

BEFORE THE METRO COUNCIL

AMENDING THE REGIONAL FRAMEWORK) ORDINANCE NO. 05-1077.
PLAN AND THE URBAN GROWTH)
MANAGEMENT FUNCTIONAL PLAN) Introduced by Michael Jordan, Chief
RELATING TO NATURE IN NEIGHBORHOODS) Operating Officer, with the concurrence of
) David Bragdon, Council President

WHEREAS, nature in neighborhoods is critical to maintaining and improving the high quality of life, livability, and standard of living enjoyed by the people of the Metro region; and

WHEREAS, the Metro Council has expressed, as one of four central goals for the region, the aspiration that, “The region’s wildlife and people thrive in a healthy urban ecosystem,” and identified this goal as a priority for action; and

WHEREAS, the Metro region places a high priority on the protection of its streams, wetlands, and floodplains to maintain access to nature, sustain and enhance native fish and wildlife species and their habitats, mitigate high storm flows and maintain adequate summer flows, provide clean water, and create communities that fully integrate the built and natural environment; and

WHEREAS, the Regional Framework Plan provides that Metro will adopt programs to maintain and improve water quality and to protect fish and wildlife habitat in the region; and

WHEREAS, Metro adopted Title 3 to the Urban Growth Management Functional Plan in 1998 to maintain and improve water quality and protect people and property from flood hazards; and

WHEREAS, Title 3 also provides for Metro to study and develop a program for the protection and conservation of fish and wildlife habitat; and

WHEREAS, the Metro Policy Advisory Committee, comprised of elected officials and other citizens representing the region’s cities and counties, adopted a “Vision Statement” in 2000 (“MPAC Vision Statement”) to guide, inform, and be the philosophical underpinnings for the study, identification, and development of a fish and wildlife habitat protection program; and

WHEREAS, the MPAC Vision Statement established an overall goal to conserve, protect, and restore a continuous ecologically viable streamside corridor system, from the streams’ headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with the surrounding urban landscape; and

WHEREAS, the MPAC Vision Statement recognized that this vision would have to be achieved through conservation, protection, and appropriate restoration of streamside corridors through time; and

WHEREAS, the Nature in Neighborhoods initiative has been proposed in Resolution No. 05-3574, which provides for Metro to implement a coordinated regional program to ensure that the region’s natural areas and greenspaces are restored and protected; and

WHEREAS, Metro has undertaken the development of a fish and wildlife habitat protection program as one element of the Nature in Neighborhoods initiative consistent with Statewide Planning Goal 5, which is intended “to protect natural resources and conserve scenic and historic areas and open spaces,” and with Oregon Administrative Rules chapter 660, Division 23, adopted by the Land Conservation and Development Commission to implement Goal 5 (the “Goal 5 Rule”); and

WHEREAS, Metro analyzed city and county habitat protection programs and concluded that habitat protection standards varied widely from city to city, and that the most regionally consistent standards were those adopted by cities and counties to comply with Metro’s Title 3 water quality standards; and

WHEREAS, Metro has completed a region-wide inventory of regionally significant fish and wildlife habitat comprising 80,000 acres that has been located and classified for its ecological value and mapped to provide an information base for the region; and

WHEREAS, Metro has conducted an analysis of the economic, social, environmental, and energy (ESEE) consequences of protecting or not protecting the inventoried habitat in two phases and has developed this fish and wildlife habitat protection program based on that analysis; and

WHEREAS, through the study and development of the fish and wildlife habitat protection program, Metro identified new scientific information relating to water quality, and is therefore also adopting much of this element of the Nature in Neighborhoods initiative pursuant to Statewide Planning Goal 6, which is intended, in relevant part, “to maintain and improve the quality of the . . . water . . . resources of the state;” now therefore

THE METRO COUNCIL ORDAINS AS FOLLOWS:

SECTION 1. The Regionally Significant Fish and Wildlife Habitat Inventory Map (the “Inventory Map”), attached hereto as Exhibit A and hereby incorporated by reference into this ordinance, is hereby adopted.

SECTION 2. Metro has analyzed the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit uses that conflict with the resource sites identified on the Inventory Map, consistent with Statewide Planning Goal 5 and OAR 660, Division 23. Based on Metro’s ESEE analysis, Metro has determined to allow some conflicting uses and to limit some conflicting uses, but not to prohibit any conflicting uses. Metro’s determination is reflected in tables 3.07-13b and 3.07-13c in Exhibit C to this ordinance. Sections 4 through 9 of this ordinance are hereby adopted to implement Metro’s determination to allow some conflicting uses and to limit some conflicting uses pursuant to Statewide Planning Goal 5.

SECTION 3. All parts of Sections 4 through 9 of this ordinance that require the region’s cities and counties to substantially comply with new requirements applicable to areas within the Metro Urban Growth Boundary on the date this ordinance is adopted are hereby also adopted to maintain and improve water quality pursuant to Statewide Planning Goal 6. In addition, all parts of Sections 4 through 9 of this ordinance that will require the region’s cities and counties to substantially comply with new requirements applicable to areas that will be identified as

regionally significant riparian habitat that is brought within the Metro Urban Growth Boundary after the date this ordinance is adopted are hereby also adopted to maintain and improve water quality pursuant to Statewide Planning Goal 6.

SECTION 4. The Regional Framework Plan is amended as provided in Exhibit B, which is attached and hereby incorporated by reference into this ordinance.

SECTION 5. The Urban Growth Management Functional Plan, Metro Code chapter 3.07, is amended to add Title 13, entitled “Nature in Neighborhoods,” as provided in Exhibit C, which is attached and hereby incorporated by reference into this ordinance.

SECTION 6. The Urban Growth Management Functional Plan, Metro Code chapter 3.07, is further amended as provided in Exhibit D, which is attached and hereby incorporated by reference into this ordinance.

SECTION 7. The Title 13 Nature in Neighborhoods Model Ordinance, attached as Exhibit E, is hereby adopted and incorporated by reference into this ordinance.

SECTION 8. The Findings of Fact and Conclusions of Law in Exhibit F (the “Findings”) are hereby adopted and incorporated by reference into this ordinance. The Findings explain how this ordinance complies with state law, the Regional Framework Plan, and the Metro Code. All attachments to the Findings are part of the Findings and are also hereby incorporated by reference into this ordinance.

SECTION 9. The provisions of this ordinance are separate and severable. In the event that any one or more clause, sentence, paragraph, section, subsection, or portion of this ordinance or the application thereof to any city, county, person, or circumstance is held invalid, illegal, or unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions of this ordinance or its application to other cities, counties, persons, or circumstances shall not be affected.

SECTION 10. This ordinance shall take effect 90 days after it is adopted.

ADOPTED by the Metro Council this _____ day of _____, 2005.

David Bragdon, Council President

Attest:

Approved as to Form:

Christina Billington, Recording Secretary

Daniel B. Cooper, Metro Attorney

EXHIBIT A—ORDINANCE NO. 05-1077

**REGIONALLY SIGNIFICANT FISH AND WILDLIFE HABITAT INVENTORY MAP
(the “Inventory Map”)**

EXHIBIT B—ORDINANCE NO. 05-1077

REGIONAL FRAMEWORK PLAN AMENDMENTS

Amendment 1. In the chapter entitled, “Summary of Growth Concept,” the section entitled, “Open Spaces and Trail Corridors” shall be amended as follows:

Open Spaces and Trail Corridors

Recognition and protection of open spaces both inside the UGB and in rural reserves are reflected in the Growth Concept. The areas designated open space on the Concept map are parks, stream and trail corridors, wetlands and floodplains, largely undeveloped upland areas and areas of compatible very low-density residential development. Many of these natural features already have significant land set aside as open space. The Tualatin Mountains, for example, contain major parks such as Forest Park and Tryon Creek State Park and numerous smaller parks such as Gabriel Park in Portland and Wilderness Park in West Linn. Other areas are oriented toward wetlands and streams.

Designating these areas as open spaces has several effects. First, it removes these lands from the category of urban land that is available for development. The capacity of the UGB then has to be calculated without these areas, and plans to accommodate housing and employment have to be made without them. Second, these natural areas, along with key rural reserve areas, receive a high priority for purchase as parks and open space, through programs such as Metro’s Open Spaces Acquisition program. Finally, ~~regulations should be functional plan requirements have been developed;~~ to protect critical ~~natural areas that would not~~ fish and wildlife habitat areas without conflicting with housing and economic goals. This will provide protection of environmentally critical ~~creek~~ areas, compatible low-density development of sensitive areas and transfer of development rights from protected natural areas to other lands better suited for development.

Amendment 2. Chapter 1 entitled, “Land Use,” shall be amended by adding section 1.9.4, “Protection of Regionally Significant Fish and Wildlife Habitat,” which shall provide as follows:

1.9.4 Regionally Significant Fish and Wildlife Habitat

- 1.9.4.1 Upon demonstrating a need for additional urban land, Metro shall conduct an inventory of regionally significant fish and wildlife habitat for all lands being considered for inclusion in the UGB and shall consider whether urbanization can occur consistent with policies that call for protection of such habitat resources.
- 1.9.4.2 When the Council has discretion to choose among lands for addition to the UGB, the Council shall consider the impact that its decision will have on the ecological quality and integrity of regionally significant fish and wildlife habitat, and shall seek to limit future conflicts between urbanization and the protection of regionally significant fish and wildlife habitat.

Amendment 3. Section 1.10, entitled “Urban Design,” shall be amended as follows:

1.10 Urban Design

The identity and functioning of communities in the region shall be supported through:

1. The recognition and protection of critical open space features in the region.
2. Public policies that encourage diversity and excellence in the design and development of settlement patterns, landscapes and structures.
3. Ensuring that incentives and regulations guiding the development and redevelopment of the urban area promote a settlement pattern that:
 1. Link any public incentives to a commensurate public benefit received or expected and evidence of private needs;
 2. Is pedestrian “friendly,” encourages transit use and reduces auto dependence;
 3. Provides access to neighborhood and community parks, trails and walkways, and other recreation and cultural areas and public facilities;
 4. Reinforces nodal, mixed-use, neighborhood-oriented design;
 5. Includes concentrated, high-density, mixed-use urban centers developed in relation to the region’s transit system;
 6. Is responsive to needs for privacy, community, sense of place and personal safety in an urban setting; ~~and~~
 7. Facilitates the development and preservation of affordable mixed-income neighborhoods; ~~and~~
 8. **Minimizes conflicts between urbanization and the protection of regionally significant fish and wildlife habitat.**

Pedestrian- and transit-supportive building patterns will be encouraged in order to minimize the need for auto trips and to create a development pattern conducive to face-to-face community interaction.

Amendment 4. Chapter 3 entitled, “Parks, Natural Areas, Open Spaces And Recreational Facilities,” shall be renamed, “Nature in Neighborhoods,” and the policies therein shall be amended as follows:

3.1 Inventory of Park Facilities and Identification and Inventory of Regionally Significant Parks, Natural Areas, Open Spaces, Fish and Wildlife Habitat, Trails and Greenways

- 3.1.1 Metro will inventory and identify regionally significant parks, natural areas, open spaces, **fish and wildlife habitat**, vacant lands, trails and greenways at the watershed level using

topographical, geologic and biologic functions and features, i.e., “landscape ecology,” to ensure coordinated protection and enhancement of natural functions such as water quality and wildlife habitat across jurisdictional boundaries.

- 3.1.2 Metro will identify natural corridors that connect regionally significant parks, natural areas, open spaces, [fish and wildlife habitat](#), trails and greenways. River and stream corridors, [ridgelines](#), [butte-tops](#), utility corridors, abandoned roads, and railroad rights-of-way will provide primary linkages.
- 3.1.3 Metro will inventory lands outside the Urban Growth Boundary and Metro’s jurisdictional boundary and identify them as prospective components of the Regional System when protection of these lands are determined to be of direct benefit to the region.
- 3.1.4 Metro shall identify urban areas which are deficient in natural areas and identify opportunities for acquisition and restoration.
- 3.1.5 Metro, with the assistance of local governments shall update the parks inventory which was completed in 1988. The inventory shall include acreage, facilities, environmental education programs, cultural resources, existing school sites and other information as determined by Metro and the Greenspaces ~~Technical~~ [Policy](#) Advisory Committee. This inventory should be updated at five (5) year intervals.
- 3.1.6 Using appropriate landscape level techniques, such as remote sensing or aerial photo interpretation, Metro will inventory the urban forestry canopy on a periodic basis and will provide inventory information to local jurisdictions.

3.2 Protection of Regionally Significant Parks, Natural Areas, Open Spaces, Trails and Greenways

- 3.2.1 Metro will continue to develop a Regional System of Parks, Natural Areas, Open Spaces, [Fish and Wildlife Habitat](#), Trails, and Greenways (the Regional System) to achieve the following objectives:
 - a) Protect the region’s biodiversity;
 - b) Provide citizens opportunities for, primarily, natural resource dependent recreation and education;
 - c) Contribute to the protection of air and water quality [and watershed health](#); and
 - d) Provide natural buffers and connections between communities.

3.2.2 [Metro’s program to protect Fish and Wildlife Habitat shall be developed to achieve the following objectives:](#)

[3.2.2.1 Performance Objectives:](#)

- a) [Preserve and improve streamside, wetland, and floodplain habitat and connectivity;](#)
- b) [Preserve large areas of contiguous habitat and avoid habitat fragmentation;](#)
- c) [Preserve and improve connectivity for wildlife between riparian corridors and upland wildlife habitat; and](#)

- d) Preserve and improve special habitat of concern, including native oak habitats, native grasslands, wetlands, bottomland hardwood forests, and riverine islands.

3.2.2.2 Implementation Objectives:

- a) Increase the use of habitat-friendly development throughout the region; and
- b) Increase restoration and mitigation actions to compensate for adverse effects of new and existing development on ecological function.

~~3.2.23.2.3~~ Metro, upon the advice of citizens, and in coordination with local governments and state and federal resource agencies and appropriate non-profit organizations, will finance and coordinate protection and management of the Regional System across jurisdictional boundaries.

~~3.2.33.2.4~~ Strategies to protect and manage the Regional System and regionally significant fish and wildlife habitat ~~Goal 5 resources~~ will include, but not be limited to, acquisition, education, incentives, land use and environmental regulations. Metro will work to implement these strategies regionally and to coordinate and encourage these strategies to be implemented by local governments, special districts, businesses, non-profit organizations, and individuals.

~~3.2.43.2.5~~ Lands inside and outside the Urban Growth Boundary and Metro's jurisdiction will be included in the Regional System when protection of these lands are determined to be of direct benefit to the region.

~~3.2.53.2.6~~ Metro shall collect and evaluate baseline data related to natural resource values of the regional system to identify trends and to guide management decisions.

~~3.2.63.2.7~~ New transportation and utility projects shall seek to avoid fragmentation and degradation of components of the Regional System. If avoidance is infeasible, impacts shall be minimized and mitigated.

~~3.2.73.2.8~~ Metro, in conjunction with affected local governments will work with the State to update, reinvigorate and implement a Willamette River Greenway Plan for the metropolitan region.

3.3 Management of the Publicly-Owned Portion of the Regional System of Parks, Natural Areas, Open Spaces, Trails and Greenways

3.3.1 Metro will assume management responsibility for elements of the publicly owned portion of the Regional System, as outlined in a functional plan to be developed.

3.3.2 Metro will assume financial responsibility related to those portions of the publicly owned system which are managed by Metro.

3.3.3 Local governments shall be given an opportunity to transfer existing publicly owned components of the Regional System to Metro and to acquire components of the Regional System with local resources.

- 3.3.4 The publicly owned portion of the Regional System shall be managed to protect fish, wildlife, and botanic values and to provide, primarily, natural resource dependent recreational and educational opportunities.
- 3.3.5 Metro will acquire portions of the Regional System as financial resources allow. Metro will negotiate acquisition agreements primarily with willing sellers. Power of eminent domain will be used only in extraordinary circumstances.
- 3.3.6 Master/Management plans shall be developed for each component of the Regional System to insure public use is compatible with natural and cultural resource protection. Master/Management plans shall be completed prior to formal public use.
- 3.3.7 Metro and local government cooperators in the Regional System shall be responsive to recreation demands and trends identified in the State Comprehensive Outdoor Recreation Plan (SCORP).
- 3.3.8 Metro shall develop master planning guidelines to assure consistency in the management of the Regional System.
- 3.3.9 From time to time, or in conjunction with the periodic up-date of the region wide parks inventory, Metro shall convene local government park providers to share information, review and analyze issues, and if appropriate develop recommendations related to:
 - 1. Roles and responsibilities
 - 2. Funding
 - 3. Levels of service
 - 4. Information needs
 - 5. User trends and preferences
 - 6. Technical assistance
 - 7. Interagency coordination
 - 8. Public involvement
 - 9. Other topics as determined by Metro and local park providers
- 3.3.10 Metro, in cooperation with local governments, shall pursue the identification and implementation of a long term, stable funding source to support the planning, acquisition, development, management and maintenance of the Regional System.

3.4 Protection, Establishment and Management of a Regional Trails System

- 3.4.1 Metro will identify a Regional Trails System which shall be included in the Regional Transportation Plan.
- 3.4.2 The Regional Trail System shall provide access to publicly owned parks, natural areas, open spaces, and greenways, where appropriate.
- 3.4.3 Metro will coordinate planning for the Regional Trail System with local governments, federal and state agencies, utility providers, and appropriate non-profit organizations
- 3.4.4 Metro will cooperate with citizens and other trail providers to identify and secure funding for development and operation of the Regional Trails System.

- 3.4.5 Metro shall encourage local governments to integrate local and neighborhood trail systems with the Regional Trail System.
- 3.5 Provision of Community and Neighborhood Parks, Open Spaces, Natural Areas, Trails and Recreation Programs**
- 3.5.1 Metro shall recognize that local governments shall remain responsible for the planning and provision of community and neighborhood parks, local open spaces, natural areas, sports fields, recreational centers, trails, and associated programs within their jurisdictions.
- 3.5.2 Pending adoption and implementation of the functional plan referenced in section 3.5.8, Metro shall encourage local governments to (I) adopt level of service standards for provision of parks, natural areas, trails, and recreational facilities in their local comprehensive plans and (II) locate and orient such parks, open spaces, natural areas, trails, etc., to the extent practical, in a manner which promotes non-vehicular access. “Level of service standards” means: a formally adopted, measurable goal or set of goals related to the provision of parks and recreation services, based on community need that could include but not be limited to: 1) park acreage per 1,000 population; 2) park facility type per 1,000 population; 3) percentage of total land base, dedicated to parks, trails and open spaces; 4) spatial distribution of park facilities.
- 3.5.3 Metro shall encourage local governments to be responsive to recreation demand trends identified in the State Comprehensive Outdoor Recreation Plan (SCORP).
- 3.5.4 Metro shall encourage local governments to develop, adopt and implement Master Plans for local parks and trail systems, natural areas, and recreational programs.
- 3.5.5 Metro, in cooperation with local governments, state government, and private industry shall work to establish a supplemental funding source for parks and open space acquisition, operations and maintenance.
- 3.5.6 Metro shall encourage local governments to identify opportunities for cooperation and cost efficiencies with non-profit organizations, other governmental entities, and local school districts.
- 3.5.7 Urban Reserve master plans shall demonstrate that planning requirements for the acquisition and protection of **regionally significant fish and wildlife habitat and** adequate land to meet or exceed locally adopted levels of service standards for the provision of public parks, natural areas, trails, and recreational facilities, will be adopted in the local comprehensive plans. Lands which are undevelopable due to natural hazards or environmental protection purposes (i.e., steep slopes, floodways, riparian corridors, wetlands, etc.) shall not be considered to meet the natural area level of service standards unless the land will be preserved in perpetuity for public benefit. Proposed public parks, open spaces, natural areas, trails, etc. shall be located in a manner which promotes non-vehicular traffic. No urban reserve area shall be brought within the Urban Growth Boundary unless the requirements set out in this subsection 3.5.7 are met.
- 3.5.8 Metro, in cooperation with local governments shall develop a functional plan which establishes the criteria which local governments shall address in adopting a locally determined “level of service standard.” The functional plan shall also establish region-

wide goals for the provision of parks and open space in various urban design types identified in the 2040 regional growth concept. The functional plan shall apply to the portion of the region within the Urban Growth Boundary and the urban reserves within Metro's jurisdiction when urban reserve conceptual plans are approved.

3.5.9 Metro will work with local governments to promote a broader understanding of the importance of open space to the success of the 2040 Growth Concept and to develop tools to assess open space on a parity with jobs, housing, and transportation targets in the Regional Framework Plan.

3.6 Participation of Citizens in Environmental Education, Planning, Stewardship Activities, and Recreational Services.

3.6.1 Metro will encourage public participation in natural, cultural and recreation resource management decisions related to the Regional System.

3.6.2 Metro will provide educational opportunities to enhance understanding, enjoyment and informed use of natural, cultural, and recreational resources.

3.6.3 Metro will provide and promote opportunities for the public to engage in stewardship activities on publicly owned natural resource lands. Cooperative efforts between Metro and private non-profit groups, community groups, schools and other public agencies should be encouraged.

3.6.4 Metro should provide opportunities for technical assistance to private owners for stewardship of components of the Regional System.

3.6.5 Metro and local governments should work with state, federal, non-profit and private partners to facilitate stewardship and educational opportunities on publicly owned natural resource lands.

3.6.6 Metro shall encourage local governments to provide opportunities for public involvement in the planning and delivery of recreational facilities and services.

3.6.7 Metro will follow and promote the citizen participation values inherent in RUGGO Goal 1, Objective 1 and the Metro Citizen Involvement Principles.

Requirements

This Regional Framework Plan requires Metro in conjunction with local governments to develop functional plans that will address land use planning requirements that:

- Identify and delineate an interconnected regional system of parks, natural areas, open spaces, trails and greenways (the Regional System);
- Identify implementation measures to protect and manage the Regional System; and
- Establish local government land use planning criteria and goals for parks consistent with Policy 3.5.8.

Amendment 5. Chapter 4 entitled, “Water Management,” shall be renamed, “Watershed Health and Water Quality.”

Amendment 6. Section 4.18 entitled, “Fish and Wildlife Habitat Conservation Area,” shall be amended as follows:

4.18 Water Quality and Riparian Fish and Wildlife Habitat Corridors ~~Conservation Area~~

Clean water is essential to provide healthy riparian fish and wildlife habitat. Forested and vegetated areas along streams and wetlands that provide essential fish and wildlife habitat also contribute to the preservation and enhancement of water quality. Metro shall establish standards to conserve, protect, and enhance fish and wildlife habitat in order to also conserve, protect, and enhance water quality. ~~Metro should establish standards to conserve, protect, and enhance fish and wildlife habitat within the fish and wildlife habitat conservation areas to be identified on the fish and wildlife habitat map produced as a result of carrying out Section 5 of Title 3 work by determining performance standards and promoting coordination of regional watershed planning.~~

Amendment 7. The following implementation recommendations and requirements of Chapter 8 entitled, “Implementation,” shall be amended as follows:

Regional Framework Policy	Implementation Recommendation(s) or Requirements
Land Use	
1.2 Built Environment	<p>Metro Code Chapter 3.07, Urban Growth Management Functional Plan Titles 1 to 8 and 13</p> <p>Title 1 — Requirements for Housing and Employment: Section 1 to 7</p> <p>Title 2 — Regional Parking Policy: Section 1 to 2</p> <p>Title 3 — Water Quality & Flood Management Conservation: Section 1 to 7</p> <p>Title 4 — Retail in Employment and Industrial Areas: Section 1 to 3</p> <p>Title 5 — Neighbor Cities and Rural Reserves: Section 1 to 4</p> <p>Title 6 — Regional Accessibility: Section 1 to 4</p> <p>Title 7 — Affordable Housing: Section 1 to 3</p> <p>Title 8 — Compliance Procedures: Section 1 to 7</p>
1.67 Growth Management	Metro Code Chapter 3.01 3.01.005 UGB Amendment Procedures

	<p>3.01.020 Legislative Amendment Criteria</p> <p>Metro Code Chapter 3.06</p> <p>3.06.010 Policy & Purpose: Designating Functional Planning Areas</p> <p>Metro Code Chapter 3.07, Urban Growth Management Functional Plan</p> <p>Titles 1 to 7 and 13</p>
1.9+ Urban Growth Boundary	<p>Metro Code Chapter 3.01</p> <p>3.01.005 UGB Amendment Procedures</p> <p>3.01.020 Legislative Amendment Criteria</p> <p>Metro Code Chapter 3.07, Urban Growth Management Functional Plan</p> <p>Title 13</p>
1.10+ Urban Design	<p>Metro Code Chapter 3.07, Urban Growth Management Functional Plan</p> <p>Titles 1, 6 and 13 — Requirements for Housing and Employment: Section 1 to 3</p> <p>Title 6 — Regional Accessibility: Section 1 to 3</p>

Regional Framework Policy	Implementation Recommendation(s) or Requirements
Parks and Open Spaces Nature in Neighborhoods	
3.1 Inventory of Park Facilities and Inventory of Regionally Significant Parks, Natural Areas, Open Spaces, Trails and Greenways	<p>Metro Code Chapter 3.07, Urban Growth Management Functional Plan</p> <p>Title 13</p> <p><i>(further plans to be developed; refer to Appendix H)</i></p> <p>Draft of implementation measures to be revised through discussions with Greenspaces Technical Advisory Committee</p>
3.2 Protection of Regionally Significant Parks, Natural Areas, Open Spaces, Trails and Greenways	<p>Metro Code Chapter 3.07, Urban Growth Management Functional Plan</p> <p>Title 13</p> <p><i>(further plans to be developed; refer to Appendix H)</i></p>

3.3 Management of the Publicly – Owned Portion of the Regional System of Parks, Natural Areas, Open Spaces, Trails and Greenways	Metro Code Chapter 3.07, Urban Growth Management Functional Plan Title 13 <i>(further plans to be developed; refer to Appendix H)</i>
3.5 Provision of Community and Neighborhood Parks, Open Spaces, Natural Areas, Trails and Recreation Programs	Metro Code Chapter 3.07, Urban Growth Management Functional Plan Title 13 <i>(further plans to be developed; refer to Appendix H)</i>
3.6 Participation of Citizens in Environmental Education, Planning, Stewardship Activities and Recreational Services	Metro Code Chapter 3.07, Urban Growth Management Functional Plan Title 13 <i>(further plans to be developed; refer to Appendix H)</i>

Regional Framework Policy	Implementation Recommendation(s) or Requirements
Water Management Watershed Health and Water Quality	All implementation methods to be developed; see Appendix I.
4.6 Water Quality	Metro Code Chapter 3.07, Urban Growth Management Functional Plan Titles 3 and 13 — Water Quality & Flood Management Conservation: Section 1 to 4 Regional Water Supply Plan Chapter XII Table XII - 1 p. 257, 269-271, and 275 <i>(to be developed)</i>
4.8 Environmental Stewardship	Regional Water Supply Plan Chapter XII Table XII - 1 p. 257 Metro Code Chapter 3.07, Urban Growth Management Functional Plan Titles 3 and 13 <i>(to be developed)</i>
4.14 Water Quality Goals	Metro Code Chapter 3.07, Urban Growth Management Functional Plan Titles 3 and 13 — Water Quality & Flood Management

	<p>Conservation: Section 1 to 4</p> <p>Regional Water Supply Plan Chapter XII Table XII - 1 p. 257</p>
	<i>(to be developed)</i>
4.16 Urban Planning and Natural Systems	<p>Metro Code Chapter 3.07, Urban Growth Management Functional Plan Titles 3 and 13 Water Quality & Flood Management</p> <p>Conservation: Section 1 to 4</p>
	<i>(to be developed)</i>
4.17 Water Quality Protection	<p>Metro Code Chapter 3.07, Urban Growth Management Functional Plan Titles 3 and 13 Water Quality & Flood Management</p> <p>Conservation: Section 1 to 4</p> <p>Regional Water Supply Plan</p>
	<i>(to be developed)</i>
4.18 Water Quality and Riparian Fish and Wildlife Habitat Corridors Conservation Area	<p>Metro Code Chapter 3.07, Urban Growth Management Functional Plan</p> <p>Title 133 Water Quality & Flood Management</p> <p>Conservation: Section 5</p>

M:\attorney\confidential\07 Land Use\04 2040 Growth Concept\03 UGMFP\02 Stream Protection (Title 3)\02 Goal 5\02 Program\Ord 05-1077 Ex B RFP amend COO rec 041405.doc

EXHIBIT C—ORDINANCE NO. 05-1077

**METRO CODE CHAPTER 3.07
URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN**

TITLE 13: NATURE IN NEIGHBORHOODS

Section 1. Intent

The purposes of this program are to (1) conserve, protect, and restore a continuous ecologically viable streamside corridor system, from the streams' headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with upland wildlife habitat and with the surrounding urban landscape; and (2) to maintain and improve water quality throughout the region. This program:

- A. Will achieve its purpose through conservation, protection, and appropriate restoration of riparian and upland fish and wildlife habitat through time, using a comprehensive approach that includes voluntary, incentive-based, educational, and regulatory elements;
- B. Balances and integrates goals of protecting and enhancing fish and wildlife habitat, building livable Region 2040 communities, supporting a strong economy, and complying with federal laws including the Clean Water Act and the Endangered Species Act;
- C. Includes provisions to monitor and evaluate program performance over time to determine whether the program is achieving the program's objectives and targets, to determine whether cities and counties are in substantial compliance with this title, and to provide sufficient information to determine whether to amend or adjust the program in the future; and
- D. Establishes minimum requirements and is not intended to repeal or replace existing requirements of city and county comprehensive plans and implementing ordinances to the extent those requirements already meet the minimum requirements of this title, nor is it intended to prohibit cities and counties from adopting and enforcing fish and wildlife habitat protection and restoration programs that exceed the requirements of this title.

Section 2. Inventory and Habitat Conservation Areas

The purpose of this section is to describe the maps that form the basis of Metro's fish and wildlife habitat protection and restoration program. These maps are referenced in various ways in this title, but may or may not be relevant within a city or county depending upon which implementation alternative the city or county chooses pursuant to subsection 3(B) of this title.

- A. The Regionally Significant Fish and Wildlife Habitat Inventory Map (hereinafter the "Inventory Map"), attached hereto¹, identifies the areas that have been determined to contain regionally significant fish and wildlife habitat. The Inventory Map divides habitat into two general categories, riparian and upland wildlife, and further differentiates each habitat category into low, medium, and high value habitats.

¹ On file in the Metro Council office.

