mitigated by open space projects such as floodplain restoration, forest preservation and restoration, and green stormwater infrastructure installation.

**Community forests.** A community forest is a working forest that is owned locally and managed for the benefit of local communities. It can be a successful way to conserve working forestland that is under threat of conversion. Community forests are often purchased by the community from commercial timber companies. The community develops a forest plan for the management of the forest, which typically includes environmental, wildlife habitat, and recreation objectives, in addition to generating revenue through timber harvest. The USFS's Community Forest Program provides financial assistance through grants to local governments, tribal governments, and nonprofit groups that are starting community forests<sup>11</sup>. Grants can be used for land acquisition, appraisals and land surveys, legal and closing costs, and forest plan development.

The Washington Department of Natural Resources manages another program, the Community Forest Trust program, which provides another mechanism for conserving forestland through the creation of a community forest. The program helps fund acquisition and project-related expenses. Communities that are interested in preserving a working forest can submit a nomination, and if successful, the Department of Natural Resources will work with a local advisory committee to develop a forest management plan that includes financial, conservation, and recreation objectives. The state will acquire the land and the Department of Natural Resources will manage the forest according to the forest's management plan. Communities wishing to nominate lands for the Community Forest Trust must contribute at least fifty

percent of the difference between the appraised fair market value of the land and the land's timber and forest value. Additionally, community forests must maintain working forest status and must generate enough revenues to reimburse the Department of Natural Resources for management costs and to reinvest into the forest's management objectives.

**Stewardship on and near military bases.** Central Puget Sound has several large military bases. These bases, while needing large expanses of land for military activities, also protect important habitat. The Readiness and Environmental Protection Integration program is a tool for combating encroachment that can restrict military operations<sup>12</sup>. The program protects military missions by preventing land use conflicts near installations and addressing regulatory restrictions that inhibit military activities such as training and testing. A key component of the Readiness and Environmental Protection Integration program is the use of buffer partnerships among the Military Services, private conservation groups, and state and local governments. These partnerships share the cost of acquisition of easements or other interests in land from willing sellers to preserve compatible land uses and natural habitats near military installations and ranges. Similarly, the Sentinel Landscapes program is a collaborative program of the US Department of Agriculture, Defense, and Interior that protects working lands and natural resources near military areas.

**Joint Base Lewis-McChord**

On Joint Base Lewis-McChord, the military is working with the Center for Natural Lands Management and other partners to conserve key prairie species on the base and surrounding areas.

**Private Funding Options**

**Philanthropy and nonprofits.** Philanthropic and nonprofit organizations can provide funding for or organize funding campaigns to purchase land or development easements. Land conservancies, in particular, are focused on this type of work. A list of land conservancies is provided in Chapter 3.

**Transfer of Development Rights (TDR)/Landscape Conservation and Local Infrastructure Program (LCLIP).** There is currently not enough funding available to purchase land and development rights to protect open spaces in the short-term. TDR is a way to leverage market demand to fill the gap.

TDR is a market-based mechanism that supports the voluntary transfer of development rights from areas where a community would like to discourage development to places where that community would like to focus new growth<sup>13</sup>. If a developer purchases development rights from a rural landowner, she or he can use them to build a development with increased units, floor area, height, or similar metric. Currently regional sending areas exist in Snohomish, King, and Pierce Counties. Receiving areas in the region exist in the cities of Arlington, Bellevue, Issaquah, Mountlake Terrace, Normandy Park, Redmond, Sammamish, Seattle, Snohomish, and Tacoma.

TDR has removed development rights from almost 185,000 acres of open space land in the region, permanently protecting these lands from development. As of 2013, 184,621 acres of open space have been preserved in King County, 211 acres in Pierce County, and 124 acres in Snohomish County. One challenge for cities planning for increased density is funding for the infrastructure to support that increased density.