- B. The Habitat Conservation Areas Map, attached hereto², identifies the areas that are subject to the performance standards and best management practices described in Section 4 of this title, to the extent that a city or county chooses to comply with Section 3 of this title by using the Habitat Conservation Areas map, or a map that substantially complies with the Habitat Conservation Areas map. For such cities and counties, the Habitat Conservation Areas Map further identifies, subject to the map verification process described in subsections 3(G) and 4(D) of this title, which areas will be subject to high, moderate, and low levels of habitat conservation based on Metro Council's consideration of the results of the economic, social, environmental, and energy (ESEE) consequences of protecting or not protecting the habitat, public input, and technical review, and the Metro Council's subsequent decision to balance conflicting uses in habitat areas.
1. Table 3.07-13a designates high, moderate, and low Habitat Conservation Areas for Class I and II riparian habitat areas located:
 - a. Within the Metro UGB at the effective date of this title; and
 - b. Outside of the Metro UGB but within the Metro boundary at the effective date of this title, except:
 - i. When such standards and practices violate ORS 215.253 by restricting or regulating farm structures or farming practices on any farm use land situated within an exclusive farm use zone established under ORS 215.203 or within an area designated as marginal land under ORS 197.247 (1991 Edition);
 - ii. When such standards and practices violate ORS 527.722 by prohibiting, limiting, regulating, subjecting to approval, or in any other way affecting forest practices on forestlands located outside of an acknowledged urban growth boundary, except as provided in ORS 527.722(2), (3) and (4); or
 - iii. Pursuant to ORS 196.107, in areas within Multnomah County and the Columbia River Gorge National Scenic Area, provided that Multnomah County has adopted and implements ordinances that are approved pursuant to sections 7(b) and 8(h) through 8(k) of the Columbia River Gorge National Scenic Area Act, 16 U.S.C. §§ 544e(b) and 544f(h) through 544f(k).
 2. Table 3.07-13b designates high, moderate, and low Habitat Conservation Areas for Class I and II riparian habitat areas and Class A and B upland wildlife areas brought within the Metro UGB after the effective date of Ordinance No. 05-1077. Section 6 of this title describes the procedures for how Table 3.07-13b and Section 4 of this title shall be applied in such areas.

² On file in the Metro Council office.

C. Exempt International Marine Terminals

1. Marine dependent properties which would otherwise have been mapped as Habitat Conservation Areas do not appear on the Habitat Conservation Areas Map because the Metro Council concluded, based on its analysis of the economic, social, environmental, and energy implications of its decision, that the economic importance of such properties far outweighed the environmental importance of the properties as fish and wildlife habitat. The Metro Council applied the criteria described in subsection 2(C)(2) of this title to conclude that the following properties should not be considered Habitat Conservation Areas:
 - a. The International Terminal property, located at 12005 N. Burgard Way, Portland, Oregon, 97203;
 - b. Port of Portland Marine Terminal 4;
 - c. Port of Portland Marine Terminal 5; and
 - d. Port of Portland Marine Terminal 6.
2. The Metro Council may, at its discretion, consider and adopt ordinances to exempt from the provisions of this title any additional properties along the Willamette and Columbia Rivers, or portions of such properties, where it can be demonstrated that:
 - a. The property is currently developed for use as an international marine terminal capable of mooring ocean-going tankers or cargo ships; and
 - b. The property is substantially without vegetative cover.

Section 3. Implementation Alternatives for Cities and Counties

- A. Under Oregon law, upon acknowledgment of this program by the Oregon Land Conservation and Development Commission (LCDC), cities and counties wholly or partly within the Metro boundary shall apply the requirements of this title with respect to regionally significant fish and wildlife habitat, according to the compliance deadlines established herein, rather than applying the requirements of division 23 of chapter 660 of the Oregon Administrative Rules (“OAR”), promulgated by LCDC. In the event that a city or county wishes to amend a riparian area protection program or a fish and wildlife habitat protection program that exceeds the requirements of this title, such a city or county shall comply with the provisions of division 23 of OAR chapter 660, and shall seek acknowledgement of such amendments from LCDC or treat such amendments as post-acknowledgement plan amendments under ORS chapter 197.
- B. Each city and county in the region shall either:
 1. Amend its comprehensive plan and implementing ordinances to adopt the Title 13 Model Ordinance and the Metro Habitat Conservation Areas Map; or

2. Demonstrate that its existing or amended comprehensive plan and existing, amended, or new implementing ordinances substantially comply with the performance standards and best management practices described in Section 4, and that maps that it has adopted and uses substantially comply with the Metro Habitat Conservation Areas Map; or
3. Demonstrate that it has implemented a program based on alternative approaches that will achieve protection and enhancement of Class I and II riparian habitat areas, and of Class A and B upland wildlife habitat areas in territory added to the Metro UGB after the effective date of Ordinance No. 05-1077, substantially comparable with the protection and restoration that would result from the application of a program that complied with subsections 3(B)(1) or 3(B)(2) of this title. A city or county developing such a program:
 - a. Shall demonstrate that its alternative program will provide a certainty of habitat protection and enhancement to achieve its intended results, such as by using proven programs and demonstrating stable and continuing funding sources sufficient to support elements of the program that require funding;
 - b. May assert substantial compliance with this provision by relying on either or both the city's or county's comprehensive plan and implementing ordinances and on the use of incentive based, voluntary, education, acquisition, and restoration programs, such as:
 - i. An existing tree protection ordinance;
 - ii. A voluntary program for tree protection, tree replacement, and habitat restoration;
 - iii. Habitat preservation incentive programs, such as programs that provide reduced development or storm water management fees and property taxes in return for taking measures to protect and restore habitat (including, for example, the Wildlife Habitat Special Tax Assessment Program, ORS 308A.400 through 308A.430, and the Riparian Habitat Tax Exemption Program, ORS 308A.350 through 308A.383);
 - iv. Habitat-friendly development standards to reduce the detrimental impact of storm water run-off on riparian habitat;
 - v. A local habitat acquisition program; and
 - vi. Maintaining and enhancing publicly-owned habitat areas, such as by:
 - (A) Using habitat-friendly best management practices, such as integrated pest management programs, in all regionally significant habitat areas within publicly-owned parks and open spaces;

- (B) Ensuring that publicly-owned parks and open spaces that have been designated as natural areas and are not intended for future urban development are managed to maintain and enhance the quality of fish and wildlife habitat that they provide;
 - (C) Pursuing funding to support local park, open space, and habitat acquisition and restoration, such as with local bond measures, System Development Charge (SDC) programs, Federal Emergency Management Act (FEMA) grants, or other funding mechanisms; or
4. Adopt a district plan that applies over a portion of the city or county, and demonstrate that, for the remainder of its jurisdiction, the city or county has a program that complies with either subsection 3(B)(1) or 3(B)(2) of this title. If a city or county adopts a district plan pursuant to this paragraph, it shall demonstrate that, within the district plan area, the district plan complies with subsection 3(B)(3) of this title. District plans shall be permitted under this subsection only for areas within a common watershed, or which are within areas in adjoining watersheds that share an interrelated economic infrastructure and development pattern. Cities and counties that choose to develop district plans are encouraged to coordinate such district plans with other entities whose activities impact the same watershed to which the district plan applies, including other cities and counties, special districts, state and federal agencies, watershed councils, and other governmental and non-governmental agencies; or
 5. For a city or county that is a member of the Tualatin Basin Natural Resources Coordinating Committee (the “TBNRCC,” which includes Washington County and the cities of Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, King City, Sherwood, Tigard, and Tualatin), amend its comprehensive plan and implementing ordinances to comply with the maps and provisions of the TBNRCC Goal 5 Program, attached hereto³ and incorporated herein by reference, adopted by the TBNRCC on April 4, 2005, subject to the intergovernmental agreement entered into between Metro and the TBNRCC. All other provisions of this Section 3 of this title, as well as Section 6 of this title, shall still apply to each city and county that is a member of the TBNRCC.

[Placeholder for potential approval conditions imposed by the Metro Council consistent with its consideration of Resolution No. 05-3577, “Approving the Tualatin Basin Natural Resources Coordinating Committee’s Fish and Wildlife Habitat Protection Program.”]

- C. The comprehensive plan and implementing ordinances relied upon by a city or county to comply with this title shall contain clear and objective standards. A standard shall be considered clear and objective if it meets any one of the following criteria:
 1. It is a fixed numerical standard, such as fixed distance (e.g. “50 feet”) or land area (e.g. “1 acre”);

³ On file in the Metro Council office.

2. It is a nondiscretionary requirement, such as a requirement that grading not occur beneath the dripline of a protected tree; or
 3. It is a performance standard that describes the outcome to be achieved, specifies the objective criteria to be used in evaluating outcome or performance, and provides a process for application of the performance standard, such as a conditional use or design review process.
- D. In addition to complying with subsection 3(C) of this section, the comprehensive plan and implementing ordinances that a city or county relies upon to satisfy the requirements of this title may include an alternative, discretionary approval process that is not clear and objective provided that the comprehensive plan and implementing ordinance provisions of such a process:
1. Specify that property owners have the choice of proceeding under either the clear and objective approval process, which each city or county must have pursuant to subsection 3(D) of this section, or under the alternative, discretionary approval process; and
 2. Require a level of protection for, or enhancement of, the fish and wildlife habitat that meets or exceeds the level of protection or enhancement that would be achieved by following the clear and objective standards described in Section 3(D) of this title.
- E. Use of Habitat-Friendly Development Practices In Regionally Significant Fish And Wildlife Habitat.
1. Each city and county in the region shall:
 - a. Identify provisions in the city’s or county’s comprehensive plan and implementing ordinances that prohibit or limit the use of the habitat-friendly development practices such as those described in Table 3.07-13c; and
 - b. Adopt amendments to the city’s or county’s comprehensive plan and implementing ordinances to remove the barriers identified pursuant to subsection 3(E)(1)(a) of this title, and shall remove such barriers so that such practices may be used, where technically feasible and appropriate, in all regionally significant fish and wildlife habitat.
 2. Metro shall provide technical assistance to cities and counties to comply with the provisions of this Section 3(E) of this title.
- F. Cities and counties shall hold at least one public hearing prior to adopting comprehensive plan amendments, implementing ordinances, and maps implementing this title or demonstrating that existing city or county comprehensive plans, implementing ordinances, and maps substantially comply with this title. The proposed comprehensive plan amendments, implementing ordinances, and maps shall be available for public review at least 45 days prior to the public hearing.

G. The comprehensive plan provisions and implementing ordinances that each city or county amends, adopts, or relies on to comply with this title shall provide property owners with a reasonable, timely, and equitable process to verify the specific location of habitat areas subject to the provisions of the city's or county's comprehensive plan or implementing ordinances. It is the intent of this requirement that, in the majority of cases, the process be as simple and straightforward as possible and not result in a change that would require an amendment to the city's or county's comprehensive plan. Such process shall:

1. Allow a property owner, or another person with the property owner's consent, to confirm the location of habitat on a lot or parcel at any time, whether or not the property owner has submitted a specific request for a development permit;
2. As often as reasonably possible, provide a simple, default approach that allows a property owner to verify the location of habitat on a lot or parcel without having to hire an environmental consultant and without having to pay a significant processing or application fee;
3. Allow a property owner to present detailed documentation to verify the location of habitat on a lot or parcel, such as information collected and analyzed by an environmental consultant; and
4. Ensure that the process provides adequate opportunities for appeals and a fair and equitable dispute resolution process.

H. Reducing Regional Density and Capacity Requirements to Allow Habitat Protection.

1. Notwithstanding the provisions of Metro Code section 3.07.140(A)(2), cities and counties may approve a subdivision or development application that will result in a density below the minimum density for the zoning district if:
 - a. The property lot or parcel was within the Metro UGB on January 1, 2002;
 - b. An area of the property lot or parcel to be developed has been identified as regionally significant fish and wildlife habitat on the Metro Inventory Map or as a significant resource on a local Goal 5 riparian, wetlands, or wildlife resource inventory map that had been acknowledged by the LCDC prior to the effective date of Metro Ordinance No. 05-1077; and
 - c. Such a decision will directly result in the protection of the remaining undeveloped regionally significant fish and wildlife habitat or significant resource located on the property lot or parcel, such as via a public dedication or a restrictive covenant.
2. The amount of reduction in the minimum density requirement that may be approved under this subsection 3(H) of this title shall be calculated by subtracting the number of square feet of regionally significant fish and wildlife habitat or significant resource that is permanently protected under subsection 3(H)(1)(c) of this title from the total number of square feet that the city or county otherwise would use to calculate the minimum density requirement for the property.

3. If a city or county approves a subdivision or development application that will result in a density below the minimum density for the zoning district pursuant to subsection 3(H)(1) of this title, then such city or county shall:
 - a. Be permitted an offset against the capacity specified for that city or county in Table 3.07-1 of the Metro Code. The amount of such offset shall be calculated by subtracting the difference between the number of dwelling units that the city or county approved to be built pursuant to subsection 3(H)(1) of this title and the minimum number of dwelling units that would have otherwise been required to be built on the property pursuant to the applicable minimum density requirements for the zoning district where the property is located; and
 - b. Report to Metro by April 15 of every year the number of approvals made pursuant to this subsection 3(H) of this title, including documentation that the factors in subsection 3(H)(1) had been satisfied for each such approval, and the capacity offsets that the city or county shall be afforded as a result of such approvals.

Section 4. Performance Standards and Best Management Practices for Habitat Conservation Areas

The following performance standards and best management practices apply to all cities and counties that choose to adopt or rely upon their comprehensive plans and implementing ordinances to comply, in whole or in part, with subsection 3(B)(2) of this title:

- A. City and county comprehensive plans and implementing ordinances shall conform to the following performance standards and best management practices:
 1. Habitat Conservation Areas shall be protected, maintained, enhanced, and restored as specified in this Section 4 of this title, and city and county development codes shall include provisions for enforcement of these performance standards and best management practices.
 2. In addition to requirements imposed by this title, the requirements of Title 3 of the Urban Growth Management Functional Plan, Metro Code sections 3.07.310 to 3.07.360, as amended by Exhibit D to Ordinance No. 05-1077, shall continue to apply.
 3. The performance standards and best management practices of this Section 4 of this title shall not apply to any use of residential properties if, as of the local program effective date:
 - a. Construction of the residence was completed in compliance with all applicable local and state laws and rules for occupancy as a residence or the residence had been occupied as a residence for the preceding ten years; and

- b. Such uses would not have required the property owner to obtain a land use approval or a building, grading, or tree removal permit from their city or county.
4. In all Habitat Conservation Areas, the use of the habitat-friendly development practices described in Table 3.07-13c shall be required, where technically feasible and appropriate, to reduce impacts of development on Habitat Conservation Areas and water quality.
5. Habitat Conservation Areas within publicly-owned parks and open spaces that have been designated as natural areas and are not intended for future urban development shall be protected and managed to maintain and enhance the quality of fish and wildlife habitat that they provide, and that habitat-friendly best management practices, such as integrated pest management programs, are used in such areas.
6. Invasive non-native or noxious vegetation shall not be planted in any Habitat Conservation Area. The removal of invasive non-native or noxious vegetation from Habitat Conservation Areas shall be allowed. The planting of native vegetation shall be encouraged in Habitat Conservation Areas.
7. Except as provided in subsection 4(A)(8) of this title, routine repair, maintenance, alteration, rehabilitation, or replacement of existing structures, roadways, driveways, utilities, accessory uses, or other development within Habitat Conservation Areas may be allowed provided that:
 - a. The project is consistent with all other applicable local, state, and federal laws and regulations;
 - b. The project will not permanently or irreparably result in more developed area within a Habitat Conservation Area than the area of the existing development; and
 - c. Native vegetation is maintained, enhanced and restored, if disturbed; other vegetation is replaced, if disturbed, with vegetation other than invasive non-native or noxious vegetation; and the planting of native vegetation and removal of invasive non- native or noxious vegetation is encouraged.
8. Notwithstanding subsection 4(A)(7) of this title, when a city or county exercises its discretion to approve zoning changes to allow a property that contains a Habitat Conservation Area to (1) change from an industrial or heavy commercial zoning designation to a residential or mixed-use/residential designation, or (2) increase the type or density and intensity of development in any area, then the city or county shall apply the provisions of this Section 4 of this title. This provision will help to insure that, when developed areas are redeveloped in new ways to further local and regional urban and economic development goals, property owners should restore regionally significant fish and wildlife habitat as part of such redevelopment.

9. Any activity within Habitat Conservation Areas that is required to implement a Federal Aviation Administration (FAA) - compliant Wildlife Hazard Management Plan (WHMP) on property owned by the Port of Portland within 10,000 feet of an Aircraft Operating Area, as defined by the FAA, shall be allowed provided that mitigation for any such projects is completed in compliance with mitigation requirements adopted pursuant to subsection 4(B) of this title. In addition, habitat mitigation for any development within Habitat Conservation Areas on property owned by the Port of Portland within 10,000 feet of an Aircraft Operating Area, as defined by the FAA, shall be permitted at any property within the Metro region without having to demonstrate that on-site mitigation is not practicable, feasible, or appropriate.

10. Within Habitat Conservation Areas located in Multnomah County Drainage District No. 1, Peninsula Drainage District No. 1, Peninsula Drainage District No. 2, and the area managed by the Sandy Drainage Improvement Company, routine operations, repair, maintenance, reconfiguration, rehabilitation, or replacement of existing drainage, flood control, and related facilities, including any structures, pump stations, water control structures, culverts, irrigation systems, roadways, utilities, accessory uses (such as off-load facilities that facilitate water-based maintenance), erosion control projects, levees, soil and bank stabilization projects, dredging and ditch clearing within the hydraulic cross-section in existing storm water conveyance drainageways, or other water quality and flood storage projects required to be undertaken pursuant to ORS chapters 547 or 554 or Titles 33 or 44 of the Code of Federal Regulations, shall be allowed provided that:
 - a. The project is consistent with all other applicable local, state, and federal laws and regulations;
 - b. Where practicable, the project does not encroach closer to a surface stream or river, wetland, or other body of open water than existing operations and development; and
 - c. Where practicable, vegetation native to the Metro Area is maintained, enhanced and restored, if disturbed; other vegetation is replaced, if disturbed, with any vegetation other than invasive non-native or noxious vegetation; and the planting of native vegetation and removal of invasive non- native or noxious vegetation is encouraged.

- B. City and county comprehensive plans and implementing ordinances shall contain review standards applicable to development in all Habitat Conservation Areas that include:
 1. Clear and objective development approval standards consistent with subsection 3(C) of this title that protect Habitat Conservation Areas but which allow limited development within High Habitat Conservation Areas, slightly more development in Moderate Habitat Conservation Areas, and even more development in Low Habitat Conservation Areas. Such standards shall require that all development in Habitat Conservation Areas be mitigated to restore the ecological functions that are lost or damaged as a result of the development.

Standards that meet the requirements of this subsection and subsection 3(C) of this title are provided in Section 7 of the Metro Title 13 Model Ordinance⁴; and

2. Discretionary development approval standards consistent with subsection 3(D) of this title that comply with subsections (a), (b), and (c) of this subsection. Standards that meet the requirements of this subsection and subsection 3(D) of this title are provided in Section 8 of the Metro Title 13 Model Ordinance.

- a. Avoid Habitat Conservation Areas.

Demonstrate that no practicable alternatives to the requested development exist which will not disturb the Habitat Conservation Area. When implementing this requirement to determine whether a practicable alternative exists, cities and counties shall include consideration of the type of Habitat Conservation Area that will be affected by the proposed development. For example, High Habitat Conservation Areas have been so designated because they are areas that have been identified as having lower urban development value and higher-valued habitat, while Low Habitat Conservation Areas have been so designated because they are areas that have been identified as having higher urban development value and lower-valued habitat;

- b. Minimize Impacts on Habitat Conservation Areas and Water Quality.

If there is no practicable alternative, limit the development to reduce detrimental impacts on Habitat Conservation Areas associated with the proposed development; and

- c. Mitigate Impacts on Habitat Conservation Areas and Water Quality.

When development occurs, require mitigation to restore the ecological functions that were lost or damaged as a result of the development. When implementing this mitigation requirement, cities and counties shall include consideration of the type of Habitat Conservation Area that will be affected by the proposed development. For example, development in High Habitat Conservation Areas should require a greater amount of mitigation to compensate for impacts to higher-valued habitat that has been identified as having a lower urban development value, while development in Low Habitat Conservation Areas should require the lowest amount of mitigation to compensate for impacts to lower-valued habitat that has been identified as having a higher urban development value.

- C. City and county comprehensive plans and implementing ordinances shall include procedures to consider claims of hardship and to grant hardship variances for any property demonstrated to be converted to an unbuildable lot by application of any provisions implemented to comply with the requirements of this title.

⁴ On file in the Metro Council office.

- D. Administering the Habitat Conservation Areas Map and Site-Level Verification of Habitat Location.
1. Each city and county shall be responsible for administering the Habitat Conservation Areas Map, or the city's or county's map that has been deemed by Metro to be in substantial compliance with the Habitat Conservation Areas Map, within its jurisdiction, as provided in this subsection 4(D) of this title.
 2. The comprehensive plan and implementing ordinances amended, adopted or relied upon to comply with this subsection 4(D) of this title shall comply with subsection 3(G) of this title.
 3. Verification of the Location of Habitat Conservation Areas. Each city and county shall establish a verification process consistent with subsections 4(D)(4) through 4(D)(6) of this title. The site-level verification of Habitat Conservation Areas is a three-step process. The first step is determining the boundaries of the habitat areas on the property, as provided in subsection 4(D)(4) of this title. The second step is determining the urban development value of the property, as provided in subsection 4(D)(5) of this title. The third step is cross-referencing the habitat classes with the urban development value of the property to determine whether the property contains High, Moderate, or Low Habitat Conservation Areas, or none at all, as provided in subsection 4(D)(6) of this title.
 4. Habitat Boundaries.
 - a. Locating riparian habitat and determining its habitat class is a five-step process.
 - i. Step 1. Locate the water feature that is the basis for identifying riparian habitat:
 - (A) Locate the top of bank of all streams, rivers, and open water within 200 feet of the property;
 - (B) Locate all flood areas within 100 feet of the property. Flood areas are those areas contained within the 100-year floodplain, flood area and floodway as shown on the Federal Emergency Management Agency Flood Insurance Maps and all lands that were inundated in the February 1996 flood (areas that were mapped as flood areas but were filled to a level above the base flood level prior to the local program effective date, consistent with all applicable local, state, and federal laws and regulations shall no longer be considered habitat based on their status as flood areas); and
 - (C) Locate all wetlands within 150 feet of the property based on the Local Wetland Inventory map (if completed) and on the Metro 2004 Wetland Inventory Map (available from the Metro Data Resource Center, 600 N.E. Grand Ave., Portland, OR 97232; 503-797-1742). Identified

wetlands shall be further delineated consistent with methods currently accepted by the Oregon Division of State Lands and the U.S. Army Corps of Engineers.

- ii. Step 2. Identify the vegetated cover status of all areas on the property that are within 200 feet of the top of bank of streams, rivers, and open water, are wetlands or are within 150 feet of wetlands, and are flood areas and within 100 feet of flood areas:
 - (A) Vegetated cover status shall be as identified on the Metro Vegetated Cover Map, attached hereto⁵ and incorporated herein by reference. The vegetative cover type assigned to any particular area was based on two factors: the type of vegetation observed in aerial photographs and the size of the overall contiguous area of vegetative cover to which a particular piece of vegetation belonged. As an example of how the categories were assigned, in order to qualify as “forest canopy” the forested area had to be part of a larger patch of forest of at least one acre in size; and
 - (B) In terms of mapping the location of habitat, the only allowed corrections to the vegetative cover status of a property are those based on an area being developed prior to the local program effective date and those based on errors made at the time the vegetative cover status was determined based on analysis of the aerial photographs used to create the Metro Vegetative Cover Map (for the original map, the aerial photos used were Metro’s summer 2002 photos) and application of the vegetated cover definitions provided in the footnotes to Table 3.07-13d.
- iii. Step 3. Determine whether the degree that the land slopes upward from all streams, rivers, and open water within 200 feet of the property is greater than or less than 25% (using the methodology described in the Appendix to Exhibit A to Ordinance No. 00-839 re-adopting Title 3 of the Urban Growth Management Functional Plan).
- iv. Step 4. Identify the habitat class (Class I, Class II, or none) of the areas within up to 200 feet of the identified water feature, consistent with Table 3.07-13d. Note that areas that have been identified as habitats of concern, as depicted on the Metro Habitats of Concern Map, attached hereto⁶ and incorporated herein by reference, are all classified as Class I riparian habitat.

⁵ On file in the Metro Council office.

⁶ On file in the Metro Council office.

- v. Step 5. Confirm that the development and vegetated cover status of areas within up to 200 feet of the identified water feature has not been altered without the required approval of the city or county since the local program effective date and, if it has, then verify the original habitat location using the best available evidence of its location on local program effective date.
 - b. For territory brought within the Metro UGB after the effective date of Metro Ordinance No. 05-1077, the location of upland wildlife habitat and its habitat class shall be as identified in Metro’s habitat inventory of such territory performed pursuant to Section 6 of this title. The only factors that may be reviewed to verify the location of upland wildlife habitat shall be:
 - i. For territory that was within the Metro boundary on the effective date of Metro Ordinance No. 05-1077, whether regionally significant fish and wildlife habitat was removed, consistent with all other applicable local, state, and federal laws and regulations, prior to the date that the property was brought within the Metro UGB and, if so, then areas where habitat was removed shall not be identified as Habitat Conservation Areas;
 - ii. Whether errors were made at the time the vegetative cover status was determined based on (1) analysis of the aerial photographs used to determine the vegetative cover status, and (2) application of the vegetated cover definitions provided in the footnotes to Table 3.07-13d; and
 - iii. Whether there are discrepancies between the locations of property lot lines and the location of Habitat Conservation Areas, as shown on the Habitat Conservation Areas Map.
5. Urban Development Value of the Property. The urban development value of property designated as regionally significant habitat is depicted on the Metro Habitat Urban Development Value Map, attached hereto⁷ and incorporated herein by reference. The Metro Habitat Urban Development Value Map is based on an assessment of three variables, the land value of property, the employment value of property, and the Metro 2040 Design Type designation of property. Cities and counties shall make an upward adjustment of a property’s urban development value designation (i.e. from low to medium or high, or from medium to high) if:
- a. The Metro 2040 Design Type designation has changed from a category designated as a lower urban development value category to one designated as a higher urban development value category. Properties in areas designated as the Central City, Regional Centers, Town Centers, and Regionally Significant Industrial Areas are considered to be of high urban development value; properties in areas designated as Main Streets, Station Communities, Other Industrial Areas, and Employment Centers

⁷ On file in the Metro Council office.

are of medium urban development value; and properties in areas designated as Inner and Outer Neighborhoods and Corridors are of low urban development value; or

- b. The property, or adjacent lots or parcels, is owned by a regionally significant educational or medical facility and, for that reason, should be designated as of high urban development value because of the economic contributions the facility provides to the citizens of the region.
 - i. The following facilities are regionally significant educational or medical facilities, as further identified on the Regionally Significant Educational or Medical Facilities Map, attached hereto⁸:
 - (A) Clackamas Community College, 19600 S. Molalla Ave., Oregon City;
 - (B) Lewis & Clark College, 0615 S.W. Palatine Hill Rd, Portland;
 - (C) Marylhurst University, 17600 Hwy 43, Portland;
 - (D) Mt. Hood Community College, 26000 S.E. Stark St., Gresham;
 - (E) Oregon Health Sciences University, Portland South Waterfront, Portland;
 - (F) Oregon Health Sciences University/Oregon Graduate Institute, 20000 N.W. Walker, Hillsboro;
 - (G) Portland Community College, Rock Creek Campus, 17865 N.W. Springdale Rd., Portland;
 - (H) Portland Community College, Sylvania Campus, 12000 S.W. 49th Ave, Portland;
 - (I) Reed College, 3203 S.E. Woodstock Blvd., Portland; and
 - (J) University of Portland, 5000 N. Willamette Blvd., Portland.
 - ii. The Metro Council may add a property to the list of facilities identified in subsection 4(D)(5)(b)(i) in the future by adopting an ordinance amending that section if the Council finds that the use of the property:

⁸ On file in the Metro Council office.

- (A) Supports the 2040 Growth Concept by providing a mixed-use environment that may include employment, housing, retail, cultural and recreational activities, and a mix of transportation options such as bus, bicycling, walking, and auto;
 - (B) Provides, as a primary objective, a service that satisfies a public need rather than just the consumer economy (i.e., producing, distributing, selling or servicing goods);
 - (C) Draws service recipients (e.g., students, patients) from all reaches of the region and beyond;
 - (D) Relies on capital infrastructure that is so large or specialized as to render its relocation infeasible; and
 - (E) Has a long-term campus master plan that has been approved by the city or county in which it is located.
6. Cross-Referencing Habitat Class With Urban Development Value. City and county verification of the locations of High, Moderate, and Low Habitat Conservation Areas shall be consistent with Tables 3.07-13a and 3.07-13b.

Section 5. Program Objectives, Monitoring and Reporting

This section describes the program performance objectives, the roles and responsibilities of Metro, cities, counties, and special districts in regional data coordination and inventory maintenance, monitoring and reporting, and program evaluation.

- A. The following program objectives are established:
 - 1. Performance objectives:
 - a. Preserve and improve streamside, wetland, and floodplain habitat and connectivity;
 - b. Preserve large areas of contiguous habitat and avoid habitat fragmentation;
 - c. Preserve and improve connectivity for wildlife between riparian corridors and upland wildlife habitat; and
 - d. Preserve and improve special habitats of concern such as native oak habitats, native grasslands, wetlands, bottomland hardwood forests, and riverine islands.
 - 2. Implementation objectives:
 - a. Increase the use of habitat-friendly development throughout the region; and

- b. Increase restoration and mitigation actions to compensate for adverse effects of new and existing development on ecological function.

B. Program Monitoring and Evaluation.

1. Metro will monitor the region's progress toward meeting the vision of conserving, protecting, and restoring the region's fish and wildlife habitat and the intent of this title by:
 - a. Developing and monitoring regional indicators and targets as set forth in Table 3.07-13e to evaluate progress in achieving the four performance objectives described in subsection 5(A)(1) of this title;
 - b. Developing and monitoring regional indicators as set forth in Table 3.07-13e to evaluate progress in achieving the two implementation objectives described in subsection 5(A)(2) of this title;
 - c. Collaborating with local, state, and federal agencies and non-governmental organizations in carrying out field studies and data sharing to increase understanding of the health of the region's watersheds and to identify restoration opportunities and priorities; and
 - d. Preparing and presenting monitoring and program evaluation reports to Metro Council no later than December 31, 2006, and by December 31 of each even-numbered year thereafter.
2. Metro will practice adaptive management by using the results of monitoring studies and the availability of new information to assess whether the goals, objectives, and targets of this title are being achieved.

C. Reporting Requirements for Cities and Counties.

1. Cities and counties shall report to Metro in a timely fashion on their progress in using voluntary and incentive-based education, acquisition, and restoration habitat protection efforts; and
2. At least 45 days prior to a city's or county's final public hearing on a proposed new or amended ordinance or regulation relating to protection of, or mitigation of damage to, habitat, trees or other vegetation, cities and counties shall mail written notice of the proposed ordinance or regulation to Metro. Cities and counties that require applications for land use approvals or a building, grading, or tree removal permits to include documentation that the development meets habitat, tree, or vegetation protection and mitigation requirements adopted by a special district, including any county service district established pursuant to ORS chapter 451, shall mail written notice to Metro of any proposed new or amended ordinance or regulation relating to protection of, or mitigation of damage to, trees or other vegetation that is proposed by such a special district at least 45 days prior to the special district's final public hearing on the proposed new or amended ordinance or regulation.

- D. Regional data coordination and maintenance.
1. Metro will act as the regional coordinator for Geographic Information System (GIS) data used to create and maintain the Regionally Significant Fish and Wildlife Habitat Inventory Map and other data relevant to program implementation, monitoring, and evaluation. To carry out this role cities and counties shall provide Metro with local data in a timely fashion and in a form compatible with Metro's GIS program. To the extent that such data is collected by county service districts established pursuant to ORS chapter 451, then the county in which the county service district operates shall comply with this section. Such data shall include:
 - a. Adopted and revised Local Wetland Inventories approved by the Division of State Lands and those determined to be locally significant under ORS 197.279(3)(b);
 - b. Wetland mitigation sites approved by the Division of State Lands or U.S. Army Corps of Engineers;
 - c. For cities and counties that have not carried out Local Wetland Inventories, wetland boundaries delineated using accepted protocols by Division of State Lands or U.S. Army Corps of Engineers;
 - d. Revised or updated local surface stream inventories;
 - e. Revised or updated 100-year Federal Emergency Management Act (FEMA) flood area maps or revisions to the 1996 area of inundation maps to incorporate FEMA-approved floodplain map revisions or floodplain fills approved by the U.S. Army Corps of Engineers;
 - f. Completed restoration and enhancement projects; and
 - g. Revised or updated Metro's Habitats of Concern data layer.
 2. Metro will periodically update its Regionally Significant Fish and Wildlife Habitat Inventory for use in program monitoring and evaluation. Metro will maintain a study area boundary one mile beyond the perimeter of the Metro boundary and Metro Urban Growth Boundary.

Section 6. Future Metro Urban Growth Boundary Expansion Areas

The Metro Inventory Map identifies regionally significant fish and wildlife habitat within the entire Metro boundary, including areas outside of the Metro UGB at the time this title was adopted. As described in section 2 of this title, the Metro Council has designated as Habitat Conservation Areas the regionally significant fish and wildlife habitat that has been identified as riparian Class I and II habitat within the Metro boundary. In addition, the Metro Council has also determined that the regionally significant fish and wildlife habitat identified as upland wildlife Class A and B habitat that is currently outside of the Metro UGB shall be designated as Habitat Conservation Areas at such time that those areas are brought within the Metro UGB. Territory

where the Metro UGB may expand includes both areas within the current Metro boundary and areas outside of the current Metro boundary.

A. New Urban Territory That Was Previously Within the Metro Boundary.

The Metro Inventory Map already identifies the regionally significant upland wildlife Class A and B habitat in territory within the current Metro boundary but outside the current Metro UGB. At the time such territory is brought within the Metro UGB, consistent with Title 11 of this functional plan, Metro Code sections 3.07.1110 et seq., Metro shall update its inventory of regionally significant fish and wildlife habitat for such territory using the same methodology used by Metro to establish the Metro Inventory Map. Based on the updated Metro Inventory Map, Metro shall prepare a Habitat Conservation Areas Map for such new territory, as described in subsection 2(B) of this title, using the 2040 Design Types that are assigned to such territory to determine the area's urban development value.

B. New Urban Territory That Was Previously Outside of the Metro Boundary.

At the time such territory is brought within the Metro UGB, consistent with Title 11 of this functional plan, Metro Code sections 3.07.1110 et seq., Metro shall prepare an inventory of regionally significant fish and wildlife habitat for such territory using the same methodology used by Metro to establish the Metro Inventory Map. Upon adoption of such inventory, Metro shall update its Metro Inventory Map to include such information. Based on the updated Metro Inventory Map, Metro shall prepare a Habitat Conservation Areas Map for such new territory, as described in subsection 2(B) of this title, using the 2040 Design Types that are assigned to such territory to determine the area's urban development value.

C. Metro recognizes that the assigned 2040 Design Types may change as planning for territory added to the Metro UGB progresses, and that the relevant Habitat Conservation Area designations will also change as a result of the 2040 Design Type changes during such planning.

Table 3.07-13a: Method for Identifying Habitat Conservation Areas (“HCA”)

<i>Fish & wildlife habitat classification</i>	<i>High Urban development value¹</i>	<i>Medium Urban development value²</i>	<i>Low Urban development value³</i>	<i>Other areas: Parks and Open Spaces, no design types outside UGB</i>
Class I Riparian	Moderate HCA	High HCA	High HCA	High HCA / High HCA+ ⁴
Class II Riparian	Low HCA	Low HCA	Moderate HCA	Moderate HCA / High HCA+ ⁴

NOTE: The default urban development value of property is as depicted on the Metro Habitat Urban Development Value Map. The Metro 2040 Design Type designations provided in the following footnotes are only for use when a city or county is determining whether to make an adjustment pursuant to Section 4(E)(5) of this title.

¹ Primary 2040 design types: Regional Centers, Central City, Town Centers, and Regionally Significant Industrial Areas

² Secondary 2040 design types: Main Streets, Station Communities, Other Industrial Areas, and Employment Centers

³ Tertiary 2040 design types: Inner and Outer Neighborhoods, Corridors

⁴ Cities and counties shall give parks designated as natural areas in Class I and II riparian habitat even greater protection than that afforded to High Habitat Conservation Areas, as provided in Section 4(A)(4) of this title.

Table 3.07-13b: Method for Identifying Habitat Conservation Areas (“HCA”) in Future Metro Urban Growth Boundary Expansion Areas

<i>Fish & wildlife habitat classification</i>	<i>High Urban development value¹</i>	<i>Medium Urban development value²</i>	<i>Low Urban development value³</i>	<i>Other areas: Parks and Open Spaces, no design types outside UGB</i>
Class I Riparian	Moderate HCA	High HCA	High HCA	High HCA / High HCA+ ⁴
Class II Riparian	Low HCA	Low HCA	Moderate HCA	Moderate HCA / High HCA+ ⁴
Class A Upland Wildlife	Low HCA	Moderate HCA	Moderate HCA	High HCA / High HCA+ ⁴
Class B Upland Wildlife	Low HCA	Low HCA	Moderate HCA	Moderate HCA / High HCA+ ⁴

NOTE: The default urban development value of property is as depicted on the Metro Habitat Urban Development Value Map. The Metro 2040 Design Type designations provided in the following footnotes are only for use when a city or county is determining whether to make an adjustment pursuant to Section 4(E)(5) of this title.

¹ Primary 2040 design types: Regional Centers, Central City, Town Centers, and Regionally Significant Industrial Areas

² Secondary 2040 design types: Main Streets, Station Communities, Other Industrial Areas, and Employment Centers

³ Tertiary 2040 design types: Inner and Outer Neighborhoods, Corridors

⁴ Cities and counties shall give parks designated as natural areas in Class I and II riparian habitat even greater protection than that afforded to High Habitat Conservation Areas, as provided in Section 4(A)(4) of this title.

Table 3.07-13c. Impervious surfaces reduction, on-site stormwater management and other habitat-friendly development practices

<ol style="list-style-type: none"> 1. Minimize clearing and grading to the maximum extent possible. 2. Amend disturbed soils to regain infiltration and stormwater storage capacity. 3. Reduce lot sizes, setbacks and shape standards to allow for cluster development. 4. Use Transfer of Development Rights (TDR) to preserve natural features. 5. Reduce building footprint. 6. Use minimal excavation foundation systems to reduce grading (e.g., pier, post or piling foundation). 7. Use pervious paving for walkways and parking areas in place of traditional impervious materials. 8. Reduce sidewalk width and grade them such that they drain to the front yard of a residential lot or retention area. 9. Reduce impervious impacts of residential driveways by narrowing widths, moving access to the rear of the site, and using more pervious paving materials. 10. Use shared driveways where appropriate. 11. Reduce width of residential streets, depending on traffic and parking needs. 12. Reduce street length, primarily in residential areas, by encouraging clustering and using curvilinear designs. 13. Reduce cul-de-sac radii and use pervious vegetated islands in center to minimize impervious effects. 14. Consider alternative paving materials within center of cul-de-sac and/or allow cul-de-sac to be utilized for truck maneuvering/loading to reduce need for wide loading areas on site. 15. Eliminate redundant non-ADA sidewalks within a site (i.e., sidewalk to all entryways and/or to truck loading areas may be unnecessary for industrial developments). 16. Design roads to incorporate stormwater management in right-of-ways where appropriate. 17. Use multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems. 18. Minimize car spaces and stall dimensions, reduce parking ratios, use shared parking facilities and structured parking, and use pervious paving materials where appropriate to reduce impervious surfaces in parking lots. 	<ol style="list-style-type: none"> 19. Use bioretention cells as rain gardens in landscaped parking lot islands to reduce runoff volume and filter pollutants. 20. Use green roofs for runoff reduction, energy savings, improved air quality, and enhanced aesthetics. 21. Disconnect downspouts from roofs and direct the flow to vegetated infiltration/filtration areas such as rain gardens. 22. Retain rooftop runoff in a rain barrel for later on-lot use in lawn and garden watering. 23. Landscape with rain gardens to provide on-lot detention, filtering of rainwater, and groundwater recharge. 24. Apply a treatment train approach to provide multiple opportunities for storm water treatment and reduce the possibility of system failure. 25. Minimize the number of stream crossings and place crossing perpendicular to stream channel if possible. 26. Use bridge crossings rather than culverts wherever possible. 27. If culverts are utilized, install slab, arch or box type culverts, preferably using bottomless designs that more closely mimic stream bottom habitat. 28. Design stream crossings for fish passage with shelves and other design features to facilitate terrestrial wildlife passage. 29. Allow narrow street right-of-ways through stream corridors whenever possible to reduce adverse impacts of transportation corridors. 30. Extend vegetative cover through the wildlife crossing in the migratory route, along with sheltering areas. 31. Carefully integrate fencing into the landscape to guide animals toward the crossings. 32. Reduce light-spill off into HCA from development. 33. Use native plants throughout the development (not just in HCA). 34. Donate HCA to public or other organization to be maintained in a natural state. 35. Locate landscaping (required by other sections of the code) adjacent to HCA.
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Table 3.07-13d: Locating Boundaries of Class I and II Riparian Areas

Distance in feet from Water Feature	Development/Vegetation Status ¹			
	Developed areas not providing vegetative cover ²	Low structure vegetation or open soils ³	Woody vegetation (shrub and scattered forest canopy) ⁴	Forest Canopy (closed to open forest canopy) ⁵
Surface Streams				
0-50	Class II ⁶	Class I	Class I	Class I
50-100		Class II ⁶	Class I	Class I
100-150		Class II if slope>25% ⁶	Class II if slope>25% ⁶	Class II ⁶
150-200		Class II if slope>25% ⁶	Class II if slope>25% ⁶	Class II if slope>25% ⁶
Wetlands (Wetland feature itself is a Class I Riparian Area)				
0-100		Class II ⁶	Class I	Class I
100-150				Class II ⁶
Flood Areas (Undeveloped portion of flood area is a Class I Riparian Area)				
0-100			Class II ⁶	Class II ⁶

¹ Development/vegetated cover status is identified on the Metro Vegetated Cover Map (on file in the Metro Council office). The vegetative cover type assigned to any particular area was based on two factors: the type of vegetation observed in aerial photographs and the size of the overall contiguous area of vegetative cover to which a particular piece of vegetation belonged.

² “Developed areas not providing vegetative cover” are areas that lack sufficient vegetative cover to meet the one-acre minimum mapping units of any other type of vegetative cover.

³ “Low structure vegetation or open soils” means areas that are part of a contiguous area one acre or larger of grass, meadow, crop-lands, or areas of open soils located within 300 feet of a surface stream (low structure vegetation areas may include areas of shrub vegetation less than one acre in size if they are contiguous with areas of grass, meadow, crop-lands, orchards, Christmas tree farms, holly farms, or areas of open soils located within 300 feet of a surface stream and together form an area of one acre in size or larger).

⁴ “Woody vegetation” means areas that are part of a contiguous area one acre or larger of shrub or open or scattered forest canopy (less than 60% crown closure) located within 300 feet of a surface stream.

⁵ “Forest canopy” means areas that are part of a contiguous grove of trees of one acre or larger in area with approximately 60% or greater crown closure, irrespective of whether the entire grove is within 200 feet of the relevant water feature.

⁶ Areas that have been identified as habitats of concern, as designated on the Metro Habitats of Concern Map (on file in the Metro Council office), shall be treated as Class I riparian habitat areas in all cases, subject to the provision of additional information that establishes that they do not meet the criteria used to identify habitats of concern as described in Metro’s Technical Report for Fish and Wildlife. Examples of habitats of concern include: Oregon white oak woodlands, bottomland hardwood forests, wetlands, native grasslands, riverine islands or deltas, and important wildlife migration corridors.

Section 7. Table 3.07-13e: Performance and Implementation Objectives and Indicators

Performance Objectives	Targets	Targeted Condition Based on 2004 Metro Inventory	Example Indicators
<p>Performance Objective 1:</p> <p>Preserve and improve <u>streamside, wetland, and floodplain habitat and connectivity.</u></p>	<p>1a. <u>10% increase in forest and other vegetated acres within 50 feet</u> of streams (on each side) and wetlands in each subwatershed over the next 10 years (2015).</p>	<p>1a. 2004 Baseline Condition (regional data):</p> <ul style="list-style-type: none"> • 64% vegetated • 14,000 vegetated acres <p>10% increase:</p> <ul style="list-style-type: none"> • 70% vegetated • 1,400 acre increase in vegetation over 10 years 	<ul style="list-style-type: none"> • Percentage of acres within 50 feet of streams (on each side) and wetlands with any vegetation • Percentage of acres within 50 feet of streams (on each side) and wetlands with forest canopy • Percentage of acres between 50 and 150 feet of streams (on each side) and wetlands with any vegetation • Percentage of acres between 50 and 150 feet of streams (on each side) and wetlands with forest canopy • Number of acres of Class I and II Riparian Habitat • Percentage of floodplain acres that are developed* <p>* “Developed” for purposes of this indicator means the methodology used in Metro’s Fish and Wildlife Inventory to identify developed floodplains.</p>
	<p>1b. <u>5% increase in forest and other vegetated acres within 50 to 150 feet of streams</u> (on each side) and wetlands in each subwatershed over the next 10 years (2015).</p>	<p>1b. 2004 Baseline Condition (regional data):</p> <ul style="list-style-type: none"> • 59% vegetated • 15,250 vegetated acres <p>5% increase:</p> <ul style="list-style-type: none"> • 62% vegetated • 760 acre increase in vegetation over 10 years 	
	<p>1c. No more than <u>20% increase in developed floodplain acreage</u> in each subwatershed over the next 10 years (2015).</p>	<p>1c. 2004 Baseline Condition (regional data):</p> <ul style="list-style-type: none"> • 10% of all floodplain acres are developed • 3,450 total acres of developed floodplains <p>20% increase:</p> <ul style="list-style-type: none"> • 4,200 total acres of developed floodplains 	

Performance Objectives	Targets	Current Status and Targeted Condition	Example Indicators
<p>Performance Objective 2:</p> <p>Preserve <u>large areas of contiguous habitat</u> and avoid fragmentation.</p>	<p>2a. <i>Preserve 75% of vacant Class A and B</i> upland wildlife habitat in each subwatershed over the next 10 years (2015).</p>	<p>2a. 2004 Baseline Condition:</p> <ul style="list-style-type: none"> 15,500 acres of vacant Class A and B upland wildlife habitat 	<ul style="list-style-type: none"> Number of acres of Class A habitat Number of acres of Class B habitat Number of wildlife habitat patches that contain 30 acres or more of upland wildlife habitat
	<p>2b. Of the upland habitat preserved, <i>retain 80% of the number of patches 30 acres or larger</i> in each subwatershed over the next 10 years (2015).</p>	<p>75% retention:</p> <ul style="list-style-type: none"> 11,600 acres of vacant Class A and B upland wildlife habitat remaining 	
		<p>2b. 2004 Baseline Condition:</p> <ul style="list-style-type: none"> 23,400 acres of upland habitat in 133 patches that contain 30 acres or more of upland wildlife habitat 	
<p>Performance Objective 3:</p> <p>Preserve and improve <u>connectivity for wildlife</u> between riparian corridors and upland wildlife habitat.</p>	<p>3a. <i>Preserve 90% of forested wildlife habitat acres located within 300 feet of surface streams</i> in each subwatershed over the next 10 years (2015).</p>	<p>3a. 2004 Baseline Condition:</p> <ul style="list-style-type: none"> 28,300 acres within 1,453 patches of forested wildlife habitat located within 300 feet of surface streams 	<ul style="list-style-type: none"> Number and miles of all wildlife corridors Corridor quality: % of habitat acres within corridors with a vegetative width of 200 ft Acres of wildlife patches with a connectivity score of 3 or greater Acres and number of forested wildlife habitat patches (forest canopy or wetland with a total combined size greater than 2 acres) within 300 feet of surface streams compared to acres of the patches located outside of 300 feet of surface streams.
		<p>90% retention:</p> <ul style="list-style-type: none"> 25,500 acres of forested wildlife habitat located within 300 feet of surface streams 	

Performance Objectives	Targets	Current Status and Targeted Condition	Example Indicators
Performance Objective 3 (continued):	3b. <u>Preserve 80% of non-forested wildlife habitat acres located within 300 feet of surface streams</u> in each subwatershed over the next 10 years (2015).	3b. 2004 Baseline Condition: 14,400 acres within 1,633 patches of non-forested wildlife habitat located within 300 feet of surface streams 80% retention: 11,500 acres of non-forested wildlife habitat located within 300 feet of surface streams	<ul style="list-style-type: none"> Acres and number of non-forested wildlife patches (shrub or low structure/open soils with a total combined size greater than 2 acres) located within 300 feet of a surface streams.
Performance Objective 4: Preserve and improve <u>special habitats of concern</u> .	4a. <u>Preserve 95% of habitats of concern acres</u> in each subwatershed over the next 10 years (2015).	4a. 2004 Baseline Condition: <ul style="list-style-type: none"> 33% of all habitat designated as HOCs 26,700 total acres of HOCs 95% retention: <ul style="list-style-type: none"> 25,400 total acres of HOCs 	<ul style="list-style-type: none"> Number of acres of wetland Number of acres of white oak woodland Number of acres of bottomland hardwood forest Number of acres of vegetated riverine islands Number of acres of key connector habitat (list out HOC connectors)
Implementation Objectives		Example Indicators	
Implementation Objective A: Increase the use of <u>habitat-friendly development</u> throughout the region		<ul style="list-style-type: none"> Number of jurisdictions that allow or require LID Number of jurisdictions providing LID incentives Percentage of region in forest canopy Percentage of impervious area B-IBI (benthic index of biological integrity) scores 	
Implementation Objective B: Increase <u>restoration and mitigation actions</u> to compensate of adverse effects of new and existing development on ecological function		<ul style="list-style-type: none"> Number of restoration projects in one year Number of mitigation projects in one year Acres and distribution by resource class of habitat inventory Number of culverts that need improvement Number of watersheds in region with adopted action plans 	

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EXHIBIT C—ORDINANCE NO. 05-1077

ATTACHMENT 1. HABITAT CONSERVATION AREAS MAP

This map is available at the Metro Planning Department, 503.797.1555 or online at <http://www.metro-region.org/>.

EXHIBIT C—ORDINANCE NO. 05-1077

**ATTACHMENT 2. TUALATIN BASIN NATURAL RESOURCES COORDINATING
COMMITTEE GOAL 5 PROGRAM (WITH MAPS)**

This attachment is available at the Metro Planning Department, 503.797.1555.

- **Program Report (copy attached to Resolution 05-3577)**
- **Tualatin Basin program maps**
- **Clean Water Services Healthy Streams Plan**
- **Clean Water Services Design and Construction Standards**

This information also available on the Washington County and Clean Water Services websites:

http://www.co.washington.or.us/deptmts/lut/planning/tualatin_basin.htm

<http://www.CleanWaterServices.org>

EXHIBIT C—ORDINANCE NO. 05-1077

ATTACHMENT 3. METRO 2004 WETLAND INVENTORY MAP

This map is available at the Metro Planning Department, 503.797.1555 or online at <http://www.metro-region.org/>.

EXHIBIT C—ORDINANCE NO. 05-1077

ATTACHMENT 4. METRO HABITAT URBAN DEVELOPMENT VALUE MAP

This map is available at the Metro Planning Department, 503.797.1555.

EXHIBIT C—ORDINANCE NO. 05-1077

ATTACHMENT 5. METRO VEGETATED COVER MAP

This map is available at the Metro Planning Department, 503.797.1555 or online at <http://www.metro-region.org/>.

EXHIBIT C—ORDINANCE NO. 05-1077

ATTACHMENT 6. METRO HABITATS OF CONCERN MAP

This map is available at the Metro Planning Department, 503.797.1555.

EXHIBIT C—ORDINANCE NO. 05-1077

**ATTACHMENT 7. REGIONALLY SIGNIFICANT EDUCATIONAL OR MEDICAL
FACILITIES MAP**

This map is available at the Metro Planning Department, 503.797.1555.

EXHIBIT D—ORDINANCE NO. 05-1077

**AMENDMENTS TO TITLES 3, 8, 10 AND 11 OF THE
URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN**

Amendment 1. Title 3 of the Urban Growth Management Functional Plan shall be renamed, “Water Quality and Flood Management.”

Amendment 2. Metro Code Section 3.07.310, “Intent,” shall be amended as follows:

To protect the beneficial water uses and functions and values of resources within the Water Quality and Flood Management Areas by limiting or mitigating the impact on these areas from development activities, and protecting life and property from dangers associated with flooding ~~and working toward a regional coordination program of protection for Fish and Wildlife Habitat Areas.~~

Amendment 3. Metro Code Section 3.07.320, “Applicability,” shall be amended as follows:

A. Title 3 applies to:

1. Development in Water Quality Resource and Flood Management Areas.
2. Development which may cause temporary or permanent erosion on any property within the Metro Boundary.
- ~~3. Development in Fish and Wildlife Habitat Conservation Areas when Metro’s Section 3.07.350 analysis and mapping are completed.~~

B. Title 3 does not apply to work necessary to protect, repair, maintain, or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies provided that after the emergency has passed, adverse impacts are mitigated in accordance with the performance standards in Section 3.07.340.

Amendment 4. Metro Code Section 3.07.340, “Performance Standards,” shall be amended as follows:

A. Flood Management Performance Standards.

1. The purpose of these standards is to reduce the risk of flooding, prevent or reduce risk to human life and property, and maintain functions and values of floodplains such as allowing for the storage and conveyance of stream flows through existing and natural flood conveyance systems.
2. All development, excavation and fill in the Flood Management Areas shall conform to the following performance standards:
 - a. Development, excavation and fill shall be performed in a manner to maintain or increase flood storage and conveyance capacity and not increase design flood elevations.

- b. All fill placed at or below the design flood elevation in Flood Management Areas shall be balanced with at least an equal amount of soil material removal.
 - c. Excavation shall not be counted as compensating for fill if such areas will be filled with water in non-storm winter conditions.
 - d. Minimum finished floor elevations for new habitable structures in the Flood Management Areas shall be at least one foot above the design flood elevation.
 - e. Temporary fills permitted during construction shall be removed.
 - f. Uncontained areas of hazardous materials as defined by DEQ in the Flood Management Area shall be prohibited.
3. The following uses and activities are not subject to the requirements of subsection 2:
- a. Excavation and fill necessary to plant new trees or vegetation.
 - b. Excavation and fill required for the construction of detention facilities or structures, and other facilities such as levees specifically designed to reduce or mitigate flood impacts. Levees shall not be used to create vacant buildable lands.
 - c. New culverts, stream crossings, and transportation projects may be permitted if designed as balanced cut and fill projects or designed to not significantly raise the design flood elevation. Such projects shall be designed to minimize the area of fill in Flood Management Areas and to minimize erosive velocities. Stream crossing shall be as close to perpendicular to the stream as practicable. Bridges shall be used instead of culverts wherever practicable.

B. Water Quality Performance Standards.

- 1. The purpose of these standards is to: (1) protect and improve water quality to support the designated beneficial water uses as defined in Title 10, and (2) protect the functions and values of the Water Quality Resource Area which include, but are not limited to:
 - a. Providing a vegetated corridor to separate Protected Water Features from development;
 - b. Maintaining or reducing stream temperatures;
 - c. Maintaining natural stream corridors;
 - d. Minimizing erosion, nutrient and pollutant loading into water;
 - e. Filtering, infiltration and natural water purification; and
 - f. Stabilizing slopes to prevent landslides contributing to sedimentation of water features.

2. Local codes shall require all development in Water Quality Resource Areas to conform to the following performance standards:
 - a. The Water Quality Resource Area is the vegetated corridor and the Protected Water Feature. The width of the vegetated corridor is specified in Table 3.07-3. At least three slope measurements along the water feature, at no more than 100-foot increments, shall be made for each property for which development is proposed. Depending on the width of the property, the width of the vegetated corridor will vary.
 - b. Water Quality Resource Areas shall be protected, maintained, enhanced or restored as specified in Section 3.07.340(B)(2).
 - c. Prohibit development that will have a significant negative impact on the functions and values of the Water Quality Resource Area, which cannot be mitigated in accordance with subsection 2(f).
 - d. ~~Vegetative cover native to the Metro Area~~Native vegetation shall be maintained, enhanced or restored, if disturbed, in the Water Quality Resource Area. Invasive non-native ~~or noxious~~ vegetation may be removed from the Water Quality Resource Area ~~and replaced with native cover~~. ~~Only n~~Use of native vegetation shall be ~~used~~encouraged to enhance or restore the Water Quality Resource Area. This shall not preclude construction of energy dissipaters at outfalls consistent with watershed enhancement, and as approved by local surface water management agencies.
 - e. Uncontained areas of hazardous materials as defined by DEQ in the Water Quality Resource Area shall be prohibited.
 - f. Cities and counties may allow development in Water Quality Resource Areas provided that the governing body, or its designate, implement procedures which:
 - i. Demonstrate that no practicable alternatives to the requested development exist which will not disturb the Water Quality Resource Area; and
 - ii. If there is no practicable alternative, limit the development to reduce the impact associated with the proposed use; and
 - iii. Where the development occurs, require mitigation to ensure that the functions and values of the Water Quality Resource Area are restored.
 - g. Cities and counties may allow development for repair, replacement or improvement of utility facilities so long as the Water Quality Resource Area is restored consistent with Section 3.07.340(B)(2)(d).
 - h. The performance standards of Section 3.07.340(B)(2) do not apply to routine repair and maintenance of existing structures, roadways, driveways, utilities, accessory uses and other development.

3. For lots or parcels which are fully or predominantly within the Water Quality Resource Area and are demonstrated to be unbuildable by the vegetative corridor regulations, cities and counties shall reduce or remove vegetative corridor regulations to assure the lot or parcel will be buildable while still providing the maximum vegetated corridor practicable. Cities and counties shall encourage landowners to voluntarily protect these areas through various means, such as conservation easements and incentive programs.

C. Erosion and Sediment Control.

1. The purpose of this section is to require erosion prevention measures and sediment control practices during and after construction to prevent the discharge of sediments.
2. Erosion prevention techniques shall be designed to prevent visible and measurable erosion as defined in Title 10.
3. To the extent erosion cannot be completely prevented, sediment control measures shall be designed to capture, and retain on-site, soil particles that have become dislodged by erosion.

D. Implementation Tools to Protect Water Quality and Flood Management Areas.

1. Cities and counties shall either adopt land use regulations, which authorize transfer of permitted units and floor area to mitigate the effects of development restrictions in Water Quality and Flood Management Areas, or adopt other measures that mitigate the effects of development restrictions.
2. Metro encourages local governments to require that approvals of applications for partitions, subdivisions and design review actions be conditioned upon one of the following:
 - a. Protection of Water Quality and Flood Management Areas with a conservation easement;
 - b. Platting Water Quality and Flood Management Areas as common open space; or
 - c. Offer of sale or donation of property to public agencies or private non-profits for preservation where feasible.
3. Additions, alterations, rehabilitation or replacement of existing structures, roadways, driveways, accessory uses and development in the Water Quality and Flood Management Area may be allowed provided that:
 - a. The addition, alteration, rehabilitation or replacement is not inconsistent with applicable city and county regulations, and
 - b. The addition, alteration, rehabilitation or replacement does not encroach closer to the Protected Water Feature than the existing structures, roadways, driveways or accessory uses and development, and
 - c. The addition, alteration, rehabilitation or replacement satisfies Section 3.07.340(C) of this title.

- d. In determining appropriate conditions of approval, the affected city or county shall require the applicant to:
 - i. Demonstrate that no reasonably practicable alternative design or method of development exists that would have a lesser impact on the Water Quality Resource Area than the one proposed; and
 - ii. If no such reasonably practicable alternative design or method of development exists, the project should be conditioned to limit its disturbance and impact on the Water Quality Resource to the minimum extent necessary to achieve the proposed addition, alteration, restoration, replacement or rehabilitation; and
 - iii. Provide mitigation to ensure that impacts to the functions and values of the Water Quality Resource Area will be mitigated or restored to the extent practicable.
4. Cities and counties may choose not to apply the Water Quality and Flood Management Area performance standards of Section 3.07.340 to development necessary for the placement of structures when it does not require a grading or building permit.
5. Metro encourages cities and counties to provide for restoration and enhancement of degraded Water Quality Resource Areas through conditions of approval when development is proposed, or through incentives or other means.
6. Cities and counties shall apply the performance standards of this title to Title 3 Wetlands as shown on the Metro Water Quality and Flood Management Areas Map and locally adopted Water Quality and Flood Management Areas maps. Cities and counties may also apply the performance standards of this title to other wetlands.