LCLIP is a tool that can provide an incentive for cities to participate in TDR. LCLIP allows cities to receive a portion of future county property tax revenue from areas that receive development rights through TDR. Cities use this revenue to fund local infrastructure to support the increased growth associated with this transfer of development rights.

**Partnerships between public, private and nonprofit sectors.** Partnerships among the public, private and nonprofit sectors can create opportunities for innovative conservation projects. The strengths of one sector can be used to overcome the challenges and leverage the resources of other sectors.

**Impact investing.** Impact investing is a type of public-private partnership and refers to investments made into companies, organizations, and funds with the intention to generate a measurable, beneficial social or environmental impact alongside or in lieu of a financial return. Private investors provide financing for a municipality to implement an environmental project. As the municipality receives the benefits of the project, it pays the investors back at a negotiated rate of return. Washington D.C. used impact investing to finance green stormwater infrastructure pilot projects.

**Ecosystem service markets.** An ecosystem services market is an organizational structure for buying and selling units of environmental benefit called credits<sup>14</sup>. These markets provide an essential link between the people who are willing to pay for actions that improve the environment and the people who can put conservation actions on the ground. Frequently, those that are paying for credits are entities that have a regulatory need to reduce their environmental impact in some way. Some types of credits are carbon credits and water quality credits.

**Carbon Markets.** The State of California has a cap-and-trade program around carbon emissions, and businesses can offset their carbon emissions partially by purchasing carbon credits. Forest practices that lead to additional carbon sequestration can be eligible to sell carbon credits on this market. The State of California has established a strict protocol for certifying carbon offsets, and over time, most of these credits must be purchased from within California, but there is still some room for credits outside of the state. The State of Oregon is working on developing a similar program to California's and will likely increase the demand for carbon credits. A voluntary market for carbon credits also exists - there is currently more demand for credits than there is supply.

**Stormwater Markets.** If stricter stormwater standards are established the next time that Washington Department of Ecology updates municipal stormwater permits, it could create the potential to establish a stormwater credit market. These markets work by allowing developments that

#### **New York School Playgrounds**

New York City Schools partnered with the Trust for Public Land to design and build more than 186 playgrounds (150 acres) in New York City public schools<sup>1</sup>. The program transforms barren asphalt lots into vibrant playgrounds with safe and durable play equipment, athletic facilities, gardens, and opportunities for environmental education. The design process involves students, parents, school staff, and neighbors to ensure the playgrounds meet the communities' needs. The playgrounds are equipped with green infrastructure elements—such as rain gardens, porous paving material, and specially selected plantings—that reduce excess stormwater and sewer overflows that pollute New York City's rivers and harbor.

cannot meet these stricter standards to purchase stormwater credits to make up the difference. The credits would be produced from organizations that improve stormwater flows in other areas of the watershed beyond the requirements.

**Mitigation banks and in-lieu fee programs.** A wetland mitigation bank is a site where wetlands are restored, created, enhanced, or in exceptional circumstances, preserved, for the purpose of providing compensatory mitigation in advance of unavoidable impacts to wetlands or other aquatic resources<sup>15</sup>. In-lieu fee mitigation is one type of mitigation that can be used to compensate for unavoidable impacts to wetlands. In this approach to mitigation, a permittee pays a fee to a third party (government agency or a non-profit organization with demonstrated competence in natural resource management) instead of conducting project-specific mitigation or buying credits from a wetland mitigation bank. The fee charged by an in-lieu fee program sponsor represents the expected cost of replacing the wetland functions lost or degraded as a result of the project. An in-lieu fee program typically combines fees collected from one or more impact projects to finance a mitigation project.

### B.3 Stewardship Tools and Programs

Not all open space needs to be or should be acquired. In many places, a more cost-effective conservation strategy can be to work with private landowners to incentivize stewardship.

The counties, conservation districts in each county, Washington State University Extension, Department of Natural Resources, and other organizations work with private landowners to encourage stewardship and enhance the viability of working lands. These programs are sometimes paired with the acquisition of conservation easements to maintain property as working land. Increased funding for many of these programs would expand their ability to work with private landowners to steward their lands. Some tools and programs that support stewardship are listed below.