E. Map Administration.

Cities and counties shall amend their comprehensive plans and implementing ordinances to provide a process for each of the following:

1. Amendments to city and county adopted Water Quality and Flood Management Area maps to correct the location of Protected Water Features, Water Quality Resource Areas and Flood Management Areas. Amendments shall be initiated within 90 days of the date the city or county receives information establishing a possible map error.
2. Modification of the Water Quality Resource Area upon demonstration that the modification will offer the same or better protection of water quality, the Water Quality and Flood Management Area and Protected Water Feature.
3. Amendments to city and county adopted Water Quality and Flood Management Area maps to add Title 3 Wetlands when the city or county receives significant evidence that a wetland meets any one of the following criteria:

- a. The wetland is fed by surface flows, sheet flows or precipitation, and has evidence of flooding during the growing season, and has 60 percent or greater vegetated cover, and is over one-half acre in size;

or the wetland qualifies as having “intact water quality function” under the 1996 Oregon Freshwater Wetland Assessment Methodology; or
- b. The wetland is in the Flood Management Area, and has evidence of flooding during the growing season, and is five acres or more in size, and has a restricted outlet or no outlet;

or the wetland qualifies as having “intact hydrologic control function” under the 1996 Oregon Freshwater Wetland Assessment Methodology; or
- c. The wetland or a portion of the wetland is within a horizontal distance of less than one-fourth mile from a water body which meets the Department of Environmental Quality definition of “water quality limited water body” in OAR Chapter 340, Division 41.

Examples of significant evidence that a wetland exists that may meet the criteria above are a wetland assessment conducted using the 1996 Oregon Freshwater Wetland Assessment Methodology, or correspondence from the Division of State Lands that a wetland determination or delineation has been submitted or completed for property in the city or county.

- 4. Cities and counties are not required to apply the criteria in Section 3.07.340(E)(3) to water quality or stormwater detention facilities.

Amendment 5. Metro Code Section 3.07.350, “Fish and Wildlife Habitat Conservation Area,” shall be repealed.

Amendment 6. Metro Code Section 3.07.360, “Metro Model Ordinance Required,” shall be amended as follows:

Metro shall adopt a Water Quality and Flood Management Areas Model Ordinance and map. The Model Ordinance shall represent one method of complying with this title. The Model Ordinance shall be advisory, and cities and counties are not required to adopt the Model Ordinance, or any part thereof, to substantially comply with this title. However, cities and counties which adopt the Model Ordinance in its entirety and a Water Quality and Flood Management Areas Map shall be deemed to have substantially complied with the requirements of this title.

~~Section 3.07.350 of this title shall be implemented by adoption of new functional plan provisions. The Metro Council may adopt a Fish and Wildlife Habitat Conservation Areas Model Ordinance and Map for protection of regionally significant fish and wildlife habitat.~~

Amendment 7. Metro Code Section 3.07.370, “Variances,” shall be repealed.

Amendment 8. Metro Code Section 3.07.810, “Compliance With the Functional Plan,” shall be amended as follows:

- A. The purpose of this section is to establish a process for determining whether city or county comprehensive plans and land use regulations comply with requirements of the Urban Growth Management Functional Plan. The Council intends the process to be efficient and cost-effective and to provide an opportunity for the Metro Council to interpret the requirements of its functional plan. Where the terms “compliance” and “comply” appear in this title, the terms shall have the meaning given to “substantial compliance” in [Section 3.07.1010](#)~~(###)~~.
- B. Cities and counties shall amend their comprehensive plans and land use regulations to comply with the functional plan, [or an amendment to the functional plan](#), within two years after its acknowledgement by the Land Conservation and Development Commission, or after such other date specified in the functional plan. The Chief Operating Officer shall notify cities and counties of the compliance date.
- C. Notwithstanding subsection [AB](#) of this section, cities and counties shall amend their comprehensive plans and land use regulations to comply with Sections 3.07.310 to 3.07.340 of Title 3 of the Urban Growth Management Functional Plan by January 31, 2000, and with the requirements in Sections 3.07.710 to 3.07.760 of Title 7 of the Urban Growth Management Functional Plan by January 18, 2003.
- D. Cities and counties that amend their comprehensive plans or land use regulations after the effective date of the functional plan shall make the amendments in compliance with the functional plan. [After one year following acknowledgement of a functional plan requirement adopted or amended by the Metro Council after January 1, 2005, cities and counties that amend their comprehensive plans and land use regulations shall make such amendments in compliance with the new functional plan requirement.](#) The Chief Operating Officer shall notify cities and counties of the effective date.
- E. Cities and counties whose comprehensive plans and land use regulations do not yet comply with a functional plan requirement adopted or amended prior to December 12, 1997, shall make land use decisions consistent with that requirement. If the functional plan requirement was adopted or amended by the Metro Council after December 12, 1997, cities and counties whose comprehensive plans and land use regulations do not yet comply with the requirement shall, after one year following acknowledgment of the requirement, make land use decisions consistent with that requirement. [Notwithstanding the previous sentence, however, cities and counties whose comprehensive plans and land use regulations do not yet comply with the requirements of Title 13 of this chapter, Metro Code sections 3.07.1310 to 3.07.1360, shall make land use decisions consistent with those requirements after two years following their acknowledgment.](#) The Chief Operating Officer shall notify cities and counties of the date upon which functional plan requirements become applicable to land use decisions at least 120 days before that date. The notice shall specify which functional plan requirements become applicable to land use decisions in each city and county. For the purposes of this subsection, “land use decision” shall have the meaning of that term as defined in ORS 197.015(10).
- F. An amendment to a city or county comprehensive plan or land use regulation shall be deemed to comply with the functional plan if no appeal to the Land Use Board of Appeals is made within the 21-day period set forth in ORS 197.830(9), or if the amendment is acknowledged in periodic review pursuant to ORS 197.633 or 197.644. If an appeal is made and the amendment is

affirmed, the amendment shall be deemed to comply with the functional plan upon the final decision on appeal. Once the amendment is deemed to comply with the functional plan, the functional plan shall no longer apply to land use decisions made in conformance with the amendment.

- G. An amendment to a city or county comprehensive plan or land use regulation shall be deemed to comply with the functional plan as provided in subsection F only if the city or county provided notice to the Chief Operating Officer as required by Section 3.07.820(A).

Amendment 9. Metro Code Section 3.07.1010, “Definitions,” shall be amended as follows:

For the purpose of this functional plan, the following definitions shall apply:

- (a) “Accessibility” means the amount of time required to reach a given location or service by any mode of travel.
- (b) “Accessway” means right-of-way or easement designed for public access by bicycles and pedestrians, and may include emergency vehicle passage.
- (c) “Alternative modes” means alternative methods of travel to the automobile, including public transportation (light rail, bus and other forms of public transportation), bicycles and walking.
- (d) “Balanced cut and fill” means no net increase in fill within the floodplain.
- (e) “Bikeway” means separated bike paths, striped bike lanes, or wide outside lanes that accommodate bicycles and motor vehicles.
- (f) “Boulevard design” means a design concept that emphasizes pedestrian travel, bicycling and the use of public transportation, and accommodates motor vehicle travel.
- (g) “Calculated capacity” means the number of dwelling units and jobs that can be contained in an area based on the calculation required by this functional plan.
- (h) “Capacity expansion” means constructed or operational improvements to the regional motor vehicle system that increase the capacity of the system.
- (i) “Comprehensive plan” means the all inclusive, generalized, coordinated land use map and policy statement of cities and counties defined in ORS 197.015(5).
- (j) “Connectivity” means the degree to which the local and regional street systems in a given area are interconnected.
- (k) “DBH” means the diameter of a tree measured at breast height.
- (l) “Design flood elevation” means the elevation of the 100-year storm as defined in FEMA Flood Insurance Studies or, in areas without FEMA floodplains, the elevation of the 25-year storm, or the edge of mapped flood prone soils or similar methodologies.
- (m) “Design type” means the conceptual areas described in the Metro 2040 Growth Concept text and map in Metro's regional goals and objectives, including central city, regional centers, town

centers, station communities, corridors, main streets, inner and outer neighborhoods, industrial areas, and employment areas.

- (n) “Designated beneficial water uses” means the same as the term as defined by the Oregon Department of Water Resources, which is: an instream public use of water for the benefit of an appropriator for a purpose consistent with the laws and the economic and general welfare of the people of the state and includes, but is not limited to, domestic, fish life, industrial, irrigation, mining, municipal, pollution abatement, power development, recreation, stockwater and wildlife uses.
- (o) “Development” means any man-made change defined as buildings or other structures, mining, dredging, paving, filling, or grading in amounts greater than ten (10) cubic yards on any lot or excavation. In addition, any other activity that results in the removal of more than 10 percent of the vegetation in the Water Quality Resource Area on the lot is defined as development, for the purpose of Title 3 except that ~~more~~-less than 10 percent removal of vegetation on a lot must comply with Section 3.07.340(C) - Erosion and Sediment Control. **In addition, any other activity that results in the cumulative removal of more than either 10 percent or 20,000 square feet of the vegetation in the Habitat Conservation Areas on the lot in any five-year period is defined as development, for the purpose of Title 13.** Development does not include the following:
 - (1) Stream enhancement or restoration projects approved by cities and counties;
 - (2) Farming practices as defined in ORS 30.930 and farm use as defined in ORS 215.203, except that buildings associated with farm practices and farm uses are subject to the requirements of Title 3;
 - and (3) Construction on lots in subdivisions meeting the criteria of ORS 92.040(2).
- (p) “Development application” means an application for a land use decision, limited land decision including expedited land divisions, but excluding partitions as defined in ORS 92.010(7) and ministerial decisions such as a building permit.
- (q) “Ecological functions” means the biological and hydrologic characteristics of healthy fish and wildlife habitat. **Riparian ecological functions include microclimate and shade, streamflow moderation and water storage, bank stabilization and sediment/pollution control, sources of large woody debris and natural channel dynamics, and organic material sources. Upland wildlife ecological functions include size of habitat area, amount of habitat with interior conditions, connectivity of habitat to water resources, connectivity to other habitat areas, and presence of unique habitat types.**
- ~~(q) “DLCD Goal 5 ESEE” means a decision process local governments carry out under OAR 660-023-0040.~~
- (r) “Emergency” means any man-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to, fire, explosion, flood, severe weather, drought earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease.
- (s) “Enhancement” means the process of improving upon the natural functions and/or values of an area or feature which has been degraded by human activity. Enhancement activities may or may not return the site to a pre-disturbance condition, but create/recreate processes and features that occur naturally.
- (t) “Fill” means any material such as, but not limited to, sand, gravel, soil, rock or gravel that is placed in a wetland or floodplain for the purposes of development or redevelopment.

- ~~(u)~~ “Fish and Wildlife Habitat Conservation Area” means the area defined on the Metro Water Quality and Flood Management Area Map to be completed and attached hereto¹. These include all Water Quality and Flood Management Areas that require regulation in order to protect fish and wildlife habitat. This area has been mapped to generally include the area 200 feet from top of bank of streams in undeveloped areas with less than 25% slope, and 100 feet from edge of mapped wetland on undeveloped land.
- ~~(w)~~(u) “Flood Management Areas” means all lands contained within the 100-year floodplain, flood area and floodway as shown on the Federal Emergency Management Agency Flood Insurance Maps and the area of inundation for the February 1996 flood. In addition, all lands which have documented evidence of flooding.
- ~~(w)~~(v) “Floodplain” means land subject to periodic flooding, including the 100-year floodplain as mapped by FEMA Flood Insurance Studies or other substantial evidence of actual flood events.
- ~~(x)~~(w) “Full street connection” means right-of-way designed for public access by motor vehicles, pedestrians and bicycles.
- ~~(y)~~ “Functions and values of stream corridors” means stream corridors have the following functions and values: water quality retention and enhancement, flood attenuation, fish and wildlife habitat, recreation, erosion control, education, aesthetic, open space and wildlife corridor.
- ~~(z)~~(x) “Growth Concept Map” means the conceptual map demonstrating the 2040 Growth Concept design types attached to this plan².
- (y) “Habitat Conservation Area” or “HCA” means an area identified on the Habitat Conservation Areas Map and subject to the performance standards and best management practices described in Section 4 of Title 13.
- (z) “Habitat-friendly development” means a method of developing property that has less detrimental impact on fish and wildlife habitat than does traditional development methods. Examples include clustering development to avoid habitat, using alternative materials and designs such as pier, post, or piling foundations designed to minimize tree root disturbance, managing storm water on-site to help filter rainwater and recharge groundwater sources, collecting rooftop water in rain barrels for reuse in site landscaping and gardening, and reducing the amount of effective impervious surface created by development.
- (aa) “Habitats of Concern” means the following unique or unusually important wildlife habitat areas as identified based on cite specific information provided by local wildlife or habitat experts: Oregon white oak woodlands, bottomland hardwood forests, wetlands, native grasslands, riverine islands or deltas, and important wildlife migration corridors.
- ~~(aa)~~(bb) “Hazardous materials” means materials described as hazardous by Oregon Department of Environmental Quality.

¹ On file in the Metro Council office.

² On file in the Metro Council office.

- ~~(bb)~~(cc) “Implementing ordinances or regulations” means any city or county land use regulation as defined by ORS 197.015(11) which includes zoning, land division or other ordinances which establish standards for implementing a comprehensive plan.
- ~~(ee)~~(dd) “Improved pedestrian crossing.” An improved pedestrian crossing is marked and may include signage, signalization, curb extensions and a pedestrian refuge such as a landscaped median.
- ~~(dd)~~(ee) “Invasive non-native or noxious vegetation” means [plants listed as nuisance plants or prohibited plants on the Metro Native Plant List as adopted by Metro Council resolution because they are plant species that have been introduced and, due to aggressive growth patterns and lack of natural enemies in the area where introduced, spread rapidly into native plant communities, or which are not listed on the Metro Native Plant List as adopted by Metro Council resolution.](#)
- (ff) “Land Conservation and Development Commission” or “LCDC” means the Oregon Land Conservation and Development Commission.
- ~~(ee)~~(gg) “Landscape strip” means the portion of public right-of-way located between the sidewalk and curb.
- (hh) “Land use regulation” means any local government zoning ordinance, land division ordinance adopted under ORS 92.044 or 92.046 or similar general ordinance establishing standards for implementing a comprehensive plan, as defined in ORS 197.015.
- ~~(ff)~~(ii) “Level-of-service (LOS)” means the ratio of the volume of motor vehicle demand to the capacity of the motor vehicle system during a specific increment of time.
- (jj) “Local program effective date” means the effective date of a city’s or county’s new or amended comprehensive plan and implementing ordinances adopted to comply with Title 13 of the Urban Growth Management Functional Plan, Sections 1 to 6 of Exhibit C to Ordinance No. 05-1077. If a city or county is found to be in substantial compliance with Title 13 without making any amendments to its comprehensive plan or land use regulations, then the local program effective date shall be the effective date of Ordinance No. 05-1077. If a city or county amends its comprehensive plan or land use regulations to comply with Title 13, then the local program effective date shall be the effective date of the city’s or county’s amendments to its comprehensive plan or land use regulations, but in no event shall the local program effective date be later than two years after Title 13 is acknowledged by LCDC. For territory brought within the Metro UGB after the effective date of Metro Ordinance No. 05-1077, the local program effective date shall be the effective date of the ordinance adopted by the Metro Council to bring such territory within the Metro UGB.
- ~~(gg)~~(kk) “Local trips.” Local vehicle trips are trips that are five miles or shorter in length.
- ~~(hh)~~(ll) “Median” means the center portion of public right-of-way, located between opposing directions of motor vehicle travel lanes. A median is usually raised and may be landscaped, and usually incorporates left turn lanes for motor vehicles at intersections and major access points.
- ~~(ii)~~(mm) “Metro” means the regional government of the metropolitan area, the elected Metro Council as the policy setting body of the government.
- ~~(jj)~~(nn) “Metro boundary” means the jurisdictional boundary of Metro, the elected regional government of the metropolitan area.

~~(kk)~~(oo) “Metro Urban Growth Boundary” or “Metro UGB” means the urban growth boundary as adopted and amended by the Metro Council, consistent with state law.

~~(hh)~~(pp) “Mitigation” means the reduction of adverse effects of a proposed project by considering, in the following order: (1) avoiding the impact all together by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying the impact by repairing, rehabilitating or restoring the ~~e~~affected environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action by monitoring and taking appropriate measures; and (5) compensating for the impact by replacing or providing comparable substitute water quality resource areas or [habitat conservation areas](#).

~~(mm)~~(qq) “Mixed use” means comprehensive plan or implementing regulations that permit a mixture of commercial and residential development.

~~(nn)~~(rr) “Mixed-use development” includes areas of a mix of at least two of the following land uses and includes multiple tenants or ownerships: residential, retail and office. This definition excludes large, single-use land uses such as colleges, hospitals, and business campuses. Minor incidental land uses that are accessory to the primary land use should not result in a development being designated as “mixed-use development.” The size and definition of minor incidental, accessory land uses allowed within large, single-use developments should be determined by cities and counties through their comprehensive plans and implementing ordinances.

~~(ee)~~(ss) “Mobility” means the speed at which a given mode of travel operates in a specific location.

~~(pp)~~(tt) “Mode-split target” means the individual percentage of public transportation, pedestrian, bicycle and shared-ride trips expressed as a share of total person-trips.

~~(qq)~~(uu) “Motor vehicle” means automobiles, vans, public and private buses, trucks and semi-trucks, motorcycles and mopeds.

~~(rr)~~(vv) “Multi-modal” means transportation facilities or programs designed to serve many or all methods of travel, including all forms of motor vehicles, public transportation, bicycles and walking.

~~(ss)~~(ww) “Narrow street design” means streets with less than 46 feet of total right-of-way and no more than 28 feet of pavement width between curbs.

~~(tt)~~(xx) “Native vegetation” or “[native plant](#)” means any vegetation ~~native to the Portland metropolitan area or~~ listed as a native plant on the Metro Native Plant ~~L~~List as adopted by Metro Council resolution and any other vegetation native to the Portland metropolitan area provided that it is not listed as a nuisance plant or a prohibited plant on the Metro Native Plant List.

~~(uu)~~(yy) “Net acre” means an area measuring 43.560 square feet which excludes:

- Any developed road rights-of-way through or on the edge of the land; and
- Environmentally constrained areas, including any open water areas, floodplains, natural resource areas protected under statewide planning Goal 5 in the comprehensive plans of cities and counties in the region, slopes in excess of 25 percent and wetlands requiring a Federal fill and removal permit under Section 404 of the Clean Water Act. These

excluded areas do not include lands for which the local zoning code provides a density bonus or other mechanism which allows the transfer of the allowable density or use to another area or to development elsewhere on the same site; and

- All publicly-owned land designated for park and open spaces uses.

~~(vv)~~(zz) “Net developed acre” consists of 43,560 square feet of land, after excluding present and future rights-of-way, school lands and other public uses.

(aaa) “Net vacant buildable land” means all vacant land less all land that is: (1) within Water Quality Resource Areas; (2) within Habitat Conservation Areas; (3) publicly owned by a local, state or federal government; (4) burdened by major utility easements; and (5) necessary for the provision of roads, schools, parks, churches, and other public facilities.

~~(ww)~~(bbb) “Perennial streams” means all primary and secondary perennial water ways as mapped by the U.S. Geological Survey.

~~(xx)~~(ccc) “Performance measure” means a measurement derived from technical analysis aimed at determining whether a planning policy is achieving the expected outcome or intent associated with the policy.

~~(yy)~~(ddd) “Person-trips” means the total number of discrete trips by individuals using any mode of travel.

~~(zz)~~(eee) “Persons per acre” means the intensity of building development by combining residents per net acre and employees per net acre.

~~(aaa)~~(fff) “Practicable” means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose. **The application of any requirement in Title 13, Sections 1 to 6 of Exhibit C to Ordinance No. 05-1077, that would result in a reduction in the fair market value of the property to which the requirement is applied shall not be considered practicable.**

~~(bbb)~~(ggg) “Primarily developed” means areas where less than 10% of parcels are either vacant or underdeveloped.

~~(eee)~~(hhh) “Protected Water Features”

Primary Protected Water Features shall include:

- Title 3 wetlands; and
- Rivers, streams, and drainages downstream from the point at which 100 acres or more are drained to that water feature (regardless of whether it carries year-round flow); and
- Streams carrying year-round flow; and
- Springs which feed streams and wetlands and have year-round flow; and
- Natural lakes.

Secondary Protected Water Features shall include intermittent streams and seeps downstream of the point at which 50 acres are drained and upstream of the point at which 100 acres are drained to that water feature.

~~(ddd)~~(iii)“Redevelopable land” means land on which development has already occurred which, due to present or expected market forces, there exists the strong likelihood that existing development will be converted to more intensive uses during the planning period.

~~(eee)~~(jjj)“Regional Goals and Objectives” are the land use goals and objectives that Metro is required to adopt under ORS 268.380(1).

~~(fff)~~(kkk)“Regional vehicle trips” are trips that are greater than five miles in length.

(III) “Regionally significant fish and wildlife habitat” means those areas identified on the Regionally Significant Fish and Wildlife Habitat Inventory Map, adopted in Section 2 of Title 13, as significant natural resource sites.

~~(ggg)~~(mmm)“Restoration” means the process of returning a disturbed or altered area or feature to a previously existing natural condition. Restoration activities reestablish the structure, function, and/or diversity to that which occurred prior to impacts caused by human activity.

~~(hhh)~~(nnn)“Retail” means activities which include the sale, lease or rent of new or used products to the general public or the provision of product repair or services for consumer and business goods. Hotels or motels, restaurants or firms involved in the provision of personal services or office space are not considered retail uses.

~~(iii)~~(ooo)“Riparian area” means the water influenced area adjacent to a river, lake or stream consisting of the area of transition from an hydric ecosystem to a terrestrial ecosystem where the presence of water directly influences the soil-vegetation complex and the soil-vegetation complex directly influences the water body. It can be identified primarily by a combination of geomorphologic and ecologic characteristics.

~~(jjj)~~(ppp)“Routine repair and maintenance” means activities directed at preserving an existing allowed use or facility, without expanding the development footprint or site use.

~~(kkk)~~(qqq)“Shared-ride” means private passenger vehicles carrying more than one occupant.

~~(HH)~~(rrr)“Significant increase in Single Occupancy Vehicle (SOV) capacity for multi-modal arterials.” An increase in SOV capacity created by the construction of additional general purpose lanes totaling ½ lane miles or more in length. General purpose lanes are defined as through travel lanes or multiple turn lanes. This also includes the construction of a new general purpose highway facility on a new location. Lane tapers are not included as part of the general purpose lane. Significant increases in SOV capacity should be assessed for individual facilities rather than for the planning area.

~~(mmm)~~(sss)“Significant increase in Single Occupancy Vehicle (SOV) capacity for regional through-route freeways.” Any increase in SOV capacity created by the construction of additional general purpose lanes other than that resulting from a safety project or a project solely intended to eliminate a bottleneck. An increase in SOV capacity associated with the elimination of a bottleneck is considered significant only if such an increase provides a highway section SOV capacity greater than ten percent over that provided immediately upstream of the bottleneck. An

increase in SOV capacity associated with a safety project is considered significant only if the safety deficiency is totally related to traffic congestion. Construction of a new general purpose highway facility on a new location also constitutes a significant increase in SOV capacity. Significant increase in SOV capacity should be assessed for individual facilities rather than for the planning area.

~~(nnn)~~(ttt)“Significant negative impact” means an impact that affects the natural environment, considered individually or cumulatively with other impacts on the Water Quality Resource Area, to the point where existing water quality functions and values are degraded.

~~(ooo)~~(uuu)“Single occupancy vehicle (SOV)” means private passenger vehicles carrying one occupant.

~~(ppp)~~(vvv)“Straight-line distance” means the shortest distance measured between two points.

~~(qqq)~~(www)“Stream” means a body of running water moving over the earth’s surface in a channel or bed, such as a creek, rivulet or river. It flows at least part of the year, including perennial and intermittent streams. Streams are dynamic in nature and their structure is maintained through build-up and loss of sediment.

~~(rrr)~~(xxx)“Substantial compliance” means city and county comprehensive plans and implementing ordinances, on the whole, conform with the purposes of the performance standards in the functional plan and any failure to meet individual performance standard requirements is technical or minor in nature.

~~(sss)~~(yyy)“Target capacities” means the capacities in Table 3.07-1 required to be demonstrated by cities and counties for compliance with Title 1, Section 3.07.120.

~~(ttt)~~(zzz)“Target densities” means the average combined household and employment densities established for each design type in the RUGGO 2040 Growth Concept.

~~(uuu)~~(aaaa)“Title 3 Wetlands” means wetlands of metropolitan concern as shown on the Metro Water Quality and Flood Management Area Map and other wetlands added to city or county adopted Water Quality and Flood Management Area maps consistent with the criteria in Title 3, Section 3.07.340(E)(3). Title 3 wetlands do not include artificially constructed and managed stormwater and water quality treatment facilities.

~~(vvv)~~(bbbb)“Top of bank” means the same as “bankfull stage” defined in OAR 141-085-0010(2).

~~(www)~~(cccc)“Traffic calming” means street design or operational features intended to maintain a given motor vehicle travel speed.

(dddd) “Urban development value” means the economic value of a property lot or parcel as determined by analyzing three separate variables: assessed land value, value as a property that could generate jobs (“employment value”), and the Metro 2040 design type designation of property. The urban development value of all properties containing regionally significant fish and wildlife habitat is depicted on the Metro Habitat Urban Development Value Map referenced in Section 4(E) of Title 13.

(eeee) “Urban Growth Boundary” or “UGB” means an urban growth boundary adopted pursuant to ORS chapter 197.

~~(xxx)~~(ffff) “Underdeveloped parcels” means those parcels of land with less than 10% of the net acreage developed with permanent structures.

~~(yyy)~~(gggg) “Utility facilities” means buildings, structures or any constructed portion of a system which provides for the production, transmission, conveyance, delivery or furnishing of services including, but not limited to, heat, light, water, power, natural gas, sanitary sewer, stormwater, telephone and cable television.

~~(zzz)~~(hhhh) “Vacant land” means land identified in the Metro or local government inventory as undeveloped land.

~~(aaa)~~(iiii) “Variance” means a discretionary decision to permit modification of the terms of an implementing ordinance based on a demonstration of unusual hardship or exceptional circumstance unique to a specific property.

~~(bbb)~~(jjjj) “Visible or measurable erosion.” Visible or measurable erosion includes, but is not limited to:

- Deposits of mud, dirt sediment or similar material exceeding one-half cubic foot in volume on public or private streets, adjacent property, or onto the storm and surface water system, either by direct deposit, dropping discharge, or as a result of the action of erosion.
- Evidence of concentrated flows of water over bare soils; turbid or sediment laden flows; or evidence of on-site erosion such as rivulets on bare soil slopes, where the flow of water is not filtered or captured on the site.
- Earth slides, mudflows, earth sloughing, or other earth movement that leaves the property.

(kkkk) “Water feature” means all rivers, streams (regardless of whether they carry year-round flow, i.e., including intermittent streams), springs which feed streams and wetlands and have year-round flow, Flood Management Areas, wetlands, and all other bodies of open water.

~~(eee)~~(llll) “Water Quality and Flood Management Area” means an area defined on the Metro Water Quality and Flood Management Area Map, to be attached hereto³. These are areas that require regulation in order to mitigate flood hazards and to preserve and enhance water quality. This area has been mapped to generally include the following: stream or river channels, known and mapped wetlands, areas with flood-prone soils adjacent to the stream, floodplains, and sensitive water areas. The sensitive areas are generally defined as 50 feet from top of bank of streams for areas of less than 25% slope, and 200 feet from top of bank on either side of the stream for areas greater than 25% slope, and 50 feet from the edge of a mapped wetland.

~~(ddd)~~(mmmm) “Water Quality Resource Areas” means vegetated corridors and the adjacent water feature as established in Title 3.

~~(eee)~~(nnnn) “Wetlands.” Wetlands are those areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support and under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands are those areas identified

³ On file in Metro Council office.

and delineated by a qualified wetland specialist as set forth in the 1987 Corps of Engineers Wetland Delineation Manual.

~~(fff)~~(oooo)“Zoned capacity” means the highest number of dwelling units or jobs that are allowed to be contained in an area by zoning and other city or county jurisdiction regulations.

Amendment 10. Metro Code Section 3.07.1120, “Urban Growth Boundary Amendment Urban Reserve Plan Requirements,” shall be amended as follows:

All territory added to the Urban Growth Boundary as either a major amendment or a legislative amendment pursuant to Metro Code chapter 3.01 shall be subject to adopted comprehensive plan provisions consistent with the requirements of all applicable titles of the Metro Urban Growth Management Functional Plan and in particular this Title 11. The comprehensive plan provisions shall be fully coordinated with all other applicable plans. The comprehensive plan provisions shall contain an urban growth plan diagram and policies that demonstrate compliance with the RUGGO, including the Metro Council adopted 2040 Growth Concept design types. Comprehensive plan amendments shall include:

- A. Provision for annexation to the district and to a city or any necessary service districts prior to urbanization of the territory or incorporation of a city or necessary service districts to provide all required urban services.
- B. Provision for average residential densities of at least 10 dwelling units per acre of net ~~developable residential acre~~vacant buildable land in zones in which residences are allowed, or other density prescribed by the Council in the ordinance adding the territory to the UGB ~~lower densities which conform to the 2040 Growth Concept Plan design type designation for the area.~~
- C. Demonstrable measures that will provide a diversity of housing stock that will fulfill needed housing requirements as defined by ORS 197.303. Measures may include, but are not limited to, implementation of recommendations in Title 7 of the Urban Growth Management Functional Plan.
- D. Demonstration of how residential developments will include, without public subsidy, housing affordable to households with incomes at or below area median incomes for home ownership and at or below 80 percent of area median incomes for rental as defined by U.S. Department of Housing and Urban Development for the adjacent urban jurisdiction. Public subsidies shall not be interpreted to mean the following: density bonuses, streamlined permitting processes, extensions to the time at which systems development charges (SDCs) and other fees are collected, and other exercises of the regulatory and zoning powers.
- E. Provision for sufficient commercial and industrial development for the needs of the area to be developed consistent with 2040 Growth Concept design types. Commercial and industrial designations in nearby areas inside the Urban Growth Boundary shall be considered in comprehensive plans to maintain design type consistency.
- F. A conceptual transportation plan consistent with the applicable provision of the Regional Transportation Plan, Title 6 of the Urban Growth Management Functional Plan, and that is also consistent with the protection of natural resources either identified in acknowledged comprehensive plan inventories or as required by Title 3 of the Urban Growth Management

Functional Plan. The plan shall, consistent with OAR Chapter 660, Division 11, include preliminary cost estimates and funding strategies, including likely financing approaches.

- G. Identification, ~~and mapping~~ ~~and a funding strategy for protecting~~ of areas to be protected from development due to fish and wildlife habitat protection, water quality enhancement and mitigation, and natural hazards mitigation, ~~including, without limitation, all Habitat Conservation Areas, Water Quality Resource Areas, and Flood Management Areas.~~ A natural resource protection plan to protect fish and wildlife habitat, water quality enhancement areas, and natural hazard areas shall be completed as part of the comprehensive plan and zoning for lands added to the Urban Growth Boundary prior to urban development. ~~The plan shall include zoning strategies to minimize the conflicts between planned future development and the protection of Habitat Conservation Areas, Water Quality Resource Areas, Flood Management Areas, and other natural hazard areas.~~ The plan shall also include a preliminary cost estimate and funding strategy, including likely financing approaches, for options such as mitigation, site acquisition, restoration, enhancement, ~~or~~ ~~and~~ easement dedication to ensure that all significant natural resources are protected.
- H. A conceptual public facilities and services plan for the provision of sanitary sewer, water, storm drainage, transportation, parks and police and fire protection. The plan shall, consistent with OAR Chapter 660, Division 11, include preliminary cost estimates and funding strategies, including likely financing approaches.
- I. A conceptual school plan that provides for the amount of land and improvements needed, if any, for school facilities on new or existing sites that will serve the territory added to the UGB. The estimate of need shall be coordinated with affected local governments and special districts.
- J. An urban growth diagram for the designated planning area showing, at least, the following, when applicable:
1. General locations of arterial, collector and essential local streets and connections and necessary public facilities such as sanitary sewer, storm sewer and water to demonstrate that the area can be served;
 2. Location of steep slopes and unbuildable lands including but not limited to wetlands, floodplains and riparian areas;
 3. Location of Habitat Conservation Areas;
 - ~~34.~~ General locations for mixed use areas, commercial and industrial lands;
 - ~~45.~~ General locations for single and multi-family housing;
 - ~~56.~~ General locations for public open space, plazas and neighborhood centers; and
 - ~~67.~~ General locations or alternative locations for any needed school, park or fire hall sites.
- K. The plan amendments shall be coordinated among the city, county, school district and other service districts.

EXHIBIT E—ORDINANCE NO. 05-1077

**METRO CODE CHAPTER 3.07
URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN**

TITLE 13 MODEL ORDINANCE

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Section 1. Intent

The purpose of this ordinance is to comply with Section 5 of Title 13 of Metro’s Urban Growth Management Functional Plan.

- A. To protect and improve the following functions and values that contribute to fish and wildlife habitat in urban streamside areas:
 - 1. Microclimate and shade;
 - 2. Stream-flow moderation and water storage;
 - 3. Bank stabilization, sediment and pollution control;
 - 4. Large wood recruitment and retention and channel dynamics; and
 - 5. Organic material sources.

- B. To protect and improve the following functions and values that contribute to upland wildlife habitat in new urban growth boundary expansion areas:
 - 1. Large habitat patches
 - 2. Interior habitat
 - 3. Connectivity and proximity to water
 - 4. Connectivity and proximity to other upland habitat areas

- C. To establish High, Moderate, and Low Habitat Conservation Areas (HCA) to implement the performance standards of Title 13 of the Urban Growth Management Functional Plan.

- D. To provide clear and objective standards and a discretionary process for development within regionally significant fish and wildlife habitats in compliance with Statewide Land Use Planning Goal 5.

Section 2. Relationship to Water Quality Resource Area and Flood Management Area, Consistency with Other Regulations

- A. The requirements of this Code [i.e., the city’s or county’s entire zoning code] related to development in Water Quality Resource Areas and Flood Management Areas located within HCAs apply in addition to requirements specified in this ordinance.

- B. Where the provisions of this ordinance are less restrictive than comparable provisions of the zoning ordinance, regional, state, or federal law, the provisions that are more restrictive shall govern. Where this ordinance imposes restrictions that are more stringent than regional, state, and federal law, the provisions of this ordinance shall govern.

Section 3. Applicability and Map Administration

- A. This ordinance applies to all development on real property lots or parcels that contain or include any Habitat Conservation Areas (“HCAs”), provided, however, that the requirements of sections 5 through 9 of this ordinance do not apply to the uses and activities described in section 4 of this

ordinance. HCAs are those areas identified on the HCA map, as refined in the map verification process described in subsection 3(B) of this ordinance.

B. Map Administration.

1. Exempt development. As provided in subsection 4(C)(10), development that is no closer than 100 feet to the border of an HCA (including all impervious surfaces and landscaping) based on the HCA map may proceed without having to comply with this section or the requirements of sections 5 through 9 of this ordinance.
2. Verification of the location of HCAs as described in this section shall not be considered a comprehensive plan amendment.
3. At any time, a property owner, or another person with the property owner's consent, may request to verify the location of HCAs on a real property lot or parcel pursuant to this section 3 of this ordinance. If a person receives such a verification separate from a simultaneous request for a building permit, grading permit, tree removal permit, land division approval, or some other land use decision, then the person may use the verification to satisfy the requirements of this section at any time up until five years after the date the verification was issued.
4. Basic Verification Approaches. The basic verification approaches described in subsections 4(a) through (c) of this ordinance are available for applicants who believe that the HCA map is accurate, that there is a simple incongruity between the HCA map and the boundary lot lines of a property, or that the property was developed prior to the effective date of this ordinance or two years after acknowledgement of the regional program, whichever is earlier.
 - a. *Applicant Believes HCA Map is Accurate.* An applicant who believes that the HCA map is accurate and will not use the discretionary approval approach described in section 7 of this ordinance may comply with this subsection 3(B)(4)(a) of this ordinance. The applicant shall submit the following information regarding the real property lot or parcel:
 - i. A detailed property description;
 - ii. A copy of the applicable HCA map;
 - iii. A summer 2005 aerial photograph of the property, with lot lines shown, at a scale of at least 1 map inch equal to 50 feet for lots of 20,000 or fewer square feet, and a scale of 1 map inch equal to 100 feet for larger lots (available from the Metro Data Resource Center, 600 N.E. Grand Ave., Portland, OR 97232; 503-797-1742);
 - iv. The information described in subsection 6(B) of this ordinance if the applicant proposes development within any HCA consistent with section 6 of this ordinance; and
 - v. Any other information that the applicant wishes to provide to support the assertion that the HCA map is accurate.
 - b. *Obvious Incongruities Between Mapped Habitat and Property Lot Lines.* The HCA map was created based, in part, on the type of vegetated cover on properties as depicted on detailed aerial photographs. That analysis mapped the vegetated cover into a geographical information system (GIS) database, and that information was then cross-correlated with a GIS database from local assessors' offices depicting the lot line boundaries of properties in their

jurisdiction. In some cases, the two databases do not align precisely with one another, resulting in some habitat designations on properties where the existence, type, and shape of habitat is not disputed, but its precise location may be misrepresented in relation to the property's lot lines. An applicant who believes that the HCA map is inaccurate based on such an obvious incongruity between mapped habitat and mapped property lot lines and will not use the discretionary approval approach described in section 7 of this ordinance may comply with this subsection 3(B)(4)(b) of this ordinance. The applicant shall submit the following information regarding the real property lot or parcel:

- i. The information described in subsections 3(B)(4)(a)(i) through (iv) of this ordinance; and
 - ii. A detailed, clear, and documented explanation of the incongruity between the HCA map and the property's boundary lines. For example, an applicant could compare the boundary lot lines shown for roads within 500 feet of a property with the location of such roads as viewed on the aerial photograph of the area surrounding a property to provide evidence of the scale and amount of incongruity between the HCA maps and the property lot lines, and the amount of adjustment that would be appropriate to accurately depict habitat on the property.
- c. *Property Developed Between Summer 2002 And Approval of Regional Program.* As noted above, the HCA map was created based, in part, on the type of vegetated cover on properties as depicted on detailed aerial photographs taken in the summer of 2002. Applicants who believe that a property was developed between the time of the aerial photo used to determine the regional habitat inventory (summer 2002) and the time the regional program was approved and who will not use the discretionary approval approach described in section 7 of this ordinance may comply with this subsection 3(B)(4)(c) of this ordinance. The applicant shall submit the following information regarding the real property lot or parcel:
- i. The information described in subsection 3(B)(4)(a)(i) through (iv) of this ordinance;
 - ii. A summer 2002 aerial photograph of the property, with lot lines shown, at a scale of at least 1 map inch equal to 50 feet for lots of 20,000 or fewer square feet, and a scale of 1 map inch equal to 100 feet for larger lots (available from the Metro Data Resource Center, 600 N.E. Grand Ave., Portland, OR 97232; 503-797-1742);
 - iii. Any approved building permits or other development plans and drawings related to the development of the property that took place between summer 2002 and the time the regional program was approved; and
 - iv. A detailed and clear explanation, and supporting maps or drawings, indicating what new development occurred and where previously identified habitat no longer exists because it is now part of a developed area.
- d. *Notice requirements.* Upon receipt of a completed application pursuant to subsections 3(B)(4)(a) through (c) of this ordinance, the [Director] shall provide notice to Metro and to all property owners within 300 feet of the subject property and shall accept written public comments regarding the matter during a public comment period.
- i. The [Director] shall consider information submitted by the applicant and all other persons and shall confirm the location of any HCAs based on the HCA map, the information

- submitted by the applicant and other persons, and any additional information readily available, including information collected during a site visit to the lot or parcel.
- ii. The applicant and all persons that submitted written comments shall be provided with an explanation of its decision and the information on which it relied to make the decision.
- e. *Decision Process.* A decision made pursuant to subsection 3(B)(4)(d) of this ordinance may be an administrative decision.
5. Intermediate Verification Approach. The following intermediate verification approach is available for applicants who believe that the HCA map is inaccurate, are not able to use one of the basic verification approaches described in subsection 3(B)(4) of this ordinance, and will not use the discretionary approval approach described in section 7 of this ordinance.
- a. *Submittal requirements.* The applicant shall submit the following information regarding the real property lot or parcel:
 - i. The information described in subsections 3(B)(4)(a)(i) through (iv) of this ordinance;
 - ii. The information described in subsections 3(B)(4)(b)(ii) and 3(B)(4)(c)(ii) through (iv) of this ordinance, if the applicant believes such information is relevant to the verification of habitat location on the subject lot or parcel; and
 - iii. A detailed and clear explanation of why the HCA map is inaccurate and where any HCAs are located on the property based on the application of the verification criteria in subsection 3(B)(7) of this ordinance, and including factual documentation to support the analysis.
 - b. *Notice requirements.* Upon receipt of a completed application pursuant to this subsection 3(B)(5) of this ordinance, the Director shall provide notice to Metro and to all property owners within 300 feet of the subject property and shall accept written public comments regarding the matter during a public comment period.
 - i. The verification criteria in subsection 3(B)(7) of this ordinance shall be applied to confirm the location of any HCAs based on the HCA map, the information submitted by the applicant, information submitted by other persons, and any additional information readily available, including information collected during a site visit to the lot or parcel.
 - ii. The applicant and all persons that submitted written comments shall be provided with an explanation of its decision and the information on which it relied to make the decision.
 - c. *Decision process.* The decision under this subsection 3(B)(5) may be an administrative decision.
6. Detailed Verification Approach. All applicants who will use the discretionary approval process described in section 7 of this ordinance shall comply with this subsection 3(B)(6) of this ordinance. Any other applicant may choose to file a verification request consistent with this subsection 3(B)(6) of this ordinance.
- a. *Submittal requirements.* The applicant shall submit a report prepared and signed by either (1) a knowledgeable and qualified natural resource professional, such as a wildlife biologist,

botanist, or hydrologist, or (2) an engineer registered in Oregon to design public sanitary or storm systems, storm water facilities, or other similar facilities. Such report shall include:

- i. A description of the qualifications and experience of all persons that contributed to the report, and, for each person that contributed, a description of the elements of the analysis to which the person contributed;
 - ii. The information described in subsections 3(B)(4)(a)(i) through (iv) of this ordinance;
 - iii. The information described in subsections 3(B)(4)(b)(ii) and 3(B)(4)(c)(ii) through (iv) of this ordinance, if the applicant believes such information is relevant to the verification of habitat location on the subject lot or parcel;
 - iv. Additional aerial photographs if the applicant believes they provide better information regarding the property, including documentation of the date and process used to take the photos and an expert's interpretation of the additional information they provide;
 - v. A map showing the topography of the property shown by contour lines of 2 foot intervals for slopes less than 15% and by 10 foot intervals for slopes 15% or greater;
 - vi. Additional specific, objective, and clear information necessary to address each of the verification criteria in subsection 3(B)(7) of this ordinance, a description of where any HCAs are located on the property based on the application of the verification criteria in subsection 3(B)(7) of this ordinance, and factual documentation to support the analysis.
- b. *Notice requirements.* Upon receipt of a completed application pursuant to this subsection 3(B)(5) of this ordinance, the Director shall provide notice to Metro and to all property owners within 300 feet of the subject property and shall accept written public comments regarding the matter during a public comment period.
- i. The verification criteria in subsection 3(B)(7) of this ordinance shall be applied to confirm the location of any HCAs based on the HCA map, the information submitted by the applicant, and any additional information readily available, including information collected during a site visit to the lot or parcel.
 - ii. The applicant and all persons that submitted written comments shall be provided with an explanation of its decision and the information on which it relied to make the decision.
- c. *Decision process.* The decision under this subsection 3(B)(5) may be an administrative decision.
7. Verification Criteria. The verification of the location of HCAs shall be according to the three-step process described in this subsection 3(B)(7) of this ordinance. A verification application shall not be considered complete and shall not be granted unless all the information required to be submitted with the verification application has been received.
- a. *Step 1. Verifying boundaries of inventoried riparian habitat.* Locating habitat and determining its riparian habitat class is a four-step process:
 - i. Locate the Water Feature that is the basis for identifying riparian habitat.

- (A) Locate the top of bank of all streams, rivers, and open water within 200 feet of the property.
 - (B) Locate all flood areas within 100 feet of the property..
 - (C) Locate all wetlands within 150 feet of the property based on the Local Wetland Inventory map (if completed) and on the Metro 2002 Wetland Inventory Map (available from the Metro Data Resource Center, 600 N.E. Grand Ave., Portland, OR 97232; 503-797-1742). Identified wetlands shall be further delineated consistent with methods currently accepted by the Oregon Division of State Lands and the U.S. Army Corps of Engineers.
- ii. Identify the vegetated cover status of all areas on the property that are within 200 feet of the top of bank of streams, rivers, and open water, are wetlands or are within 150 feet of wetlands, and are flood areas and within 100 feet of flood areas.
 - (A) Vegetated cover status shall be as identified on the Metro Vegetated Cover Map (available from the Metro Data Resource Center, 600 N.E. Grand Ave., Portland, OR 97232; 503-797-1742).
 - (B) In terms of mapping the location of habitat, the only allowed corrections to the vegetative cover status of a property are those based on an area being developed prior to the time the regional program was approved (see subsection 3(B)(4)(c) of this ordinance, above) and those based on errors made at the time the vegetative cover status was determined based on analysis of the summer 2002 aerial photographs. Applicants who wish to assert the latter type of error shall do so as part of a detailed map verification application submitted pursuant to subsection 3(B)(6) of this ordinance.
 - iii. Determine whether the degree that the land slopes upward from all streams, rivers, and open water within 200 feet of the property is greater than or less than 25% (using the methodology as described in [city or county should insert a reference to the city or county code section that describes the methodology used to identify Water Quality Resource Areas pursuant to Title 3 of the Urban Growth Management Functional Plan]); and
 - iv. Identify the riparian habitat classes applicable to all areas on the property using Table 1 and the data identified in subsections 3(B)(7)(a)(i) through (iii).
- b. *Step 2. Verifying boundaries of inventoried upland habitat in future urban growth boundary expansion areas.* The process described below shall be used to verify the location of upland habitat areas:
 - i. Identify the vegetated cover status of all areas on the property.
 - (A) Vegetated cover status shall be as identified on the Metro Vegetated Cover Map used to inventory habitat at the time the area was brought within the urban growth boundary (available from the Metro Data Resource Center, 600 N.E. Grand Ave., Portland, OR 97232; 503-797-1742).
 - (B) In terms of mapping the location of habitat, the only allowed corrections to the vegetative cover status of a property is determined based on analysis of the aerial

photographs used to inventory the habitat at the time the area was brought within the urban growth boundary. Applicants who wish to assert the latter type of error shall do so as part of a detailed map verification application submitted pursuant to subsection 3(B)(6) of this ordinance.

Table 1: Method for Locating Boundaries of Class I and II Riparian Areas

Distance in feet from Water Feature	Development/Vegetation Status ¹			
	Developed areas not providing vegetative cover	Low structure vegetation or open soils	Woody vegetation (shrub and scattered forest canopy)	Forest Canopy (closed to open forest canopy)
Surface Streams				
0-50	Class II	Class I	Class I	Class I
50-100		Class II ²	Class I	Class I
100-150		Class II ² if slope>25%	Class II ² if slope>25%	Class II ²
150-200		Class II ² if slope>25%	Class II ² if slope>25%	Class II ² if slope>25%
Wetlands (Wetland feature itself is a Class I Riparian Area)				
0-100		Class II ²	Class I	Class I
100-150				Class II ²
Flood Areas (Undeveloped portion of flood area is a Class I Riparian Area)				
0-100			Class II ²	Class II ²

¹The vegetative cover type assigned to any particular area was based on two factors: the type of vegetation observed in aerial photographs and the size of the overall contiguous area of vegetative cover to which a particular piece of vegetation belonged. As an example of how the categories were assigned, in order to qualify as “forest canopy” the forested area had to be part of a larger patch of forest of at least one acre in size.

²Areas that have been identified as habitats of concern, as designated on the Metro Habitats of Concern Map (on file in the Metro Council office), shall be treated as Class I riparian habitat areas in all cases, subject to the provision of additional information that establishes that they do not meet the criteria used to identify habitats of concern as described in Metro’s Technical Report for Fish and Wildlife. Examples of habitats of concern include: Oregon white oak woodlands, bottomland hardwood forests, wetlands, native grasslands, riverine islands or deltas, and important wildlife migration corridors.

- c. *Step 3. Urban Development Value of the Property.* The urban development value of property designated as regionally significant habitat is depicted on the Metro Habitat Urban Development Value Map (available from the Metro Data Resource Center, 600 N.E. Grand Ave., Portland, OR 97232; 503-797-1742).
 - i. A property’s urban development value designation shall be adjusted upward if the Metro 2040 Design Type designation for the property lot or parcel has changed from a category designated as a lower urban development value category to one designated as a higher urban development value category. 2040 Design Type designations are identified on the Metro 2040 Applied Concept Map (also available from the Metro Data Resource Center, 600 N.E. Grand Ave., Portland, OR 97232; 503-797-1742).
 - ii. Properties in areas designated on the 2040 Applied Concept Map as the Central City, Regional Centers, Town Centers, and Regionally Significant Industrial Areas are

considered to be of high urban development value; properties in areas designated as Main Streets, Station Communities, Other Industrial Areas, and Employment Centers are of medium urban development value; and properties in areas designated as Inner and Outer Neighborhoods and Corridors are of low urban development value.

- iii. As designated in Title 13 of Metro’s Urban Growth Management Functional Plan, properties owned by a regionally significant educational or medical facility are designated as high urban development value.
- d. *Step 4. Cross-Reference Habitat Class With Urban Development Value.* City and county verification of the locations of High, Moderate, and Low Habitat Conservation Areas shall be consistent with Tables 2 and 3.

Table 2: Method for Identifying Habitat Conservation Areas (“HCA”)

Fish & wildlife habitat classification	High Urban development value¹	Medium Urban development value²	Low Urban development value³	Other areas: Parks and Open Spaces, no design types outside UGB
Class I Riparian	Moderate HCA	High HCA	High HCA	High HCA / High HCA+ ⁴
Class II Riparian	Low HCA	Low HCA	Moderate HCA	Moderate HCA / High HCA+ ⁴

NOTE: The default urban development value of property is as depicted on the Metro Habitat Urban Development Value Map. The Metro 2040 Design Type designations provided in the following footnotes are only for use when a city or county is determining whether to make an HCA adjustment.

¹Primary 2040 design type: Regional Centers, Central City, Town Centers, and Regionally Significant Industrial Areas

²Secondary 2040 design type: Main Streets, Station Communities, Other Industrial areas, and Employment Centers

³Tertiary 2040 design type: Inner and outer neighborhoods, Corridors

⁴Cities and counties shall give parks designated as natural areas in Class I and II riparian habitat even greater protection than that afforded to High Habitat Conservation Areas.

Table 3: Method for Identifying Habitat Conservation Areas (“HCA”) in Future Urban Growth Boundary Expansion Areas

Fish & wildlife habitat classification	High Urban development value¹	Medium Urban development value²	Low Urban development value³	Other areas: Parks and Open Spaces, no design types outside UGB
Class I Riparian	Moderate HCA	High HCA	High HCA	High HCA / High HCA+ ⁴
Class II Riparian	Low HCA	Low HCA	Moderate HCA	Moderate HCA / High HCA+ ⁴
Class III Riparian	Low HCA	Low HCA	Low HCA	Moderate HCA / High HCA+ ⁴
Class A Upland Wildlife	Low HCA	Moderate HCA	Moderate HCA	High HCA / High HCA+ ⁴
Class B Upland Wildlife	Low HCA	Low HCA	Moderate HCA	Moderate HCA / High HCA+ ⁴

NOTE: The default urban development value of property is as depicted on the Metro Habitat Urban Development Value Map. The Metro 2040 Design Type designations provided in the following footnotes are only for use when a city or county is determining whether to make an HCA adjustment.

¹Primary 2040 design types: Regional Centers, Central City, Town Centers, and Regionally Significant Industrial Areas

²Secondary 2040 design types: Main Streets, Station Communities, Other Industrial areas, and Employment Centers

³Tertiary 2040 design types: Inner and outer neighborhoods, Corridors

⁴Cities and counties shall give parks designated as natural areas in Class I and II riparian habitat even greater protection than that afforded to High Habitat Conservation Areas.

Section 4. Exempt Uses and Activities

The following uses and activities are exempt from the requirements of this chapter:

- A. Change of ownership.
- B. Emergency procedures or activities undertaken which are necessary to remove or abate hazards and nuisances or for the protection of public health, safety and welfare and that require remedial or preventative action in a timeframe too short to allow for compliance with the requirements of this Chapter. After the emergency, the person or agency undertaking the action shall fully restore any impacts to the HCA resulting from the emergency action .
- C. Limited types of development, redevelopment, operations, and improvements, including the following:
 - 1. Maintenance, alteration, expansion, repair and replacement of existing structures, and exterior improvements.
 - a. Existing residential and non-residential structures may be rebuilt if damaged by fire or other natural hazards provided the structure is placed within the same foundation lines (“building footprint”); or
 - b. The alteration, expansion, or replacement of a structure that will not intrude more than 500 sq. ft. into the HCA, and so long as the new intrusion is no closer to the protected water feature than the pre-existing structure or improvement.

2. Maintenance, alteration, repair, and replacement of roads and utilities when no additional incursion into the HCA is proposed.
3. Owners and residents of residential properties where construction of the residence was completed prior to January 1, 2006 shall not be restricted from engaging in any use of their developed residential properties that they could have undertaken prior to September 1, 2005, without having to obtain a land use decision or a building, erosion control, or grading permit.
4. Maintenance of existing gardens, pastures, lawns and landscape perimeters, including the installation of new irrigation systems within existing gardens, pastures, lawns, and landscape perimeters.
5. Farming practices and the construction of farm structures on farm use land situated outside the Metro UGB and within an exclusive farm use zone established under ORS 215.203 or within an area designated as marginal land under ORS 197.247 (1991 Edition). "Farming practice" as used in this subsection shall have the meaning set out in ORS 30.930.
6. Forest practices on forestlands situated outside the Metro UGB, except as provided in ORS 527.722(2), (3) and (4). "Forest practices" and "forestlands" as used in this subsection shall have the meaning set out in ORS 30.930.
7. Operation, maintenance, and repair of manmade water control facilities such as irrigation and drainage ditches, constructed ponds or lakes, wastewater facilities, and stormwater detention or retention facilities.
8. Maintenance and repair of existing streets, railroads, shipping terminals, and utilities within rights-of-way, easements, and access roads.
9. Removal of plants identified as nuisance or prohibited plants on the *Metro Native Plant List* and the planting or propagation of plants identified as native plants on the *Metro Native Plant List*.
10. Existing water-dependent uses that can only be carried out on, in, or adjacent to water because they require access to the water for waterborne transportation or recreation.
11. Based on existing HCA mapping without going through the map verification process a property owner may designate a specific building site, including building footprint and related site improvements, within the site. This may be accomplished without an HCA map verification providing that no boundary of the proposed building site is closer than 100 feet to an HCA.
12. A building permit for a phased development project for which the applicant has previously met the application requirements, so long as the site for new construction was identified on the original permit and no new portion of the HCA will be disturbed.
13. Minor encroachments not to exceed 120 sq. ft. of impervious surface such as accessory buildings, eave overhangs, exterior building improvements for access and exiting requirements or other similar features.
14. Projects with the primary purpose of restoring or enhancing wetlands, streams, or fish and wildlife habitat areas, provided that the project is part of an approved local, state, or federal restoration or enhancement plan.

15. Temporary and minor clearing not to exceed 200 square feet for the purpose of site investigations and pits for preparing soil profiles, provided that such areas are restored to their original condition when the investigation is complete.
16. Low-impact outdoor recreation facilities, outside of Title 3 Water Quality Resource Areas, including, but not limited to, public multi-use paths, access ways, trails, picnic areas, or interpretive and educational displays and overlooks, including benches and outdoor furniture that meet the following requirements:
 - a. Contain less than 500 sq. ft. of new impervious surface; and
 - b. If trails, constructed using non-hazardous, pervious materials with maximum width of four feet.

Section 5. Uses Allowed Under Prescribed Conditions

The following uses are allowed when the prescribed conditions are met.

- A. Within Multnomah County Drainage District No. 1, Peninsula Drainage District No. 1, Peninsula Drainage District No. 2, and the area managed by the Sandy Drainage Improvement Company, routine operations, repair, maintenance, reconfiguration, rehabilitation, or replacement of existing drainage, flood control, and related facilities, including any structures, pump stations, water control structures, culverts, irrigation systems, roadways, utilities, accessory uses (such as off-load facilities that facilitate water-based maintenance), erosion control projects, levees, soil and bank stabilization projects, dredging and ditch clearing within the hydraulic cross-section in existing storm water conveyance drainageways, or other water quality and flood storage projects required to be undertaken pursuant to ORS chapters 547 or 554 or Titles 33 or 44 of the Code of Federal Regulations, provided that:
 1. The project is consistent with all other applicable local, state, and federal laws and regulations;
 2. Where practicable, the project does not encroach closer to a surface stream or river, wetland, or other body of open water than existing operations and development; and
 3. Where practicable, vegetation native to the Metro Area is maintained, enhanced and restored, if disturbed; other vegetation is replaced, if disturbed, with any vegetation other than invasive non-native or noxious vegetation; and the planting of native vegetation and removal of invasive non-native or noxious vegetation is encouraged.
- B. Any activity that is required to implement a Federal Aviation Administration (FAA) - compliant Wildlife Hazard Management Plan (WHMP) on property owned by the Port of Portland within 10,000 feet of an Aircraft Operating Area, as defined by the FAA, shall not have to comply with subsection 7(E), 8(D)(2) or 8(D)(3) of this ordinance. In addition, mitigation required pursuant to subsection 7(F) or 8(D)(4) of this ordinance as part of any development on property owned by the Port of Portland within 10,000 feet of an Aircraft Operating Area, as defined by the FAA, shall be permitted at any property within the Metro region if on-site mitigation would conflict with a FAA-compliant WHMP.

Section 6. Prohibitions

The planting or propagation of any plant identified as a nuisance plant or a prohibited plant on the *Metro Native Plant List* is prohibited in HCAs.

Section 7. Development Standards

The development standards described in this section apply to all development and redevelopment on properties with Habitat Conservation Areas, unless exempted in Section 4, conditioned in Section 5 or the applicant chooses to follow discretionary process in Section 8.

A. Intent. These provisions are intended to:

1. Allow and encourage habitat-friendly development while minimizing the impact on fish and wildlife habitat functions.
2. Provide clear and objective standards for development within Habitat Conservation Areas.

B. Process. Application for a land use, building, grading, land division, or other development permit through the clear and objective process may be an administrative decision made by the [city/county] Planning Director (ministerial "Type I" decision).

C. Application Requirements. Applications for a building permit or development permit must provide a site plan and accompanying narrative explanation that includes the following information in addition to any other building permit or development permit requirements. All of the application requirements must be met prior to approval of a building or development permit.