#### **Green Infrastructure**

Kitsap Conservation District's Rain Garden and Low Impact Development Program works cooperatively with county services, landowners, and local communities to expand knowledge and use of low impact development practices<sup>1</sup>. The program provides information, technical assistance, and financial incentives toward the installation and maintenance of rain gardens and other low impact development solutions.

#### **Education and Assistance Programs**

**Farmland preservation stewardship programs.** One of the best ways to preserve farmland is to improve farm viability, production, and soil and water quality in non-regulatory ways. Agricultural assistance programs help farmers with issues such as farm planning, soil testing, equipment, drainage, and waste management.

- Snohomish Conservation District assists with farm planning and can help offset some costs of improvements.  
<http://snohomishcd.org/sound-farms>

#### **Riparian Restoration**

Pierce Conservation District works to improve riparian habitat through the removal of invasive weeds and replanting with native trees and shrubs. Streamside planting events engage volunteers and environmental education programs include classroom presentations, Family Fun events, workshops, and school field trips.

- King Conservation District offers farm management planning, soil testing, and equipment loan services. <http://www.kingcd.org/programs-farm-management.htm>
- Pierce Conservation District works with landowners to implement best management practices to reduce pollution runoff and can provide some cost sharing on farm improvements. <https://www.piercecountycd.org/153/Farm-Planning-Agricultural-Assistance>

**Washington State University Extension Forest Stewardship Program.** This program provides educational workshops, tours, online trainings, and individual consultation on forestry, wildlife, and other natural resource subjects.<sup>16</sup> This program offers Coached Planning classes that are a series of short sources to help forest landowners develop management solutions to meet their forest objectives. Washington State University Extension also offers landowner field days that include outdoor seminars on forest health, thinning, pruning, riparian management, wildlife habitat, wildfire protection and other management techniques.

**Washington Department of Natural Resources Forest Stewardship and Technical Assistance.** The Department of Natural Resources provides forest stewardship and technical assistance to small forest landowners.<sup>17</sup> Department of Natural Resources foresters work with landowners to assess their forest condition and health, and to develop recommended management practices. The program helps landowners develop Forest Stewardship Plans, which allows landowners to qualify for financial assistance, current use taxation, and certification programs.

**Shore Friendly Kitsap.** Shore Friendly Kitsap is a partnership between Kitsap County, Washington State University Extension Kitsap, Washington Sea Grant, and Futurewise.<sup>18</sup> Shore Friendly works with shoreline landowners interested in removing all or part of a bulkhead. They conduct free information site visits, free visits with a licensed geologist, assistance in navigating the permitting process, and small grants to assist with costs of removal.

**Kitsap Watershed Stewardship Programs.** Washington State University Extension Kitsap provides classes on a variety of watershed stewardship topics for residents in Kitsap County. Courses include Stream Stewards, Beach Naturalists, Salmon Docents, Septic Sense Workshops, Kitsap Salmon Tours, and Shore Stewards.

### Incentive Programs

**Public Benefit Rating System (PBRs).** As described in Chapter 3, a PBRs allows for a tax reduction incentive in proportion to the open space benefits a property provides. King, Kitsap, and Pierce counties have PBRs programs. The more rigorous the program, the greater the open space benefits per taxpayer dollar. The King County PBRs program encourages the conservation of natural resources in King County by conserving its land and water resources<sup>19</sup>. PBRs enrollment and associated tax savings are based on a point system. Points are awarded for each PBRs resource category a property qualifies for such as protecting stream and wetland buffers, preserving significant wildlife habitat, conserving farmland and forestland, and preserving historic landmarks. The total points awarded for a property's PBRs resources translate into a 50% to 90% reduction in the land assessed value for the portion of the property



enrolled. Related Current Use Taxation programs include the Timberland, Forestland, and Farm and Agricultural programs.