1. For the entire subject property (HCA and non-HCA)
 - a. Location of all High, Moderate, and Low HCAs on site;
 - b. Outline of any existing disturbance area, including the location of existing streets and paved areas, utilities, culverts, stormwater management facilities, or bridges;
 - c. Location of any wetlands or water bodies on the site or within 50 feet (suggestion was made to make this 300 feet to be consistent with map verification process) of the site;
 - d. Location of 100 year floodplain and floodway boundary as defined by the Federal Emergency Management Agency (FEMA) and the area of the 1996 flood inundation;
 - e. Topography shown by contour lines of 2-ft. intervals for slopes less than 15% and by 10 ft. intervals for slopes 15% or greater. On sites that are two acres or larger, such a contour map is required only for the portion of the site to be developed.
2. Detailed site plan of proposed development outlining total disturbance area, including, but not limited to, proposed building footprints, site improvements, utilities and landscaping.
3. If any proposed development will extend into one or more designated HCAs on the site, the following additional information shall be provided:

- a. The location of trees greater than six inches diameter at breast height (DBH), identified by size and species. When trees are located in clusters they may be described by the approximate number of trees, the diameter range, and a listing of dominant species;
 - b. The distribution outline of trees less than six inches diameter at breast height (DBH), shrubs and ground covers, with a list of the most abundant species;
 - c. An outline of the proposed disturbance area that identifies the vegetation that will be removed. All trees to be removed with a diameter of six inches or greater shall be specifically identified as to number, trunk diameters, and species;
 - d. If grading will occur within the HCA, a grading plan showing the proposed alteration of the ground at 1-ft. vertical contours in areas of slopes less than 5%, and 2-ft. vertical contours in areas of slopes 6-15%, and at 5-ft. vertical contours of slopes 15% or greater.
4. Whether or not the proposed development will extend into a designated HCA on the site, the applicant will provide a construction management plan, including:
- a. Location of site access and egress that construction equipment will use;
 - b. Equipment and material staging and stockpile areas;
 - c. Erosion and sediment control measures;
 - d. Measures to protect trees and other vegetation located outside the disturbance area.
- D. Incentives for avoiding Habitat Conservation Areas. The following habitat-friendly development practices may be used to avoid or minimize development within HCAs by allowing flexible site design.
1. ***Building setback flexibility*** allowed to avoid or minimize development within HCAs.
 - a. The maximum front building setback shall be no greater than the minimum front building setback of the base zone. On a lot with more than one front lot line, this standard applies to the front lot line that is farthest from the HCA. In zones with no minimum setback, the maximum setback is 10-ft.
 - b. The minimum front and street building setback and garage entrance setback of the base zone may be reduced to any distance between the base zone minimum and zero. Where a side lot line is also a street lot line, the side building and garage entrance setback may be reduced to any distance between the base zone minimum and zero.
 2. ***Flexible landscaping requirements*** to avoid or minimize development within HCAs.
 - a. Landscaping requirements may be met by preserving the HCA.
 - b. Facilities that infiltrate stormwater onsite may be included within the HCA so long as forest canopy is not removed, such as:
 - i. Vegetated swales

- ii. Grassed swales
 - iii. Rain gardens
 - iv. Vegetated filter strip
 - v. Vegetated infiltration basin
3. ***Flexible Site Design*** (On-site Density Transfer) to avoid or minimize development within HCAs.
- a. ***Residential.*** For residential development proposals on lands with a HCA, a transfer of density within the site is permitted. The Expected Maximum Density is calculated by multiplying the total acreage of the property by the maximum density permitted in the applicable zoning district.
 - b. ***Commercial and Industrial Zones.*** For on-site density transfers in Commercial or Industrial zones, the transfer credit is 10,000 sq. ft (FAR) per acre of land within the HCA.
 - c. ***Mixed-Use Zones.*** Within mixed-use zones the density transfer credit can be factored using either 3a. or 3b. above, depending on the type of development proposed.
 - d. The owner of the transferring property shall execute a covenant with the authorizing agency that records the transfer of units. The covenant must be recorded before building permits are issued. No additional application or review requirements are required other than those described in this ordinance.
 - e. In order to accommodate the transferred density, dimensional standards and lot sizes may be adjusted by 30 percent.
 - f. All remaining HCA shall be permanently restricted from development and maintained for habitat functions, such as by making a public dedication or executing a restrictive covenant.
4. ***Site Capacity Incentives.*** The following site capacity standards provide flexibility in the design of land divisions in order to allow ways to better protect HCAs.
- a. Density bonus if HCA is protected. In multi-family residential zones, a 25 percent density bonus may be allowed for any development of four (4) or more dwelling units if 75 percent or more of the HCA on a site is permanently preserved, such as by making a public dedication or executing a restrictive covenant. The bonus density shall be in addition to the base density allowed in the applicable zoning district.
 - b. All area within a HCA, or any portion of it, may be subtracted from the calculations of net size for purposes of determining minimum density provided that such area is protected, such as by making a public dedication or executing a restrictive covenant. This provision may only be applied to properties that were inside the Metro UGB on January 1, 2002.
 - c. ***Optional:*** Transfer of development rights (off-site) in residential zones. Transfer of development rights preserves development opportunities and reduces development pressure on environmentally-sensitive sites. The regulations described below allow development rights to be transferred from sites with HCAs off-site to areas that can accommodate the additional density without environmental conflict. Transfer of development rights between

sites is allowed as follows. “Development rights” are the number of potential dwelling units that would be allowed on the site by the base zone.

- i. Sending sites. Sites where at least 50 percent of the site is within a HCA may transfer development rights.
- ii. Receiving sites.

Option 1: All sites in 2040 Mixed-Use areas may receive development rights from sending sites except:

- (A) Where any portion of the receiving site is within a HCA; or
- (B) Where any portion of the receiving site is in the undeveloped 100-year floodplain as currently defined by the Federal Emergency Management Agency (FEMA).

Option 2: City or county may identify receiving sites upon adoption of this ordinance to be selected using the criteria in Option 1. The resulting map or criteria to identify receiving sites may include fewer sites than Option 1.

- iii. Maximum density. The density of the receiving site may not exceed 200 percent of the allowable density of the receiving site.
- iv. In order to accommodate the transferred density, dimensional standards and lot sizes may be adjusted by 30 percent.
- v. Transfer procedure. Transfer of development rights is allowed as follows:
 - (A) Covenant required. The owner of the sending site must execute a covenant with the authorizing authority that reflects the reduced development potential on the sending site. The covenant must be recorded before approval of the final plan. Density transfers shall be recorded on the title of the sending lot in the HCA and on the title of the transfer (receiving) lot.
 - (B) Sending site included. The sending site must be a part of the application for development on the receiving site. A copy of the covenant for the sending site must be included with the application.
 - (C) City or county may purchase development rights from sending sites to place in a development rights bank for later sale to developers to use on receiving sites.

E. Development within HCAs. The following development standards apply to all development that occurs within the HCA and is not exempt in Section 4 or conditioned in Section 5. If all development occurs outside of an HCA on a site, these standards do not apply.

1. ***Disturbance area limitations*** to minimize impact to HCA.
 - a. *Single-family residential.* The maximum disturbance area (MDA) allowed within HCAs is determined by subtracting the area of the lot or parcel outside of the HCAs from the total disturbance area calculated as described in Table 4 below.

- i. Low HCAs are not subject to disturbance area limitations.
- ii. Calculation of maximum disturbance area. If a lot or parcel includes both High and Moderate HCAs then:
 - (A) If there is more High HCA than Moderate HCA on the lot or parcel, then the MDA shall be calculated as if all of the Moderate and High HCA were High, per Table 4 below; or
 - (B) If there is more Moderate HCA than High HCA on the lot or parcel, then the MDA shall be calculated as if all of the Moderate and High HCA were Moderate, per Table 4 below.
- iii. Location of MDA. If a lot or parcel includes different types of HCAs, then:
 - (A) The amount of development that may occur within the High HCA is equal to the total disturbance area minus the area of the lot or parcel outside of the High HCA. If the area of the lot or parcel outside the High HCA is greater than the total disturbance area, then development shall not occur within the High HCA; and
 - (B) The amount of development that may occur within the Moderate HCA is equal to the total disturbance area minus the area of the lot or parcel outside of the Moderate HCA. If the area of the lot or parcel outside the Moderate HCA is greater than the total disturbance area, then development shall not occur within the Moderate HCA.

Table 4. HCA Total Disturbance Area Limitations for SFR.

HCA type	Total Disturbance Area
High	50 percent of the lot area, up to maximum of 5,000 sq. ft.
Moderate	65 percent of the lot area, up to maximum of 6,000 sq. ft.
Low	No disturbance area limitation

- b. *All other zones.* The maximum disturbance area (MDA) allowed within a HCA is specified in Table YY below.
 - i. Low HCAs are not subject to disturbance area limitations.
 - ii. MDA in Moderate and High HCAs is allowed by right in these zones, per Table 5 below, subject to mitigation requirements described in Section 7(F).

Table 5. HCA Disturbance Area Limitations for all zones other than SFR.

HCA type	Maximum Disturbance Area
High	10 percent of HCA on site
Moderate	15 percent of HCA on site
Low	100 percent of HCA on site

- 2. **Protection of habitat during site development.** During development of any site containing a HCA, the following standards apply:
 - a. Work areas shall be marked to reduce potential damage to the HCA.

- b. Trees in HCAs shall not be used as anchors for stabilizing construction equipment.
 - c. Conserve on-site native soil and vegetation for stormwater management.
 - d. An erosion and sediment control plan is required and shall be prepared in compliance with requirements set forth in the [*locally adopted Title 3 erosion control regulations*];
 - e. Prior to construction, the HCA that is to remain undeveloped shall be flagged, fenced, or otherwise marked and shall remain undisturbed.
 - f. All work on the site shall conform to the Construction Management Plan described in subsection 7 (C)(4).
3. ***Utility facility standards.*** The following standards apply to new utilities, private connections to existing or new utility lines, and upgrades of existing utility lines within a HCA:
- a. The disturbance area for utility facility connections to utility facilities is no greater than 10 feet wide.
 - b. The disturbance area for the upgrade of existing utility lines is no greater than 15 feet wide.
 - c. No fill or excavation is allowed within the ordinary high water mark of a stream.
 - d. Mitigation is required as described in subsection E below.
4. ***Subdivision standards.*** The purpose of this section is to require that new subdivision plats delineate and show the Moderate and High HCAs as a separate non-buildable tract.
- a. The applicant must place at least 90% of a High HCA and 80% of a Moderate HCA in a separate tract.
 - i. If over 50% of the HCA on a site is of a High designation, the entire calculation is for High (i.e., 90% of the HCA must be placed within a separate tract).
 - ii. If over 50% of the HCA on a site is of a Moderate designation, the entire calculation is for Moderate (i.e., 80% of the HCA must be placed within a separate tract).
 - b. If the tract is to serve as the backyard for residences, the minimum backyard requirement is reduced to 10 ft.
 - c. The standards for land divisions in Moderate and High HCAs shall apply in addition to the requirements of the city/county land division ordinance and zoning ordinance.
 - d. Prior to preliminary plat approval, the Moderate and/or High HCA shall be shown as a separate tract, which shall not be a part of any parcel used for construction of a dwelling unit.
 - e. Prior to final plat approval, ownership of the HCA tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:
 - i. Private natural area held by the owner or homeowners association; or

- ii. For residential land divisions, private natural area subject to an easement conveying storm and surface water management rights to the city/county and preventing the owner of the tract from activities and uses inconsistent with the purpose of this ordinance; or
- iii. At the owner's option, public natural area where the tract has been dedicated to the city/county or other governmental unit, or a private non-profit with the mission of land conservation.

F. Mitigation requirements for disturbance in HCAs. Tree replacement and vegetation planting are required when development intrudes into a HCA according to the following standards. An applicant must meet Mitigation Option 1 or 2, whichever results in more vegetation planting.

1. ***Vegetation standards.***

- a. Replacement trees must be at least one-inch in diameter; shrubs must be in at least a 2-gallon container or the equivalent in ball and burlap.
- b. Shrubs must consist of at least two different species.
- c. All trees and shrubs must be native plants selected from the *Metro Native Plant List*.
- d. All vegetation must be planted on the applicant's site.

2. ***Mitigation Option 1.*** In this option, the mitigation requirement is calculated based on the number and size of trees that are removed from the site. Trees that are removed from the site must be replaced as shown in Table 6.

- a. Conifers must be replaced with conifers.

Table 6. Tree Replacement

Size of tree to be removed (inches in diameter)	Number of trees and shrubs to be planted
6 to 12	2 trees and 3 shrubs
13 to 18	3 trees and 6 shrubs
19 to 24	5 trees and 12 shrubs
25 to 30	7 trees and 18 shrubs
over 30	10 trees and 30 shrubs

3. ***Mitigation Option 2.*** In this option, the mitigation requirement is calculated based on the size of the disturbance area within a HCA.

- a. Native trees and shrubs are required to be planted at a rate of three trees and four shrubs per every 500 square feet of disturbance area.

Section 8. Discretionary Review

The discretionary review standards described in this section may be applied to all development in HCA that is not exempted in Section 4, conditioned in Section 5 and does not comply with the development standards in Section 7.

A. Purpose.

1. Allow and encourage habitat-friendly development while minimizing the impact on fish and wildlife functions.
2. Provide a mechanism to modify the development standards if the proposed development or activity can meet the purpose.
3. Provide flexibility for unique situations.

B. Process.

1. Discretionary review is required for all development in a HCA that is not exempted in Section 4, conditioned in Section 5 and does not meet the development standards in Section 7.
2. Application for a land use, building, grading, land division, or other development permit through the discretionary review process may be an administrative decision made by the [city/county] Planning Director (quasi-judicial "Type II" decision).

C. Incentives for avoiding and minimizing impacts to HCAs.

1. Property owners may use any of the approaches included in Section 7(D) to avoid and/or minimize impacts to HCAs.
2. In particular, all area within a HCA, or any portion of it, may be subtracted from the calculations of net size for purposes of determining minimum density provided that such area is protected, such as by making a public dedication or executing a restrictive covenant. This provision may only be applied to properties that were inside the Metro UGB on January 1, 2002.

D. Application Requirements. In addition to the application requirements described in Section 6, an applicant must provide a supplemental narrative that includes:

1. The supplemental narrative for subsection 8(D)(2) and 8(D)(4) shall be prepared and signed by either (1) a knowledgeable and qualified natural resource professional, such as a wildlife biologist, botanist, or hydrologist, or (2) an engineer registered in Oregon to design public sanitary or storm systems, storm water facilities, or other similar facilities. The narrative shall include a description of the qualifications and experience of all persons that contributed to the report, and, for each person that contributed, a description of the elements of the analysis to which the person contributed.
2. ***Impact evaluation.*** An impact evaluation is required to determine compliance with the approval criteria and to evaluate development alternatives for a particular site. The alternatives must be evaluated on the basis of their impact on the HCA and habitat functional values of the site. To the extent that the site resources and functional values are part of a larger natural system such as a watershed, the evaluation must also consider the cumulative impacts on that system. The impact evaluation shall include all of the following items:

- a. Identification of the ecological functional values of riparian habitat found on the site as described in Table 7 below.
- b. For upland habitat in future urban growth boundary expansion areas, identification of the impact the proposed development would have on the following ecological functional values:
 - i. Habitat patch size,
 - ii. Interior habitat,
 - iii. Connectivity of the habitat to water, and
 - iv. Connectivity of the habitat to other habitat areas.
- c. Evaluation of alternative locations, design modifications, or alternative methods of development to determine which options reduce the significant detrimental impacts on the HCAs and the ecological functional values of the site. At a minimum, the following items must be considered:
 - i. Multi-story construction,
 - ii. Minimizing building footprint,
 - iii. Siting of a residence close to the street,
 - iv. Maximizing the use of native landscaping materials, and
 - v. Minimizing parking area and garage space.
- d. Determination of the alternative that best meets the applicable approval criteria and identification of significant detrimental impacts that are unavoidable.

Table 7. Ecological functional values of riparian corridors.

Ecological function	Landscape features providing functional values
Microclimate and shade	Forest ¹ or woody vegetation within 100 feet of a stream; a wetland ² ; or a flood area ³ .
Streamflow moderation and water storage	A wetland or other water body ⁴ with a hydrologic connection to a stream; or a flood area ³ .
Bank stabilization, sediment and pollution control	A 50-foot band is included within the riparian corridor as a default to maintain basic functions. All sites within 50 feet of a surface stream receive a primary score; and/or Forest, woody vegetation, or low structure vegetation/undeveloped soils within 100 feet of a stream or a wetland; or forest, woody vegetation, or low structure vegetation/ undeveloped soils within a flood area; and/or Forest, woody vegetation, or low structure vegetation/undeveloped soils within 100-200 feet of a stream if the slope is greater than 25%.
Large wood and channel dynamics	Forest within 150 feet of a stream or wetland; or within a flood area; and/or The channel migration zone is basically defined by the floodplain, but where there is no mapped floodplain a default of 50 feet was selected to allow for the channel migration zone.
Organic material sources	Forest or woody vegetation within 100 feet of a stream or wetland; or within a flood area.

¹Only trees that are part of a minimum patch size of 1 acre are mapped as regionally significant habitat. The entire forest patch may not be on one property.

²Refers to "hydrologically-connected wetlands," which are located partially or wholly within ¼ mile of a surface stream or flood area.

³Developed floodplains are not included as a regionally significant resource since they do not receive a primary ecological function score.

⁴"Other water body" could include lakes, ponds, reservoirs, or manmade water feature that is not a water quality facility or farm pond.

3. **Construction management plan.** The applicant must submit a construction management plan that includes the following items:
 - a. Identify measures that will be taken during construction to protect the ecological functions of the remaining HCA at or near the construction site and a description of how undisturbed areas will be protected;
 - b. Location of site access and egress that construction equipment will use;
 - c. Equipment and material staging and stockpile areas;
 - d. Erosion and sediment control measures;
 - e. Measures to protect trees and other vegetation located outside the disturbance area.

4. **Mitigation plan.** The purpose of a mitigation plan is to compensate for unavoidable significant detrimental impacts to ecological functions that result from the chosen development alternative as identified in the impact evaluation. A mitigation plan shall include:
 - a. An explanation of how the proposed mitigation will adequately compensate for the impacts to ecological function described in the impact evaluation required by subsection 8(C)(2).
 - b. Documentation of coordination with appropriate local, regional, special district, state, and federal regulatory agencies.

- c. A list of all responsible parties.
- d. A site plan showing where the specific mitigation activities will occur.
- e. Monitoring and evaluation procedures.
- f. An implementation schedule, including timeline for construction, mitigation, mitigation maintenance, monitoring, reporting and a contingency plan. All in-stream work in fish-bearing streams shall be done in accordance with the Oregon Department of Fish and Wildlife in-stream timing schedule.

E. Approval Criteria.

1. All application requirements in subsection 8(C) must be met.
2. ***Avoid.*** An applicant must first avoid the intrusion of development into the HCA to the extent practicable. The development that is proposed must have less detrimental impact to HCAs than other practicable alternatives, including significantly different alternatives that propose less development within HCAs. If a proposed alternative would result in a reduction in the fair market value of the property it shall not be considered practicable.
3. ***Minimize.*** The development proposed by the applicant within the HCA must minimize detrimental impacts to the extent practicable. If proposed alternatives to minimize detrimental impacts would result in a reduction in the fair market value of the property it shall not be considered practicable.
 - a. Development must minimize detrimental impacts to ecological functions loss of habitat consistent with uses allowed under base zone;
 - b. The proposed development shall be designed, located, and constructed to:
 - i. Minimize grading and lot disturbance;
 - ii. Minimize disturbance of native soils and reduce the removal of native soils;
 - iii. Minimize removal of native vegetation;
 - iv. Maximize amendments to topsoil to original or higher level of porosity and water retention capacity; and
 - v. Minimize adverse hydrological impacts on water resources.
4. ***Mitigate.*** Development must mitigate for adverse impacts to the HCA. The applicant may choose to comply with Mitigation Option 1 subsection 8(D)(4)(b) or Mitigation Option 2 subsection 8(D)(4)(c). All proposed mitigation plans must meet the standards in subsection 8(D)(4)(a).
 - a. Mitigation standards.

- i. The mitigation plan must demonstrate that it compensates for detrimental impacts to ecological function in HCAs.
 - ii. Mitigation must occur on the site of the disturbance, to the extent feasible and appropriate. All revegetation must be done using native plants listed on the *Metro Native Plan List*.
 - iii. If on-site mitigation is not feasible or appropriate, then the applicant must possess a legal instrument, such as an easement, sufficient to carry out and ensure the success of mitigation off-site. The mitigation must occur in the same subwatershed (6th Field Hydrologic Unit Code) as the proposed use or development, except when the purpose of the mitigation could provide more ecological functional value if implemented outside the subwatershed.
 - iv. Where the proposed mitigation includes alteration or replacement of development in a stream channel, wetland, or other water body, there will be no detrimental impact related to the migration, rearing, feeding, or spawning of fish.
- b. Mitigation Option 1. Mitigation Option 1 allows the applicant to choose from a menu of habitat-friendly development practices and use a set mitigation ratio.
- i. Menu of Habitat-Friendly Development Practices. Meaningfully and effectively incorporate a minimum of five (5) of the habitat-friendly development practices in Table 8, unless technically infeasible.

Table 8. Habitat-friendly development practices.

Impervious surfaces reduction, on-site stormwater management and other habitat-friendly practices

<ol style="list-style-type: none"> 1. Minimize clearing and grading to the maximum extent possible. 2. Amend disturbed soils to regain infiltration and stormwater storage capacity. 3. Reduce lot sizes, setbacks and shape standards to allow for cluster development. 4. Use Transfer of Development Rights (TDR) to preserve natural features. 5. Reduce building footprint. 6. Use minimal excavation foundation systems to reduce grading (e.g., pier, post or piling foundation). 7. Use pervious paving for walkways and parking areas in place of traditional impervious materials. 8. Reduce sidewalk width and grade them such that they drain to the front yard of a residential lot or retention area. 9. Reduce impervious impacts of residential driveways by narrowing widths, moving access to the rear of the site, and using more pervious paving materials. 10. Use shared driveways where appropriate. 11. Reduce width of residential streets, depending on traffic and parking needs. 12. Reduce street length, primarily in residential areas, by encouraging clustering and using curvilinear designs. 13. Reduce cul-de-sac radii and use pervious vegetated islands in center to minimize impervious effects. 14. Consider alternative paving materials within center of cul-de-sac and/or allow cul-de-sac to be utilized for truck maneuvering/loading to reduce need for wide loading areas on site. 15. Eliminate redundant non-ADA sidewalks within a site (i.e., sidewalk to all entryways and/or to truck loading areas may be unnecessary for industrial developments). 16. Design roads to incorporate stormwater management in right-of-ways where appropriate. 17. Use multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems. 18. Minimize car spaces and stall dimensions, reduce parking ratios, use shared parking facilities and structured parking, and use pervious paving materials where appropriate to reduce impervious surfaces in parking lots. 19. Use bioretention cells as rain gardens in landscaped parking lot islands to reduce runoff volume and filter pollutants. 	<ol style="list-style-type: none"> 20. Use green roofs for runoff reduction, energy savings, improved air quality, and enhanced aesthetics. 21. Disconnect downspouts from roofs and direct the flow to vegetated infiltration/filtration areas such as rain gardens. 22. Retain rooftop runoff in a rain barrel for later on-lot use in lawn and garden watering. 23. Landscape with rain gardens to provide on-lot detention, filtering of rainwater, and groundwater recharge. 24. Apply a treatment train approach to provide multiple opportunities for storm water treatment and reduce the possibility of system failure. 25. Minimize the number of stream crossings and place crossing perpendicular to stream channel if possible. 26. Use bridge crossings rather than culverts wherever possible. 27. If culverts are utilized, install slab, arch or box type culverts, preferably using bottomless designs that more closely mimic stream bottom habitat. 28. Design stream crossings for fish passage with shelves and other design features to facilitate terrestrial wildlife passage. 29. Allow narrow street right-of-ways through stream corridors whenever possible to reduce adverse impacts of transportation corridors. 30. Extend vegetative cover through the wildlife crossing in the migratory route, along with sheltering areas. 31. Carefully integrate fencing into the landscape to guide animals toward the crossings. 32. Reduce light-spill off into HCA from development. 33. Use native plants throughout the development (not just in HCA). 34. Donate HCA to public or other organization to be maintained in a natural state. 35. Locate landscaping (required by other sections of the code) adjacent to HCA.
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- ii. Mitigation ratios for Option 1. The applicant must mitigate for disturbance of HCAs as described in Table 9.

Table 9. Mitigation ratios.

HCA Class	Mitigation Ratio <i>(Area mitigated to area disturbed)</i>
High	1.5:1
Moderate	1:1
Low	0.5:1

- c. Mitigation Option 2. Mitigation Option 2 allows the applicant to meet a goal for Effective Impervious Area (EIA) and therefore reduce their mitigation requirement.
 - i. If the applicant chooses to use habitat-friendly development practices to achieve an EIA within one of the ranges in Table 10, the required mitigation as described in Option 1 will be reduced by the percentage specified in Table 9 (e.g., if the applicant’s development proposal would achieve less than 10% EIA and the mitigation requirements in Option 1 would result in 1,000 sq. ft. of mitigation, the mitigation requirement would be reduced to 25%, resulting in only 250 sq. ft. of mitigated area).

Table 10. Percent of mitigation requirement (from Table 9) based on level of EIA achieved.

HCA Class	Percent of Mitigation Requirement		
	<i>21-40% EIA</i>	<i>10-20% EIA</i>	<i><10% EIA</i>
High	75%	50%	25%
Moderate	75%	50%	25%
Low	75%	25%	0%

- 5. **Mitigation maintenance plan.** An appropriate long-term mitigation maintenance plan must be included as a condition of development.

Section 9. Variances

- A. The purpose of this Section is to ensure that compliance with this ordinance does not cause unreasonable hardship. To avoid such instances, the requirements of this ordinance may be varied. Variances are also allowed when strict application of this ordinance would deprive an owner of all economically viable use of land.
- B. This Section applies in addition to the standards governing proposals to vary the requirements of the base zone.
- C. Notice of variance applications shall be provided:
 - 1. Upon receiving an application to vary the requirements of this ordinance, the notice shall be provided to all property owners within 300 feet of the subject property inside the urban growth boundary, and within 500 feet of the subject property outside the urban growth boundary and Metro.
 - 2. Within seven (7) days of a decision on the variance, the notice shall be provided to all property owners within 300 feet of the subject property inside the urban growth boundary, and within 500 feet of the subject property outside the urban growth boundary and Metro.

- D. Hardship Variance. Variances to avoid unreasonable hardship caused by the strict application of this ordinance are permitted subject to the criteria set forth in this section. To vary from the requirements of this ordinance, the applicant must demonstrate the following:
1. The variance is the minimum necessary to allow the proposed use or activity;
 2. Unless the proposed variance is from Section 7(E) or 8(D)(4) (mitigation), the proposed use will comply with those standards, as applicable; and
 3. The proposed use complies with the standards of the base zone.
- E. Buildable Lot Variance. A variance to avoid the loss of all economically viable use of a lot that is partially inside a HCA is permitted. Applicants must demonstrate the following:
1. Without the proposed variance, the applicant would be denied economically viable use of the subject property. To meet this criterion, the applicant must show that:
 - a. The proposed use cannot meet the standards in Section 9(D) (hardship variance); and
 - b. No other application could result in permission for an economically viable use of the subject property. Evidence to meet this criterion shall include a list of uses allowed on the subject property.
 2. The proposed variance is the minimum necessary to allow for the requested use;
 3. The proposed variance will comply with Section 7(E) or 8(D)(4) (mitigation); and
 4. The proposed use complies with the standards of the base zone.
- F. Variance Conditions. Conditions may be imposed to limit any adverse impacts that may result from granting any variance.

Section 10. Severability

The provisions of this ordinance are severable. If any section, clause, or phrase of this ordinance is adjudged to be invalid by a court of competent jurisdiction, the decision of that court shall not affect the validity of the remaining portions of this ordinance.

Section 11. Definitions

Unless specifically defined below, words or phrases used in this section shall be interpreted to give them the same meaning as they have in common usage and to give this classification its most reasonable application.

Building site- The area on a lot or parcel that is designated to contain a structure, impervious surface, or non-native landscaping.

Building footprint - The area that is covered by buildings or other roofed structures. A roofed structure includes any structure more than 6 feet above grade at any point, and that provides an impervious cover over what is below. Building footprint also includes uncovered horizontal structures such as decks,

stairways and entry bridges that are more than 6 feet above grade. Eaves are not included in building coverage. Underground facilities and structures are defined based on the foundation line.

Developed areas not providing vegetative cover - are areas that lack sufficient vegetative cover to meet the one-acre minimum mapping units of any other type of vegetative cover.

Developed floodplain - Any man-made change to improved or unimproved lands within a FEMA defined floodplain, including but not limited to buildings or other structures, dredging, filling, grading, paving, excavation, or storage of equipment and materials.

Development - Any man-made change defined as buildings or other structures, mining, dredging, paving, filling, or grading in amounts greater than ten (10) cubic yards on any lot or excavation, and any other activity that results in the removal of trees and native vegetation. In addition, any other activity that results in the cumulative removal of more than either 10 percent or 20,000 square feet of the vegetation in the Habitat Conservation Areas on the lot in any five-year period is defined as development. Development does not include the following: a) Stream enhancement or restoration projects approved by cities and counties; b) Farming practices as defined in ORS 30.930 and farm use as defined in ORS 215.203, except that buildings associated with farm practices and farm uses are subject to the requirements of Title 3; and c) Construction on lots in subdivisions meeting the criteria of ORS 92.040(2) (1995).

Disturb - Man-made changes to the existing physical status of the land, which are made in connection with development. The following uses are excluded from the definition:

- enhancement or restoration of the Water Quality Resource Area;
- planting native cover identified in the Metro Native Plant List.

Disturbance Area -. An area that contains all temporary and permanent development, exterior improvements, and staging and storage areas on the site. For new development the disturbance area must be contiguous. The disturbance area does not include agricultural and pasture lands or naturalized areas.

Ecological functions - The primary biological and hydrologic characteristics of healthy fish and wildlife habitat. Riparian ecological functions include microclimate and shade, streamflow moderation and water storage, bank stabilization and sediment/pollution control, sources of large woody debris and natural channel dynamics, and organic material sources. Upland wildlife ecological functions include size of habitat area, amount of habitat with interior conditions, connectivity of habitat to water resources, connectivity to other habitat areas, and presence of unique habitat types.

Effective Impervious Area - A subset of total impervious area that is hydrologically connected via sheet flow or discrete conveyance to a drainage system or receiving body of water

Emergency - any man-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to, fire, explosion, flood, severe weather, drought earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease.

Engineer - A registered professional engineer licensed by the State of Oregon.

Enhancement - the process of improving upon the natural functions and/or values of an area or feature that has been degraded by human activity. Enhancement activities may or may not return the site to a pre-disturbance condition, but create/recreate beneficial processes and features that occur naturally.

Erosion - Erosion is the movement of soil particles resulting from actions of water or wind.

Fill - any material such as, but not limited to, sand, gravel, soil, rock or gravel that is placed in a Title 3 wetland or floodplain for the purposes of development or redevelopment.

Floodplain - The land area identified and designated by the United States Army Corps of Engineers, the Oregon Division of State Lands, FEMA, or (identify name) county/city that has been or may be covered temporarily by water as a result of a storm event of identified frequency. It is usually the flat area of land adjacent to a stream or river formed by floods.

Floodway - The portion of a watercourse required for the passage or conveyance of a given storm event as identified and designated by the (identify name) city/county pursuant to this Ordinance. The floodway shall include the channel of the watercourse and the adjacent floodplain that must be reserved in an unobstructed condition in order to discharge the base flood without flood levels by more than one foot.

Flood Management Areas - all lands contained within the 100-year floodplain, flood area and floodway as shown on the Federal Emergency Management Agency Flood Insurance Maps and the area of inundation for the February 1996 flood. In addition, all lands which have documented evidence of flooding.

Flood areas - those areas contained within the 100-year floodplain, flood area and floodway as shown on the Federal Emergency Management Agency Flood Insurance Maps and all lands that were inundated in the February 1996 flood (note that areas that were mapped as flood areas but were filled to a level above the base flood level prior to September 30, 2005, consistent with all applicable local, state, and federal laws shall no longer be considered habitat based on their status as flood areas).

Floor Area Ratio (FAR) - The amount of floor area in relation to the amount of site area, expressed in square feet. For example, a floor area ratio of 2 to 1 means two square feet of floor area for every one square foot of site area.

Forest Canopy - areas that are part of a contiguous grove of trees of one acre or larger in area with approximately 60% or greater crown closure, irrespective of whether the entire grove is within 200 feet of the relevant water feature.

Habitat Conservation Area or HCA - An area identified on the Habitat Conservation Areas Map and subject to the development standards.

Habitat-friendly development - A method of developing property that has less detrimental impact on fish and wildlife habitat than does traditional development methods. Examples include clustering development to avoid habitat, using alternative materials and designs such as pier, post, or piling foundations designed to minimize tree root disturbance, managing storm water on-site to help filter rainwater and recharge groundwater sources, collecting rooftop water in rain barrels for reuse in site landscaping and gardening, and reducing the amount of effective impervious surface created by development.

Invasive Non-native or Noxious Vegetation - Plant species that are listed as nuisance plants or prohibited plants on the Metro Native Plant List as adopted by Metro Council resolution because they are plant species that have been introduced and, due to aggressive growth patterns and lack of natural enemies in the area where introduced, spread rapidly into native plant communities.

Lot - Lot means a single unit of land that is created by a subdivision of land. (ORS 92.010).

Low structure vegetation or open soils - areas that are part of a contiguous area one acre or larger of grass, meadow, crop-lands, or areas of open soils located within 300 feet of a surface stream (low structure vegetation areas may include areas of shrub vegetation less than one acre in size if they are contiguous with areas of grass, meadow, crop-lands, orchards, Christmas tree farms, holly farms, or areas of open soils located within 300 feet of a surface stream and together form an area of one acre in size or larger).

Mitigation - The reduction of adverse effects of a proposed project by considering, in the order: a) avoiding the impact all together by not taking a certain action or parts of an action; b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; c) rectifying the impact by repairing, rehabilitating or restoring the affected environment; d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action by monitoring and taking appropriate measures; and e) compensating for the impact by replacing or providing comparable substitute water quality resource areas or habitat conservation areas.

Native Vegetation or Native plant - Vegetation listed as a native plant on the Metro Native Plant List as adopted by Metro Council resolution and any other vegetation native to the Portland metropolitan area provided that it is not listed as a nuisance plant or a prohibited plant on the Metro Native Plant List.

Open Space - Land that is undeveloped and that is planned to remain so indefinitely. The term encompasses parks, forests and farmland. It may also refer only to land zoned as being available to the public, including playgrounds, watershed preserves and parks.

Owner or Property Owner - The person who is the legal record owner of the land, or where there is a recorded land sale contract, the purchaser thereunder.

Parcel - Parcel means a single unit of land that is created by a partitioning of land. (ORS 92.010).

Phased development project - A phased development plan includes the following:

- A site plan showing the proposed final development of the site and phases, including the initial and interim phases.
- A written statement describing each phase, including the potential uses, and the approximate timeline for each phase of development.

Practicable - means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose. The practicability of a development option shall include consideration of the type of HCA that will be affected by the proposed development. For example, High HCAs have been so designated because they are areas that have been identified as having lower urban development value and higher-valued habitat, so it should be more difficult to show that alternative development options that avoid the habitat are not practicable. On the other hand, Low HCAs have been so designated because they are areas that have been identified as having higher urban development value and lower-valued habitat, so it should be less difficult to show that alternative development options that avoid the habitat are not practicable. The application of any requirement that would result in a reduction in the fair market value of a property shall not be considered practicable.

Redevelopment – Development that occurs on sites that have previously been developed.

Restoration - the process of returning a disturbed or altered area or feature to a previously existing natural condition. Restoration activities reestablish the structure, function, and/or diversity to that which occurred prior to impacts caused by human activity.

“Resource” versus “Facility” - The distinction being made is between a “resource,” a functioning natural system such as a wetland or stream; and a “facility” which refers to a created or constructed structure or drainage way that is designed, constructed and maintained to collect and filter, retain, or detain surface water run-off during and after a storm event for the purpose of water quality improvement.

Riparian - Those areas associated with streams, lakes and wetlands where vegetation communities are predominately influenced by their association with water.

Routine Repair and Maintenance - activities directed at preserving an existing allowed use or facility, without expanding the development footprint or site use.

Set-back Adjustment - The placement of a building a specified distance away from a road, property line or protected resource.

Significant Negative Impact - an impact that affects the natural environment, considered individually or cumulatively with other impacts on the HCA, to the point where existing fish and wildlife habitat functional values are degraded.

Statewide Land Use Planning Goal 5 - Oregon’s statewide planning goal that addresses open space, scenic and historic areas, and natural resources. The purpose of the goal is to conserve open space and protect natural and scenic resources.

Steep slopes - Steep slopes are those slopes that are equal to or greater than 25%. Steep slopes have been removed from the “buildable lands” inventory and have not been used in calculations to determine the number of acres within the urban growth boundary that are available for development.

Stormwater Pre-treatment Facility – any structure or drainage way that is designed, constructed, and maintained to collect and filter, retain, or detain surface water run-off during and after a storm event for the purpose of water quality improvement.

Stream - a body of running water moving over the earth’s surface in a channel or bed, such as a creek, rivulet or river. It flows at least part of the year, including perennial and intermittent streams. Streams are dynamic in nature and their structure is maintained through build-up and loss of sediment.

Structure - A building or other major improvement that is built, constructed or installed, not including minor improvements, such as fences, utility poles, flagpoles or irrigation system components, that are not customarily regulated through zoning codes.

Top of Bank - The same as “bankful stage” defined in OAR 141-85-010.

Urban Development Value - The economic value of a property lot or parcel as determined by analyzing three separate variables: assessed land value, value as a property that could generate jobs (“employment value”), and the Metro 2040 design type designation of property. The urban development value of all properties containing regionally significant fish and wildlife habitat is depicted on the Metro Habitat Urban Development Value Map

Urban Growth Boundary or UGB - means an urban growth boundary adopted pursuant to ORS chapter 197.

Utility Facilities - buildings, structures or any constructed portion of a system which provides for the production, transmission, conveyance, delivery or furnishing of services including, but not limited to, heat, light, water, power, natural gas, sanitary sewer, stormwater, telephone and cable television. Utility facilities do not include stormwater pre-treatment facilities.

Variance - means a discretionary decision to permit modification of the terms of an implementing ordinance based on a demonstration of unusual hardship or exceptional circumstances unique to a specific property.

Water-Dependent – A use which can be carried out only on, in, or adjacent to water because it requires access to the water for waterborne transportation or recreation. Water-dependent also includes development, which by its nature, can be built only on, in, or over water. Bridges supported by piers or pillars, as opposed to fill, are water-dependent development.

Water Feature - All rivers, streams (regardless of whether they carry year-round flow, i.e., including intermittent streams), springs which feed streams and wetlands and have year-round flow, Flood Management Areas, wetlands, and all other bodies of open water

Watershed - A watershed is a geographic unit defined by the flows of rainwater or snowmelt. All land in a watershed drains to a common outlet, such as a stream, lake or wetland.

Wetlands - Wetlands are those areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support and under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands are those areas identified and delineated by a qualified wetland specialist as set forth in the 1987 Corps of Engineers Wetland Delineation Manual.

Woody Vegetation - areas that are part of a contiguous area one acre or larger of shrub or open or scattered forest canopy (less than 60% crown closure) located within 300 feet of a surface stream.

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EXHIBIT F—ORDINANCE NO. 05-1077

FINDINGS OF FACT AND CONCLUSIONS OF LAW.

[To be drafted prior to final adoption]

EXHIBIT F—ORDINANCE NO. 05-1077

**ATTACHMENT 1. METRO'S RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORIES REPORT**

This report is available upon request from the Metro Planning Department at 503.797.1555 or on Metro's website: <http://www.metro-region.org/>

EXHIBIT F—ORDINANCE NO. 05-1077

**ATTACHMENT 2. METRO'S TECHNICAL REPORT FOR FISH AND WILDLIFE
HABITAT**

This report is available upon request from the Metro Planning Department at 503.797.1555 or on Metro's website: <http://www.metro-region.org/>

EXHIBIT F—ORDINANCE NO. 05-1077

**ATTACHMENT 3. METRO’S PHASE I ECONOMIC, SOCIAL, ENVIRONMENTAL,
AND ENERGY (ESEE) ANALYSIS**

This report is available upon request from the Metro Planning Department at 503.797.1555 or on Metro’s website: <http://www.metro-region.org/>

EXHIBIT F—ORDINANCE NO. 05-1077

**ATTACHMENT 4. METRO’S PHASE II ECONOMIC, SOCIAL, ENVIRONMENTAL,
AND ENERGY (ESEE) ANALYSIS**

This report is available upon request from the Metro Planning Department at 503.797.1555 or on Metro’s website: <http://www.metro-region.org/>

EXHIBIT F – ORDINANCE NO. 05-1077
ATTACHMENT 5. SEPTEMBER 2004 HABITAT INVENTORY UPDATE

Habitat Class & Habitat Conservation Area (HCA)	Developed			Parks			Total Devel. & Park Habitat	Vacant				Total Vacant Habitat	Total Devel., Park & Vacant Habitat
	Inside Title 3 WQRA	Inside Title 3 FMA	Outside WQRA/ FMA	Inside Title 3 WQRA	Inside Title 3 FMA	Outside WQRA/ FMA		Constrained			Unconstrained Outside Title 3		
								Inside Title 3 WQRA	Inside Title 3 FMA	Other Constraints			
Class I riparian corridors													
High HCA	1,499	624	1,654	5,041	3,729	3,509	16,056	4,425	1,517	1,002	4,127	11,070	27,126
Moderate HCA	227	85	81	123	168	22	707	687	537	227	1,796	3,247	3,953
Low HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Allow	3	4	2	0	0	0	9	1	2	0	1	4	13
<i>Total acres</i>	<i>1,729</i>	<i>713</i>	<i>1,737</i>	<i>5,164</i>	<i>3,897</i>	<i>3,532</i>	<i>16,772</i>	<i>5,113</i>	<i>2,056</i>	<i>1,229</i>	<i>5,923</i>	<i>14,321</i>	<i>31,092</i>
Class II riparian corridors													
High HCA	2	1	2	1	1	4	11	1	1	0	1	4	14
Moderate HCA	742	163	1,121	350	667	602	3,645	778	480	253	1,742	3,254	6,899
Low HCA	303	142	325	7	17	5	799	312	378	162	795	1,646	2,445
Allow	2	7	7	0	0	1	17	0	4	1	2	7	24
<i>Total acres</i>	<i>1,049</i>	<i>312</i>	<i>1,455</i>	<i>359</i>	<i>685</i>	<i>612</i>	<i>4,471</i>	<i>1,092</i>	<i>862</i>	<i>416</i>	<i>2,540</i>	<i>4,910</i>	<i>9,382</i>
Class III riparian corridors													
High HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Moderate HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Low HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Allow	157	2,172	1,003	7	62	134	3,533	23	61	99	482	665	4,198
<i>Total acres</i>	<i>157</i>	<i>2,172</i>	<i>1,003</i>	<i>7</i>	<i>62</i>	<i>134</i>	<i>3,533</i>	<i>23</i>	<i>61</i>	<i>99</i>	<i>482</i>	<i>665</i>	<i>4,199</i>
Class A wildlife habitat													
High HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Moderate HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Low HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Allow	63	34	2,537	107	51	6,858	9,649	201	32	891	6,254	7,379	17,028
<i>Total acres</i>	<i>63</i>	<i>34</i>	<i>2,537</i>	<i>107</i>	<i>51</i>	<i>6,858</i>	<i>9,649</i>	<i>201</i>	<i>32</i>	<i>891</i>	<i>6,254</i>	<i>7,379</i>	<i>17,028</i>
Class B wildlife habitat													
High HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Moderate HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Low HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Allow	27	7	3,343	16	8	1,323	4,724	97	25	716	7,312	8,150	12,874
<i>Total acres</i>	<i>27</i>	<i>7</i>	<i>3,343</i>	<i>16</i>	<i>8</i>	<i>1,323</i>	<i>4,724</i>	<i>97</i>	<i>25</i>	<i>716</i>	<i>7,312</i>	<i>8,150</i>	<i>12,874</i>
Class C wildlife habitat													
High HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Moderate HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Low HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Allow	14	16	1,901	16	13	805	2,766	81	70	459	3,776	4,386	7,152
<i>Total acres</i>	<i>14</i>	<i>17</i>	<i>1,901</i>	<i>16</i>	<i>13</i>	<i>805</i>	<i>2,766</i>	<i>81</i>	<i>70</i>	<i>459</i>	<i>3,776</i>	<i>4,386</i>	<i>7,152</i>
Total Habitat	3,039	3,255	11,975	5,668	4,715	13,263	41,916	6,607	3,105	3,810	26,288	39,811	81,727

Habitat Class & Habitat Conservation Area	Developed			Parks			Total Devel. & Park Habitat	Vacant				Total Vacant Habitat	Total Devel., Park & Vacant Habitat
	Inside Title 3 WQRA	Inside Title 3 FMA	Outside WQRA/ FMA	Inside Title 3 WQRA	Inside Title 3 FMA	Outside WQRA/ FMA		Constrained			Uncon- strained Outside Title 3		
								Inside Title 3 WQRA	Inside Title 3 FMA	Other Con- straints			
Impact Areas													
High HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Moderate HCA	0	0	2	0	0	0	2	0	0	0	0	0	2
Low HCA	0	0	0	0	0	0	0	0	0	0	0	0	0
Allow	763	361	9,809	131	166	968	12,197	326	103	608	3,327	4,364	16,561
Total acres	763	361	9,811	131	166	968	12,200	327	103	608	3,327	4,365	16,564
Grand Total	3,802	3,616	21,786	5,799	4,882	14,231	54,116	6,934	3,208	4,419	29,615	44,175	98,291

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EXHIBIT F—ORDINANCE NO. 05-1077

ATTACHMENT 6. TUALATIN BASIN ESEE REPORT

This report is available upon request from the Metro Planning Department at 503.797.1555.

STAFF REPORT

IN CONSIDERATION OF ORDINANCE NO. 05-1077 AMENDING THE REGIONAL FRAMEWORK PLAN AND THE URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN RELATING TO NATURE IN NEIGHBORHOODS.

Date: April 14, 2005

Prepared by: Andy Cotugno and Chris Deffebach

Residents of the Metro region value having nature near where they live, work, and play and have expressed the desire to keep nature in neighborhoods as a legacy to future generations. The Metro Council has expressed, as one of four central goals for the region, the aspiration that “(t)he region’s wildlife and people thrive in a healthy urban ecosystem.” Nature in Neighborhoods is a regional habitat protection, restoration and greenspaces initiative that inspires, strengthens, coordinates, and focuses the activities of individuals and organizations that share an interest in the region’s fish and wildlife habitat, natural beauty, clean air and water, and outdoor recreation. Metro plays a leadership role in Nature in Neighborhoods, but recognizes that the protection and restoration of fish and wildlife habitat and the integration of greenspaces into the urban environment is a task of scope and magnitude beyond the reach of any one organization; it will take the coordinated and strategic action of many. This Ordinance addresses one component of the Nature in Neighborhoods initiative, establishing a consistent regional standard for fish and wildlife habitat protection that provides additional support for improving water quality.

CONTEXT AND BACKGROUND

Metro’s authority to plan for fish and wildlife habitat protection in the region derives from State Land Use Planning Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces. The Goal 5 administrative rule (OAR 660-023) recognizes Metro’s unique planning role and gives Metro the option to develop a functional plan to protect regionally significant fish and wildlife habitat (OAR 660-023-080(3)). In 1996 the Metro Council voted to recognize the regional significance of fish and wildlife habitat and include protection in the functional plan.

The region’s 2040 Growth Concept and other policies call for protection of natural areas while managing housing and employment growth. In 1998 the Metro Council adopted Title 3 of the Urban Growth Management Functional Plan to protect water quality and for flood management. Title 3 also included a commitment to develop a regional fish and wildlife habitat protection plan. As defined in a Vision Statement (Attachment 1) that was developed in cooperation with local governments through the Metro Policy Advisory Committee (MPAC) in 2000, the overall goal of the protection program is: “...to conserve, protect and restore a continuous ecologically viable streamside corridor... that is integrated with the urban environment.” The Vision Statement also refers to the importance that “...stream and river corridors maintain connections with adjacent upland habitats, form an interconnected mosaic of urban forest and other fish and wildlife habitat...”

Metro’s program is part of an agency-wide effort called “Nature in Neighborhoods,” which is described in Metro Resolution No. 05-3574. The Nature in Neighborhoods initiative includes

voluntary, incentive-based components that complement the development standards proposed in this ordinance.

The development standards proposed in this ordinance are consistent with one of the goals described in the Vision Statement to ensure contribution towards compliance with the federal Clean Water Act (CWA) and Endangered Species Act (ESA). Despite the adoption of Title 3 in 1998, the region's waterways are nevertheless still not in compliance with the water quality requirements of the CWA, and are soon to be the subject of a Total Maximum Daily Load rule promulgated by the Oregon Department of Environmental Quality. More needs to be done to improve the quality of the region's waterways and prevent future listings of species as threatened or endangered, and this program will take additional steps toward doing so.

Metro has completed development of a program to protect and restore fish and wildlife habitat, following the 3-step process established by the State Land Use Planning Goal 5 administrative rule (OAR 660-023). In the first step, Metro conducted a scientific analysis and inventory of the following Goal 5 resources: riparian corridors, associated wetlands, and wildlife habitat. A regional approach to inventorying natural resources required a consistent level of data and analysis across the entire Metro region. Metro's Fish and Wildlife Habitat Inventory is based on the best available information that can be applied consistently at a regional scale. Metro took an ecological functions approach to define and identify riparian corridors and wildlife habitat, based on its extensive scientific literature review. This approach combined geographic information system (GIS) mapping technology, scientific recommendations, and fieldwork. The methodology assigned values to resource features that allowed comparison of their cumulative importance. The upland wildlife habitat was evaluated separately from the riparian wildlife habitat areas. In 2002, after review by independent committees, local governments and residents, Metro Council endorsed the inventory of regionally significant fish and wildlife habitat lands (Resolution No. 02-3176 – riparian corridors, Resolution No. 02-3177A – upland habitat). The inventory includes about 80,000 acres of habitat land inside Metro's jurisdictional boundary. The habitat inventory is included in Exhibit F of this ordinance.

Upon completion of the habitat inventory, staff reviewed the habitat protection in each city and county within Metro's jurisdiction. The *Local Plan Analysis* (approved by Metro Council in Resolution No. 02-3218A, available in Metro Council office and on the internet at <http://www.metro-region.org/article.cfm?ArticleID=1047>) concluded that the standards to protect habitat varied from city to city, and that the most regionally consistent standards were those adopted by cities and counties to comply with Metro's water quality standards. The Metro Council directed staff to complete the second step of the Goal 5 planning process based on the conclusion that, while some cities and counties may provide adequate protection to regionally significant habitat, the level of protection varied substantially.

As described in Metro's *Local Plan Analysis*, cities and counties in the region currently have varying levels of protection for fish and wildlife habitat. As a result, cities and counties approach similar quality streams or upland areas in different parts of the region with inconsistent levels of protection. In addition, one ecological watershed can cross several different political jurisdictions – each with different approaches to habitat protection. With the adoption of the regional habitat protection program, cities and counties will adjust their protection levels to

establish a consistent minimum level of habitat protection. For some, this will mean minor modifications to their plans, for others more substantive changes will be necessary.

The second step of the Goal 5 review process is to evaluate the Economic, Social, Environmental and Energy (ESEE) consequences of a decision to allow, limit or prohibit conflicting uses on these regionally significant habitat lands and on impact areas adjacent to the habitat areas. As defined in the ESEE process, the impact areas added about 16,000 acres to the inventory. For the ESEE analysis, Metro classified fish and wildlife habitat based on the ecological function scores into six classes, under two main categories: Riparian/wildlife and Upland wildlife. Each class covers a geographically discrete portion of the inventory, and may include riparian and/or wildlife functions and also may be a Habitat of Concern. Class I Riparian/wildlife and Class A Upland wildlife are the highest value habitat. Metro Council endorsed combining the inventories for the ESEE analysis in Resolution No. 02-3218A. The September 2004 update of the fish and wildlife habitat inventory by habitat class and development status provides the most current acreage information on the habitat inventory (Exhibit F, Attachment 5).

As Metro began its work on the ESEE analysis, several local governments and special districts in the Tualatin Basin approached Metro with a proposal to conduct their own separate ESEE analysis and develop their own habitat protection program using Metro's habitat inventory. In January 2002 Metro entered into an intergovernmental agreement ("IGA") with these local governments and special districts in the Tualatin Basin setting forth a cooperative planning process to address regional fish and wildlife habitat within the basin. The IGA provided that the Tualatin Basin partners would submit their program and analysis to Metro for review and, if it met standards for habitat protection described in the IGA, then Metro would include it as part of the regional habitat protection program. Approximately 16,650 acres of Metro's habitat inventory are located within the jurisdiction of the local governments participating in the Tualatin Basin partnership and within the Metro boundary. Thus, as Metro began its ESEE analysis, the Tualatin Basin partners began their own analysis on a separate track, but closely coordinated with Metro's work.

Metro conducted the ESEE analysis in two phases. The first phase was to evaluate the ESEE consequences at a regional level. This work was completed and endorsed by the Metro Council in October 2003 (Resolution No. 03-3376B). The resolution directed staff to evaluate six regulatory program options and non-regulatory tools for fish and wildlife habitat protection in Phase II of the ESEE analysis.

The Phase II ESEE analysis, endorsed by Metro Resolution No. 04-3440A in May 2004, evaluated the ESEE consequences of possible protection and restoration options that included a mix of regulatory and non-regulatory components. Five potential regulatory treatments were applied in each of the six regulatory options, ranging from allowing conflicting uses to prohibiting conflicting uses in habitat and impact areas. The consequences identified the effects on key ESEE issues identified in the Phase I analysis, including:

- Economic implications of urban development and ecosystem values;
- Environmental effects including ecological function loss, fragmentation and connectivity;

- Social values ranging from property owner concerns about limitations on development to concerns about loss of aesthetic and cultural values; and
- Energy trade-offs such as temperature moderating effects of tree canopy and potential fuel use associated with different urban forms.

In addition, the analysis considered how well the six regulatory options would assist in meeting the requirements of the federal Endangered Species Act and the Clean Water Act. Phases I and II of the ESEE Analysis are as attachments to Exhibit F of this ordinance.

The third and final step of the Goal 5 review process is to develop a program that implements the habitat protection plan by ordinance through Metro's Urban Growth Management Functional Plan (UGMFP or Functional Plan) and Regional Framework Plan policies. After acknowledgment by the State Land Conservation and Development Commission, cities and counties within the Metro jurisdiction will be required to amend their comprehensive plans to be in compliance with the regional habitat protection program.

To develop a program that includes the development standards proposed in this ordinance, Metro reviewed local plans that protect fish and wildlife habitat, researched innovative habitat protection approaches in the Pacific Northwest and throughout the country, and consulted with local practitioners. This research, contained in the *Habitat Protection Tools Summary* (Attachment 3), informed the proposed development standards in the Functional Plan and the Model Ordinance.

Based on the Metro Council's review and consideration of the ESEE analysis and public comment, the Council further informed the direction of the habitat protection program. In August 2004, Council clarified that the regulatory program would not restrict currently allowed uses of residential properties in Resolution No. 04-3489A. In December 2004, the Metro Council approved Resolution No. 04-3506A, which directed staff to develop a fish and wildlife habitat protection program to reflect the following principles:

- Focus the regulatory element of the program on the most valuable Class I and II Riparian Habitat. This significantly reduced the area subject to new regulations. Thirty-six percent of the Class I and II habitat is covered by Title 3 Water Quality Resource Area standards, 21 percent is covered by Title 3 Flood Management Area balanced cut and fill requirements;
- Develop a strong voluntary, incentive-based approach to protect and restore regionally significant habitat, including Class III Riparian, and Class A and B upland habitat (described in *Nature in Neighborhoods Initiative*, Resolution No. 05-3574); and
- Apply regulations to limit development in Class III Riparian, and Class A and B upland habitat in future urban growth boundary expansion areas.

The Tualatin Basin partners completed their ESEE analysis and approved a program proposal on April 4, 2005, and forwarded it to the Metro Council for consideration (Resolution No. 05-3577). If approved by the Metro Council, the Tualatin Basin's final program will be incorporated into this ordinance. About 9,600 acres of Class I and II Riparian habitat on Metro's inventory are located within the Tualatin Basin partner jurisdictions and within the Metro boundary.

Current Action

Based on substantial committee review and outreach to stakeholders, Ordinance No. 05-1077 presents the staff recommendation for public comment and Metro Council consideration on an important component of the Nature in Neighborhoods program, the development standards for Class I and II riparian fish and wildlife habitat within the urban growth boundary, with the inclusion of additional protection for Class A and B upland habitats in future urban growth boundary expansion areas. These recommendations and the key issues for Council consideration are highlighted below.

REVIEW PROCESS

Public comment

The development standards in the proposed new Title 13 of the Urban Growth Management Functional Plan, Model Ordinance, and amendments to the Regional Framework Plan policies are being proposed for public review. It is intended that the public will review this proposal in late April and May, with more opportunity for public comment in late summer/early fall 2005 prior to final consideration by the Metro Council. A summary of public comments will be provided prior to final Council consideration.

Staff has met with numerous stakeholder groups on an on-demand basis throughout the program development phase.

Policy Review

The Metro Policy Advisory Committee reviewed the items proposed in this ordinance at several meetings. MPAC comments on larger policy issues have been incorporated into the proposal. Additionally, staff met with city and county councils upon request to provide further information on the proposal as it was developed.

The Water Resources Policy Advisory Committee (WRPAC) reviewed the development standards proposed in Title 13. Policy comments to date have been conveyed to the Metro Council and have been incorporated into the current proposal.

Technical Review

Several committees reviewed Metro's proposed amendments to the Functional Plan, and many of their comments and suggestions have been included in the proposal.

- The Fish and Wildlife Habitat Program Implementation Work Group was charged with providing advice to staff on the workability of proposed requirements to be included in the Functional Plan or a Model Ordinance. Members included developers, property owners, and local government planners who shared experiences and tools with staff as the program was developed.
- The Metro Technical Advisory Committee reviewed the Functional Plan and Model Ordinance.
- The Goal 5 Technical Advisory Committee reviewed the Functional Plan.

1. RECOMMENDATION ON DEVELOPMENT STANDARDS FOR CLASS I AND II RIPARIAN HABITAT AND CLASS A AND B UPLAND HABITAT IN NEW URBAN AREAS

Resolution No. 04-3506A, adopted by the Metro Council, supports developing flexible development standards that will protect streamside habitat (Class I and II Riparian) within the urban growth boundary and within the current Metro jurisdictional boundary, as well as upland habitat (Class A and B) in future urban growth boundary expansion areas. Of the 80,000 acres in Metro's regionally significant habitat inventory, about 44,000 are in Class I and II riparian habitats that are designated as Habitat Conservation Areas. Streamside habitat areas have the highest functional values in Metro's habitat inventory. Key facts about the streamside habitat areas include:

- ***Much of the area is covered by some standards.*** 36% of Class I and II is covered by Title 3 WQRA (subject to avoid-minimize-mitigate standard), an additional 21% is covered by FMA balanced cut and fill standard, for a total 57% covered by existing regional standards.
- ***Impact on vacant unconstrained land.*** 8,460 acres of vacant unconstrained land, most of which is located in the unincorporated portions of Clackamas, Multnomah and Washington counties and the City of Portland.
- ***Much of the Class I and II habitats are in parks.*** 35% of Class I and II habitat is in park use.

Expectations for urban-style development are different in areas that are brought inside the urban growth boundary in the future. Resolution No. 04-3506A supports protecting more types of habitat in these areas where it is easier to plan for a system of natural habitats integrated with the built environment. The proposed amendments to the Functional Plan and Framework Plan will guide how to plan for growth in new urban areas to account for the most valuable streamside (Class I and II) and upland (Class A and B) habitats.

The development standards included in proposed Title 13 of the Functional Plan would require changes in the way development occurs within Habitat Conservation Areas (HCAs) to ensure that impacts on fish and wildlife habitat are minimized while allowing urban-style development to occur. As proposed, Title 13 includes the following elements:

- Expansion of the water quality protection approach currently in place to encompass all of the most valuable streamside habitats (Class I and II Riparian) identified in Metro's inventory. The approach includes a requirement to first try to avoid habitat, then to minimize development impacts, and last to mitigate for lost habitat function. Metro includes a clear and objective approach (in the Model Ordinance – Exhibit E) and discretionary approach (in Model Ordinance – Exhibit E, and Functional Plan – Exhibit C), consistent with the Goal 5 rule.
- Under Title 3, certain geographic areas were exempted from the requirements to establish Water Quality Resource Areas and Flood Management Areas. These areas include portions of lower Willamette River (Portland Harbor), portions of the Rivergate industrial area in the Columbia Corridor, downtown Beaverton and Tualatin, and other areas determined to support water-dependent industrial uses. The Title 3 exemptions were given for a variety of reasons, a central one being to account

for the economic issues on these sites. Title 3 was carried out for flood management and water quality protection, and did not address fish and wildlife habitat protection. Additionally, Title 3 did not include an examination of the ESEE tradeoffs for fish and wildlife habitat. Substantial consideration to the economic concerns and unique role marine terminals play was included in Metro's ESEE analysis for this program. Therefore, the Title 3 exemptions have not been carried forward in Title 13.

- Habitat-friendly development practices such as clustering, density relaxation, and on-site stormwater management would be required where technically feasible in Habitat Conservation Areas.
- Development standards for Class A and B Upland Habitat in addition to streamside habitats in urban growth boundary expansion areas.
- Several options for city and county compliance, providing flexibility, but also development of a ready-to-implement Model Ordinance. Many cities could use or expand on existing programs to meet regional standards.
- Monitoring and reporting on regional progress.

Each section of Title 13 is described briefly below.

Section 1. Intent.

This section describes that the purpose of the program is two-fold, to achieve the goals described in the Vision Statement and to maintain and improve water quality. It states that the program will include an integrated approach combining voluntary, incentive-based and regulatory tools.