**Conservation Reserve Enhancement Program.** This is a joint federal and state program that works to restore riparian habitat on farmland. Landowners who volunteer to participate in the program are paid rent for allowing their land to be used for these improvements. The program also covers the cost of restoration work. The program is implemented by local conservation districts.

**Forestry Riparian Easement Program.** Washington Department of Natural Resources runs this voluntary program that focuses on small forest landowners. Landowners are reimbursed for the value of the timber adjacent to streams, wetlands, seeps or steep slopes that they are required by law to leave in the ground.

**Healthy Forests Reserve Program.** This program is administered by the Natural Resources Conservation Service and has a goal of helping landowners restore and enhance forest resources on their property. The program provides financial assistance to landowners who implement conservation practices that support the recovery on threatened and endangered species, improve plant and animal biodiversity, and enhance carbon sequestration on their forest land.

**Natural Resources Conservation Service Financial Assistance.** Natural Resources Conservation Service provides financial assistance to landowners and agricultural producers for implementing sustainable management practices. Programs include:

- Agricultural Management Assistance
- Conservation Stewardship Program
- Environmental Quality Incentives Program

**Cost Share Programs.** All four conservation districts in the region offer opportunities to share costs of implementing best management practices with landowners.

**Rebate Programs.** Cities may offer rebates to landowners that voluntarily implement best management practices. Through its Rainwise Program, the City of Seattle offers landowners who live in targeted areas rebates on the installation of rain gardens and cisterns. These facilities help reduce the volume of stormwater going into sewers, helping the city save money.

### [Stewardship on Public Lands](#)

**Green Cities Partnership.** Green Cities Partnership is led by Forterra and aims to enhance publicly-owned urban open spaces. Partner cities develop long-term strategic plans for stewarding their open spaces to improve the benefits they provide, including stormwater retention, wildlife habitat, carbon sequestration, and residents' health and quality of life.

**Green Stormwater Infrastructure.** Much of the polluted stormwater entering Puget Sound originates from public rights-of-way. By implementing green stormwater infrastructure along public rights-of-way, cities can have a huge impact on water quality in the region. The National Association of City

Transportation Officials has published an Urban Street Stormwater Guide that helps cities plan for and implement green stormwater infrastructure along urban streets.

## B.4 Planning and Regulatory Tools

Aligning plans and regulations can help conserve open space. Supportive tools include:

### Integrating multiple plans

Many plans within a jurisdiction, such as comprehensive plans, parks and recreation plans, hazard mitigation plans, and salmon recovery plans, often identify similar recommendations for the same open space areas. Identifying these overlapping areas can help prioritize actions that have multiple benefits. When there are competing interests in an area, such as farm-fish-flood issues, planning processes are needed to work through issues and plan with stakeholders.

### Watershed management plans

Planning in the context of the watershed can highlight opportunities and challenges to protect and improve water quality, open space, and habitat. It can provide a powerful vision for resource protection within the basin and identify funding priorities and sources. Topics covered in a watershed management plan can include land use, stormwater retrofit priority areas, conservation and restoration priorities, public engagement strategies, and funding. The integrated approach can also help to identify multi-benefit green infrastructure opportunities. These types of watershed plans differ from many salmon recovery plans because they address additional topics such as land use and stormwater. Funding to implement a watershed management plan can come from grants, stormwater fees, development fees, and capital facilities funds. The cities of Redmond and Duvall have completed watershed plans. Multi-jurisdiction watershed plans are not common in central Puget Sound. King County, Snohomish County, Redmond, Woodinville, and Washington State Department of Transportation have recently completed a watershed management plan for the Bear Creek basin<sup>20</sup>.

### Future land use designations

These provisions were described in Chapter 3. Designations and implementing codes, especially in rural areas, can protect open space services by encouraging practices such as maintaining canopy cover and limiting impervious surfaces. Agricultural and forestry designations can help keep farm and forest lands as working lands. In urban areas, compact growth patterns, supported by green infrastructure, should be encouraged consistent with the Regional Growth Strategy.

### Critical Areas (see Chapter 3)

Jurisdictions have critical areas ordinances that are consistent with the Growth Management Act and should reflect the best available science.

### Open Space Corridors (see Chapter 6)

Cities and counties can identify and protect urban open space by designating open space corridors (RCW 36.70A.160).

### [Development codes \(see Chapter 3\)](#)

Development codes are important tools for protecting open space services and providing incentives. For developed urban areas, development codes can help restore open space through including standards and incentives to provide on-site open space, natural drainage practices, habitat restoration, tree preservation, and landscaping. They can also encourage density to minimize the footprint of development, including the establishment of TDR programs. Suggested development standards are described below.

**Low Impact Development.** Low impact development is an approach to site design that preserves or mimics the natural hydrology of the site. This is achieved by minimizing site disturbance, preserving native vegetation, reducing impervious surfaces, and infiltrating stormwater onsite. Onsite stormwater facilities often include rain gardens, permeable pavement, and vegetated roofs.

**Tree retention.** Maintaining tree canopy cover is essential to maintaining open space services in both the urban and rural areas of the region. Cities and counties that adopt policies to support no net loss of canopy cover can help with retaining tree cover. Strong tree protections include:

- Permit requirements for all tree activity (some exceptions may be appropriate) as a system to track and monitor tree loss and replacement.
- If a tree is removed, replace canopy on site, off site, or via a fee in lieu.
- 5-year monitoring and maintenance requirement of trees retained in development or planted as replacements.
- Protection of exceptional trees (based on certain size and species), unless there is a hazard.
- Protection of groves, unless there is a hazard.
- Replacement trees should be of a similar species and ecology type to those removed.
- Require all tree service providers to register with the city to ensure they comply with city ordinance and regulations to protect trees.

**Clustering.** Cluster developments, or clustering, can help minimize the footprint of new development on the land and minimize impacts to wildlife habitat and stormwater drainage. When a developer is subdividing a tract, they can group all potential lots into compact clusters of smaller lot size, and leave the remaining land undeveloped and designated as open space. In some cases, additional density may be allowed to encourage developers to use clustering.

**Open Space Requirements.** For new subdivisions in urban areas, jurisdictions can require or incentivize developers to provide open space within the development.

### [Stormwater \(see Chapter 3\)](#)

Stormwater regulations encourage low impact development and discourage the creation of new impervious surfaces. Jurisdictions may consider innovative stormwater practices that promote alternative solutions, such as open space preservation, protection of the tree canopy, and natural drainage practices. Stormwater management continues to evolve as National Pollutant Discharge Elimination System permit requirements change. For areas not likely to redevelop, and thus not be

subject to newer stormwater regulations, providing incentives can help encourage the retrofit of these areas with legacy stormwater management systems. See the Green Infrastructure Tools section.

[Shorelines \(see Chapter 3\)](#). Shoreline regulations should protect intact shorelines and shoreline master programs should encourage the restoration of shorelines to more natural states.

## B.5 Green Infrastructure Tools

**RainWise Program.** Seattle Public Utilities runs the RainWise Program, which provides rebates to homeowners that install rain gardens in their yards. Rain gardens capture stormwater from roofs and driveways and allow the water to infiltrate the ground. They prevent stormwater from going to municipal water infrastructure, helping reduce costs for the city.

**DePave.** DePave is a program that replaces unwanted pavement with green infrastructure through the collaborative work of community groups. DePave volunteers in Portland have removed 165,000 square feet of pavement and created 63 new community spaces.

**Stormwater Parks.** Kitsap County has built the Manchester Stormwater Park. In addition to treating stormwater from surround streets using green infrastructure, it provides a public space for nearby residents. The City of Arlington constructed a stormwater wetland park, which treats all of the stormwater coming off their historic downtown. The park includes trails and wildlife viewing opportunities.

**Street Edge Alternative (SEA) Streets.** The City of Seattle completed several SEA streets in 2001. These streets have less impervious surface area and biofiltration swales that collect stormwater from the street. The streets have reduced stormwater runoff and improved water quality.<sup>21</sup>

## B.6 Data and Mapping Tools

### [Coastal Resilience Mapping Tool](#)

The Coastal Resilience program is led by the Nature Conservancy with the goal of reducing coast flooding risk. They have produced a decision-support mapping tool for the Puget Sound area that includes information on flood hazards and risks as they relate to built structures and ecosystem benefits. The tool is available at: <http://maps.coastalresilience.org/washington/>.

### [Open Space Assessment Tool](#)

The Trust For Public Lands developed this tool through a collaborative effort as part of the Regional Open Space Strategy. The Open Space Assessment Tool (OSAT) is a decision-support mapping tool that allows users to map key open space services in the central Puget Sound region and identify lands that are providing these different services. The tool allows users to run queries to identify lands that are providing specific services of interest to the user. The tool is available at [https://web.tplgis.org/pugetsound\\_osat/](https://web.tplgis.org/pugetsound_osat/).

### [Washington Department of Fish and Wildlife \(WDFW\) High Resolution Change Detection](#)

WDFW has developed several high resolution (1 meter) landcover datasets to track land cover change over time. These datasets track changes from tree and vegetation cover to development, among other

changes. Currently datasets for 2006-2009, 2009-2011, and 2011-2013 change are available. The 2013-2015 change dataset will be available in summer 2018 and the 2015-2017 change dataset will be available by the end of 2019. Dataset are available at: <http://www.pshrcd.com>.

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<sup>1</sup> Snohomish Marine Resource Committee. 2018. Port Susan Marine Stewardship Area. <http://www.snocomrc.org/projects/port-susan-marine-stewardship-area/>

<sup>2</sup> Municipal Research Service Center. 2018. Funding sources for the acquisition of parks and open space.

<http://mrsc.org/getdoc/ff42c575-667c-41fb-8c1b-1a5cf6158610/Request-for-information-on-funding-sources>.

<sup>3</sup> Snohomish County. 2015. Snohomish Basin Protection Plan. <https://snohomishcountywa.gov/Archive/ViewFile/Item/4402>.

<sup>4</sup> Midpeninsula Regional Open Space District. Factsheet: <https://www.openspace.org/sites/default/files/DistrictFactSheet.pdf>

<sup>5</sup> King County. 2016. WRIA 9 Interlocal Agreement. <http://www.govlink.org/watersheds/9/committees/ILA.aspx>.

<sup>6</sup> King County. 2017. Land Conservation Initiative. <http://www.kingcounty.gov/services/environment/water-and-land/land-conservation.aspx>.

<sup>7</sup> Ecology. 2017. Shorelands and Environmental Assistance Program Funding Opportunities.

<http://www.ecy.wa.gov/programs/sea/grants/FloodControl/index.html>.

<sup>8</sup> Recreation and Conservation Office. Interactive Maps. <https://www.rco.wa.gov/StateRecPlans/maps/>.

<sup>9</sup> Recreation and Conservation Office. Match Reduction. <https://rco.wa.gov/grants/MatchReduction.shtml>.

<sup>10</sup> Floodplains by Design. <http://www.floodplainsbydesign.org/>.

<sup>11</sup> USFS. 2018. Community Forests. <https://www.fs.fed.us/spf/coop/programs/loa/cfp.shtml>.

<sup>12</sup> Department of Defense. 2017. Readiness and Environmental Protection Integration program. <http://www.repi.mil/About-REPI/Frequently-Asked-Questions/>.

<sup>13</sup> Commerce, 2013. Regional Transfer of Development Rights Program. <http://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/development-rights/>.

<sup>14</sup> USF&WS. 2017. Ecosystem Service Markets.

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