Section 2. Inventory and Habitat Conservation Areas.

This section describes the maps that form the basis of Metro's fish and wildlife habitat protection program. The maps include the inventory map and the Habitat Conservation Area (HCA) map. The HCA map identifies the areas subject to regulatory protection.

A limited few properties that would otherwise have been mapped as HCAs do not appear on the map, as they have been identified as so unique that their economic importance outweighed their fish and wildlife habitat values. Four properties are listed (International Terminal and Port of Portland Marine Terminals 4, 5 and 6), and the following criteria are included for the identification of other, similarly situated sites:

- Property is developed for use as an international marine terminal capable of mooring ocean-going ships, and
- The property is without substantial vegetative cover.

This section also provides that, for properties outside the Metro urban growth boundary but inside the Metro jurisdictional boundary, agricultural and forest activities may continue without new restrictions.

Section 3. Implementation Alternatives for Cities and Counties.

Consistent with Metro's goal of providing regional consistency and local opportunity for flexibility when implementing regional policies, Title 13 as proposed includes several options for a city or county to comply. Compliance with regional habitat protection requirements will also satisfy state requirements, reducing duplicative efforts. A Model Ordinance is included that

serves as one example of how cities and counties could comply with the Functional Plan.

Options for compliance include:

- Adopt Metro’s Model Code and habitat maps;
- Describe how an existing plan substantially complies with the provisions of the Functional Plan;
- Develop an innovative combination of regulatory and incentive-based programs that meet the habitat protection and restoration objectives; or
- Conduct a special planning process for an area (district) that comprises unique circumstances or challenges for a portion of a city or county (and apply one of the approaches in the previous three items across the rest of the city or county).

Metro’s Intergovernmental Agreement with the cities, counties and special districts in the Tualatin Basin is recognized in this section. The Tualatin Basin Partners include Washington County, the cities of Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, King City, Sherwood, Tigard, and Tualatin, as well as Clean Water Services and the Tualatin Hills Parks and Recreation Department. Cities and counties who have partaken in this agreement must amend their comprehensive plans and implementing ordinances to be in compliance with the provisions of the Tualatin Basin approach, which is under consideration by the Metro Council (Resolution No. 05-3577).

This section also includes additional items cities and counties must comply with, including:

- Providing a clear and objective standard as well as a discretionary option for property owners, consistent with the Goal 5 rule.
- Removing barriers in comprehensive plans and implementing ordinances to habitat-friendly development practices in all regionally significant fish and wildlife habitat areas.
- Including a reasonable, timely, and fair process for property owners to verify the location of habitat.
- Provisions to allow for the reduction of density requirements to protect all regionally fish and wildlife significant habitat.

Section 4. Performance Standards and Best Management Practices for Habitat Conservation Areas.

This section describes the performance standards and best management practices that allow development to occur in Habitat Conservation Areas while protecting habitat. Several general standards include:

- Title 3 Water Quality Resource Areas and Flood Management Areas standards still apply.
- Any activity on a property with a single-family home constructed prior to the effective date of the ordinance that would not have required a building, grading, or tree removal permit would be exempt from these standards. If a permit were required the standards would apply.
- Habitat-friendly development practices are required where technically feasible and appropriate to reduce the impacts on the habitat and water quality.

- Publicly-owned parks and open spaces that have been designated as natural areas must be provided with extra protection and special management practices to maintain habitat functions and values.
- Planting of native vegetation is encouraged, planting of invasive non-native species is prohibited, and removal of invasive non-native species is allowed.
- Routine repair, maintenance and replacement of existing structures, roads, utilities and other development are allowed, consistent with other applicable rules.
- Intensification of uses and/or upzoning on sites with HCAs is conditioned upon the restoration of habitat on the site.
- *Federal Aviation Administration Wildlife Hazard Management Plan.* Any activity that is undertaken on Port of Portland property within 10,000 feet of an Aircraft Operating Area that is necessary to comply with the Wildlife Hazard Management Plan is exempt from the requirements to avoid if practicable and to minimize intrusion into a Habitat Conservation Area. Any such intrusion must be mitigated, and the mitigation may occur off-site anywhere within the Metro region.
- *Multnomah County Drainage District No. 1, Peninsula Drainage Districts 1 & 2, and the area managed by the Sandy Drainage Improvement Company.* All of the activities undertaken to manage these flood areas are exempt from the development standards, subject to other applicable laws and the requirement to maintain native vegetation where practicable.

City and county comprehensive plans and implementing ordinances must contain development review standards that include a clear and objective approach and a discretionary approach. Metro has provided an example of a clear and objective approach in the Title 13 Model Ordinance (Exhibit E). The discretionary approval standards include a requirement for all development to first avoid the Habitat Conservation Areas, if practicable, then to minimize intrusion into them, and finally to mitigate to restore the habitat functions and values that were impacted. When implementing the avoid, minimize, and mitigate standard cities and counties are directed to consider the level of Habitat Conservation Area (high, medium, or low) to determine the “practicability” of avoiding habitat and the level of mitigation required. High Habitat Conservation Areas have high habitat value and medium or low urban development value, while Low Habitat Conservation Areas have lower-valued habitat and higher urban development value.

This section also describes the requirements to administer the Habitat Conservation Areas Map and provides a method for site-level verification of the habitat. The city or county is responsible for administering the Habitat Conservation Areas map, or a map that has been deemed by Metro to be in substantial compliance. A process for site-level verification must be included that is consistent with general requirements described in Title 13. The process described includes:

- Locating the habitat boundaries based on site-specific information and Metro’s maps.
- Determining the urban development value. There are two ways for the urban development value to change: 1) a change in the 2040 design type designation and 2) the property is owned by a regionally significant educational or medical facility.
- Cross-referencing the habitat class with the urban development value to determine the location of the high, moderate and low Habitat Conservation Areas on a property.

Section 5. Program Objectives, Monitoring, and Reporting.

As part of the Nature in Neighborhoods Initiative, Metro will lead the monitoring of the region's progress towards regional habitat objectives and also coordinate data collection throughout the region. As part of the monitoring and reporting element, Metro will track progress in habitat acquisition and restoration efforts and will continue to map the streams, wetlands, floodplains, vegetation and habitats of concern to monitor habitat quality and quantity by watershed. By coordinating with other agencies and jurisdictions that track stream and upland health Metro will present a regional scorecard of progress in achieving performance objectives. Keeping track of regional progress towards the objectives and targets for habitat protection and restoration will enable policy makers to evaluate the effectiveness of the Nature in Neighborhoods Program and consider altering course if necessary. This section describes the responsibilities of Metro, cities, counties, and special districts in regional data coordination and inventory maintenance, monitoring, reporting, and program evaluation.

Four performance objectives are established to measure the quantity and quality of the region's fish and wildlife habitat. Aspirational targets are included for a ten-year timeframe that are based on existing conditions, a successful protection and restoration commitment, and public ownership patterns. Two implementation objectives are included that help describe the actions to look for as the region moves towards achieving the habitat performance objectives. These include efforts made to increase and allow habitat-friendly development practices and increase restoration and mitigation efforts.

2. POLICY ISSUES

Since January, staff has been soliciting comments on draft versions of proposed Title 13 Functional Plan amendments from the Metro Council, Program Working Group, MTAC, MPAC, Goal 5/WRPAC, private business representatives, non-profit groups, and city and county commissioners throughout the region. These discussions helped to refine the proposal from a technical and policy perspective. Below is a summary of the main policy issues, including potential choices and the direction taken in the proposed Title 13.

A. Measure 37

Voters passed Ballot Measure 37 in November 2004, which required governments to either provide compensation or waive regulations that reduced the fair market value (FMV) of properties. The measure includes exemptions for regulations intended to address public health and safety concerns and that are required to meet federal laws, such as the Clean Water Act and the Endangered Species Act. In response to M37's passage, Council directed staff in their December 2004 resolution (No. 03-3506A) to ensure that the habitat protection program did not result in reductions in FMV of properties unless it provided a source of funds for compensation.

Alternatives staff considered for addressing M37 were:

- Include an explicit statement that the program goal would be to increase fair market value of each property affected (by using flexible development approaches such as clustered development; reducing density requirements, etc.)
- Provide a procedure to allow a property owner to obtain a variance if the rules resulted in a loss in FMV of a property; process is a land use decision (i.e. appeals to

LUBA—bringing these claims “within” the land use system, unlike M37 claims); only minimum variance necessary may be granted; includes waiver of future M37 claims based on functional plan; one incentive for property owners to use the variance procedure is that the variance could be transferred to future property owner (unlike M37 waiver).

Some of the main reasons for not recommending this approach include:

- The intent to increase fair market value went beyond Measure 37’s requirements to compensate for losses in fair market values;
- Forcing jurisdictions to establish a separate variance procedure parallel to the Measure 37 procedure and separate from the jurisdictions’ other variance procedures would be unnecessarily duplicative, and having the variance process “within” the land use decision arena (i.e. decisions can be appealed to LUBA, unlike Measure 37 decisions) could result in confusing and inequitable results for property owners;
- Early drafts of Title 13 would institutionalize Measure 37 and did not take into account the possibility that the measure could be amended in the future; and
- The approach did not seek to take advantage of any of the exceptions provided in Measure 37, such as an argument that these new rules are necessary to implement the soon to be finalized TMDL rule issued pursuant to the federal Clean Water Act.

Staff has addressed the issue of whether this ordinance will create additional M37 claims by including provisions that give local governments discretion to implement the program in a way that will not result in the reduction in fair market value of any property.

It is also important to note that the flexible development standards in the functional plan will not prevent development on any property, but will simply require a change in the way development occurs within Habitat Conservation Areas. In some cases, a requirement for cities and counties to remove barriers to habitat-friendly development practices may, in fact, increase property values by allowing more innovation and a potential reduction in storm water impact fees.

B. Appropriate level of regional requirements

Title 13 establishes a set of development standards to provide regional consistency for conserving habitat in Class I and II Riparian areas. The primary issue that has been raised is whether the avoid-minimize-mitigate standard (required in Title 3 Water Quality Resource Areas, which covers about 36% of the HCAs) should be applied to development in High, Moderate, and Low Habitat Conservation Areas.

Council’s December 2004 Resolution (No. 04-3506A) directed staff to vary the level of protection in accordance with the ESEE analysis. Accordingly, staff considered applying avoid-minimize-mitigate to High HCAs, minimize and mitigate to Moderate HCAs, and only mitigate in Low HCAs. The different levels of protection carried out the intent of the ESEE decision to apply less restrictive standards in 2040 mixed-use areas and regionally significant industrial areas.

However, further discussion among a number of review groups led to reconsideration of the application of the avoid-minimize-mitigate standard. The avoid test as defined in Title 3

includes a “practicability” requirement. The definition of practicable includes an economic test, in effect accounting for the need to apply different levels of protection to High, Moderate, and Low HCAs. Generally, the economic practicability of protecting more habitat in a Low HCA with high urban development value would be greater, resulting in less protection.

Therefore, the proposed development standards in Title 13 apply the avoid-minimize-mitigate standard to all three types of HCA. When implementing the “avoid if practicable” test and mitigate requirements, cities and counties are directed to consider the type of HCA. For example, High Habitat Conservation Areas have been designated as such because they have lower urban development value and the highest value habitat, while Low Habitat Conservation Areas have higher urban development value and lower-valued habitat. In addition, this ordinance would refine the definition of “practicable” for purposes of Title 13 requirements to include a provision that any requirement that would result in a decrease in the fair market value of a property would not be considered practicable. This is how the program is designed to avoid the creation of new M37 claims.

The application of avoid-minimize-mitigate requires discretion. The Goal 5 rule requires a city or county to include a clear and objective approach in its land use ordinances, and the option of adopting a discretionary approach. The proposed ordinance would pass this requirement through to the cities and counties upon implementation, providing the Title 13 Model Ordinance as an option to meet the Goal 5 rule requirements.

C. Habitat-friendly development practices

Using habitat-friendly development practices, or low impact development (LID), can help a community better protect its streams, fish and wildlife habitat, wetlands, and drinking water supplies as it grows. Several cities in the region are already encouraging the use of these practices, and some developers are making a point of reducing the impacts of the built environment by meeting environmental standards.

The use of these habitat-friendly practices can serve to increase the value of developments both at the outset and over time. Studies have shown that residential and commercial uses near open space and water features are more valuable and desirable. Additionally, innovative storm water management practices that use natural processes to retain and detain storm water runoff on-site may be less expensive to construct and maintain.

The difficulties in using these habitat friendly practices today range from concerns about capital and maintenance cost, barriers in local codes that make the practices difficult to apply, and lack of up to date familiarity or knowledge on the part of all parties involved on how to apply the quickly evolving technologies. The advantages of using these practices are their benefits to water quality and channel conditions as well as opportunities to retain green infrastructure on the site.

Title 13 would require revision of city and county codes to require the use of these practices in Habitat Conservation Areas. Since there is not a set menu of practices that can be consistently required, the requirements would apply only when technically feasible and appropriate. Cities and counties would also be required to remove barriers to these practices in all other regionally

significant habitat areas. Alternatives considered included requiring cities and counties to remove barriers in all areas and not requiring habitat-friendly development practices in Habitat Conservation Areas.

D. New UGB expansion areas

Council direction in the December 2004 resolution (No. 04-3506A) was to extend the regulatory requirements that would apply inside the urban growth boundary (UGB) to Class I and II Riparian Habitat to Class III Riparian, Class A and B Upland Habitat in future UGB expansion areas.

The proposed Title 13 requirements, and associated amendments to other Functional Plan, Framework Plan, and Metro Code amendments related to new urban area planning, would extend regulatory protection to the four highest value habitat classes, Class I and II Riparian and Class A and B Upland Habitat. Class III Riparian encompasses areas providing two habitat functions. First, developed floodplains are included that are providing the water storage function. Second, forest canopy within 780 feet of a stream is included that is providing microclimate to reduce stream temperatures. The large search area for the microclimate habitat function is important when considering ecological values for the habitat inventory, but the arbitrary cutoff at 780 feet results in slivers of forest patches falling within the riparian inventory. Staff has concluded that developing map verification and program elements for these slivers of habitat would be too burdensome and costly for local governments and citizens as compared with the benefits of protecting such habitat. For this reason staff has recommended not including Class III habitat in the HCAs for new urban areas.

The same avoid-minimize-mitigate standard developed for riparian areas inside the current UGB would be applied to upland areas in new urban areas. However, new urban areas also offer opportunities to avoid the habitat in the initial concept planning in ways not possible inside the UGB. Several tools may be more useful in new urban areas prior to upzoning, such as transfer of development rights to address equity concerns of “windfalls and wipeouts.” This is addressed by including the following policy statements in the Regional Framework Plan Chapter 1 and Titles 10 and 11 of the Functional Plan:

- Explicitly stating the intent to protect habitat and limit development in new urban areas;
- Metro will assume lower housing and employment capacity and capture rates for habitat areas when calculating the size of future UGB expansions; and
- Future UGB expansions will be conditioned in such a way to ensure that habitat areas are protected without giving rise to Measure 37 claims.

E. Residential densities

Metro Council has indicated, in multiple Resolutions, its intent to reduce density targets for residential capacity if necessary to protect natural resources. Title 8 allows a process for a city or county to apply to Metro, in March of each year, for approval of a density requirement reduction to support protection of natural resource areas. To date, no local jurisdiction has made a request under these provisions.

Title 13 proposes a process that would not require further approval by Metro. Approval would occur automatically if the decision was documented as necessary to protect regionally significant

habitat from development and offered permanent protection of the habitat. The loss of housing units would be taken into consideration when sizing the next UGB expansion. Cities and counties are encouraged to consider transferring development rights to minimize the effect on land supply.

This ability to reduce density would apply only to areas on Metro's Habitat Inventory Map and to local Goal 5 inventories if they were on a map prior to the adoption of Metro's program. This would apply to all habitat areas, both upland and riparian.

The reduction in residential density offers the ability to build larger lots at a lower density than currently allowed within the UGB. Minimum density requirements would be calculated after subtracting out the regionally significant habitat that would be protected. There are about 11,730 acres of vacant unconstrained residential regionally significant habitat (including all habitat classes) land inside the UGB to which this density relaxation could apply. This density reduction would not apply to land brought in the UGB after January 2002, such as the area that is now the City of Damascus, since these areas have not yet been upzoned and there are more opportunities to plan around the habitat.

F. Restoration requirements upon redevelopment

Past development practices have had a significant detrimental impact on fish and wildlife habitat and water quality in this region, adversely affecting the habitat of several fish and wildlife species listed as threatened or endangered. While existing development is not affected by the development standards described in Title 13, over time many of the properties near and next to streams and wetlands may be redeveloped. Upon redevelopment, some mitigation can be conducted to help restore habitat functions and values. For example, the intensive redevelopment that is underway in the South Waterfront area of Portland is including habitat restoration and improvement, and the redevelopment will likely result in significantly increased property values in that area.

The developed areas in which restoration opportunities may exist include both areas that have been mapped as Class I and II riparian habitat, as well as some areas identified as Class III riparian habitat and riparian impact areas. This includes:

- Developed areas that have been mapped as Class I and II resources, such as fully developed areas near streams and underneath tree canopy and all areas within 50 feet of streams (with or without vegetation);
- Developed floodplains (3,460 acres), which are included within Class III riparian areas; and
- Riparian impact areas—those areas within 150 ft. of the stream that would have qualified as riparian habitat but for the fact that they are developed.

The proposed functional plan addresses only those areas that are identified as Habitat Conservation Areas through regulations, leaving cities and counties the option of working with developers in Class III and Riparian Impact Areas to restore habitat function to those areas upon redevelopment. In Habitat Conservation Areas, the following standards are described for redevelopment:

- All redevelopment would be allowed provided that it does not encroach further into undeveloped habitat areas or closer to the relevant water feature. If it would encroach into such areas, then the program’s general development rules would apply (e.g. avoid-minimize-mitigate standard). Title 3 currently applies the avoid-minimize-mitigate standard to redevelopment within the WQRA (typically within 50 feet of streams).
- Mitigation would be required upon redevelopment that required upzoning or significantly increased the intensity of the development on a site. For example, if a site had heavy industrial use and was redeveloped as mixed-use residential it would require mitigation to reflect the new, additional impacts that the new development would have on the habitat areas.

G. Similarly situated sites to receive an “allow” decision

Council, in Resolution No. 04-3440A, adopted May 20, 2004, determined that the economic importance of the International Terminal Site on the Willamette Harbor outweighed the identified habitat values and directed staff to identify any other “similarly situated” sites that would be subject to an “allow” decision in the ESEE analysis. The “allow” decision means no further requirements under Metro’s Goal 5 program. Since then, staff has worked with several stakeholder groups to identify other sites that might qualify as similarly situated.

Title 13 addresses these unique facilities and the sites where they are located by allowing all conflicting uses, unless a change of zoning occurs (i.e., heavy industrial to mixed-use residential). The functional plan names four sites by name (the International Terminal site, and Port of Portland Marine Terminals 4, 5 and 6) and includes criteria to identify future sites that are similarly situated. The criteria state that a site must be in use as an international marine terminal and must be substantially without vegetative cover.

H. Adjustment in Urban Development Value for Regionally Significant Educational and Medical Facilities

The economic model Metro used to determine urban development value underwent significant peer review, and was developed with the guidance of an Economic Technical Advisory Committee. The model incorporated potential job density, land value (except for residential land), and 2040 design types to determine the urban development value of land within the UGB. Generally, the model worked well, but it did not account for certain unique circumstances. Regionally significant educational and medical facilities typically locate in residential areas to better serve their users. This frequently results in their location in a low-priority 2040 design type, inner and outer neighborhoods, potentially undervaluing the economic importance of these facilities. In May 2004, Council directed staff (Resolution No. 04-3440A) to develop a proposal to consider the urban development value of regionally significant major institutions.

One of the major reasons for this adjustment process was the inclusion of upland habitats in the proposed regulatory treatments under Council Resolutions Nos. 03-3376B and 04-3440. Some medical and educational facilities may have Class A and B upland habitat areas on their campuses that are also identified as future facility expansion areas. Since the Council is applying a regulatory approach for Class I and II riparian areas only, and not upland habitat areas, this lowers the degree of conflict between habitat protection and facility expansion plans.

Title 13 includes the following approach to recognize the economic importance of regionally significant educational and medical facilities:

- Identifies by name ten existing regionally significant educational and medical facilities that have Class I and II Habitat on their properties.
- Adjusts the urban development value for these facilities to high, resulting in either moderate or low Habitat Conservation Areas depending on the habitat value.
- Describes criteria to identify future regionally significant educational and medical facilities to be determined by the Metro Council (not at the city or county level).

I. Program objectives, monitoring and reporting

Resolution No. 04-3506A, adopted by the Metro Council on December 9, 2004, directed staff to develop regional outcome measures to evaluate the region's progress toward meeting the vision of conserving, protecting, and restoring fish and wildlife habitat in the region. The resolution also called for an annual assessment of progress including, but not limited to, an evaluation of the habitat inventory. Title 13 proposes to assess progress every two years, since more frequent reporting is unlikely to detect measurable changes, and to tie it to Metro's overall Performance Measures Report.

As part of the monitoring and reporting element, the functional plan proposes to track progress in habitat acquisition and restoration efforts and changes in streams, wetlands, floodplains, vegetation and habitats of concern to monitor habitat quality and quantity by watershed. This will require substantial coordination with cities, counties, agencies, and special districts, which are required to update Metro with new data when it is available. Keeping track of regional progress towards the objectives and targets for habitat protection and restoration will enable policy makers to evaluate the effectiveness of the Nature in Neighborhoods initiative and consider altering course if necessary.

Title 13 includes four performance objectives to measure the quantity and quality of the region's fish and wildlife habitat. The aspirational targets for each of the performance objectives are included as part of the monitoring section, and are not tied to any city or county compliance alternative. These targets, 2004 baseline, considerations that played a role in determining the targets, and a numeric description of what it would require to meet the target within a ten-year period is included in Table 1 below.

Table 1. Targets, 2004 Baseline, and Considerations in setting targets.

Targets	2004 Baseline and Targeted Condition	Considerations in setting the target
<p>1a. <u>10% increase in forest and other vegetated acres within 50 feet</u> of streams (on each side) and wetlands in each subwatershed over the next 10 years (2015).</p>	<p>1a. 2004 Baseline Condition (regional data):</p> <ul style="list-style-type: none"> • 64% vegetated • 14,000 vegetated acres 	<ul style="list-style-type: none"> • Most local and regional riparian regulatory programs are focused within the first 50 feet of streams and wetlands. • Mitigation, enhancement and restoration projects typically occur in this area. • A higher target for increasing vegetation cover within 50 feet of streams and wetlands will help achieve DEQ established Total Maximum Daily loads for stream temperature. • As redevelopment occurs, habitat within 50 of streams and wetlands can be restored.
	<p>10% increase:</p> <ul style="list-style-type: none"> • 70% vegetated • 1,400 acre increase in vegetation over 10 years 	
<p>1b. <u>5% increase in forest and other vegetated acres within 50 to 150 feet of streams</u> (on each side) and wetlands in each subwatershed over the next 10 years (2015).</p>	<p>1b. 2004 Baseline Condition (regional data):</p> <ul style="list-style-type: none"> • 59% vegetated • 15,250 vegetated acres 	<ul style="list-style-type: none"> • Some local regulatory programs protect land between 50 and 150 of streams and wetlands, especially in steep slope areas. • The 150-foot distance includes the outer distance of all primary (most important) ecological functions for riparian areas (with the exception of large undeveloped floodplains). • Reducing regional residential capacity requirements can help to preserve habitat within 150 feet of streams inside the 2002 UGB. • As redevelopment occurs, habitat within 150 of streams and wetlands can be restored
	<p>5% increase:</p> <ul style="list-style-type: none"> • 62% vegetated • 760 acre increase in vegetation over 10 years 	
<p>1c. <u>No more than 20% increase in developed floodplain acreage</u> in each subwatershed over the next 10 years (2015).</p>	<p>1c. 2004 Baseline Condition (regional data):</p> <ul style="list-style-type: none"> • 10% of all floodplain acres are developed • 3,450 acres of developed floodplains 	<ul style="list-style-type: none"> • Applying the “avoid, minimize, and mitigate” tests to undeveloped floodplains would increase protection levels compared to existing Title 3 “cut and fill” requirements. • Loss of undeveloped floodplains in industrial and mixed-use areas is expected to continue to occur but at reduced amounts compared to current trends.
	<p>20% increase:</p> <ul style="list-style-type: none"> • 4,200 acres of developed floodplains 	
<p>2a. <u>Preserve 75% of vacant Class A and B upland wildlife habitat</u> in each subwatershed over the next 10 years (2015).</p>	<p>2a. 2004 Baseline Condition:</p> <ul style="list-style-type: none"> • 15,500 acres of vacant Class A and B upland 	<ul style="list-style-type: none"> • Vacant Class A and B upland wildlife habitat within the UGB is most vulnerable to loss over time compared to other upland wildlife habitat located in developed areas or in parks. • Regional development standards focused on Riparian Class I and II habitats will place development pressure on upland habitats. • Acquisition programs and habitat friendly development practices can help preserve some upland wildlife habitat. • Reforestation programs can help restore upland wildlife habitat. • Reducing regional residential capacity requirements can help preserve upland habitat. • New urban area planning (e.g., Damascus area) offers opportunities to better protect upland habitat. • Council’s decision to protect Class A and B habitats in future UGB annexations will increase retention of upland habitats.
	<p>75% retention:</p> <ul style="list-style-type: none"> • 11,600 acres of vacant Class A and B upland remaining 	
<p>2b. Of the upland habitat preserved, <u>retain 80% of the number of patches 30 acres or larger</u> in each subwatershed over the next 10 years (2015).</p>	<p>2b. 2004 Baseline Condition:</p> <ul style="list-style-type: none"> • 23,400 acres of upland habitat in 133 patches that contain 30 acres or more of upland wildlife habitat 	
	<p>80% retention:</p> <ul style="list-style-type: none"> • 106 upland habitat patches that contain 30 acres or more of upland habitat 	

<p>3a. <u>Preserve 90% of forested wildlife habitat acres located within 300 feet of surface streams</u> in each subwatershed over the next 10 years (2015).</p>	<p>3a. 2004 Baseline Condition:</p> <ul style="list-style-type: none"> • 28,300 acres within 1,453 patches of forested wildlife habitat located within 300 feet of surface streams 	<ul style="list-style-type: none"> • Vacant upland wildlife habitat is vulnerable to loss, and connectivity between riparian corridors and adjacent upland wildlife habitat can be expected to decline, especially within the 2002 UGB. • Non-forested wildlife habitat within 300 feet of surface streams is more vulnerable to loss compared to forested habitat. • Forested wildlife habitat located within parks and developed residential areas is more stable and will support higher connectivity for wildlife between riparian corridors and upland wildlife habitat. • Acquisition and habitat friendly development practices (cluster development, on and off site density transfers) can help slow the loss of habitat connectivity. • Reducing regional residential capacity requirements can help preserve connectivity between riparian corridors and upland wildlife habitat. 	
	<p>90% retention:</p> <ul style="list-style-type: none"> • 25,500 acres of forested wildlife habitat located within 300 feet of surface streams 		
<p>3b. <u>Preserve 80% of non-forested wildlife habitat acres located within 300 feet of surface streams</u> in each subwatershed over the next 10 years (2015).</p>	<p>3b. 2004 Baseline Condition:</p> <ul style="list-style-type: none"> • 14,400 acres within 1,633 patches of non-forested wildlife habitat located within 300 feet of surface streams 		
	<p>80% retention:</p> <ul style="list-style-type: none"> • 11,500 acres of non-forested wildlife habitat located within 300 feet of surface streams 		
<p>4a. <u>Preserve 95% of habitats of concern acres</u> in each subwatershed over the next 10 years (2015).</p>	<p>4a. 2004 Baseline Condition:</p> <ul style="list-style-type: none"> • 33% of all habitat designated as HOCs • 26,700 total acres of HOCs 		<ul style="list-style-type: none"> • Habitats of concern are located in Class I riparian areas and Class A upland wildlife habitat, a majority of which are located in parks, riverine islands and deltas, wetlands, floodplains, and riparian corridors. These areas are less vulnerable to loss due to development constraints and public park ownership. • Acquisition, habitat friendly development practices, and reducing regional residential capacity requirements can help slow the loss of Habitats of Concern.
	<p>95% retention:</p> <ul style="list-style-type: none"> • 25,400 total acres of HOCs 		

Two implementation objectives are included that help describe the actions to look for as the region moves towards achieving the habitat performance objectives. These would measure how well cities and counties are allowing and encouraging habitat-friendly development practices and the number of mitigation and restoration projects conducted.

J. Tree protection and vegetative clearing

Tree canopy located in vacant Class I and II riparian habitat areas (19,230 acres including constrained and unconstrained) is vulnerable to loss outside the development review process. For example, a landowner could remove trees on a vacant parcel unless doing so required a tree removal permit from the city or county. Some cities and counties already have tree protection ordinances in place while others do not. Including language in the Functional Plan to protect trees would help address this situation. The tree protection would apply to forested land within Class A and B upland habitats coming into the UGB.

Policy options include:

- Establish mandatory tree protection requirements in the functional plan to address tree removal outside the development process;

- Rely on regional education efforts to increase awareness of the value of trees and to inform property owners about the new regulations in a way that reduces interest in cutting trees before applying for a development permit.
- Expand existing Title 3 approach to development, which is defined to include “removal of more than 10 percent of the vegetation on the lot,” to Habitat Conservation Areas.

The proposed Title 13 extends the current Title 3 approach to vegetation removal and tree protection beyond the WQRA to include all HCAs. Removal of more than 10% of the vegetation within an HCA is considered development, and will thereby be subject to the requirements established pursuant to Title 13 (except for excepted activities as noted above, such as for currently developed residential properties).

3. TITLE 13 MODEL ORDINANCE

Metro’s Title 13 Model Ordinance serves two purposes: as an example for cities and counties to guide substantial compliance and as an alternative for cities and counties to adopt and be in substantial compliance without further efforts. The model ordinance is written to be consistent with the Goal 5 rule, including a clear and objective standards approach and a discretionary review approach. The main components of the model ordinance are described below.

A. Section 3. Applicability and map administration

This section describes when the ordinance applies, upon development and redevelopment, and includes a site-specific habitat verification process. There are three basic approaches for verification:

1. Basic approach, property owner must use clear and objective development standards
 - Property owner believes map is accurate,
 - Lot lines do not match with HCA boundaries, or
 - Property was developed before Title 13 came into effect
2. Intermediate approach, property owner must use clear and objective development standards
 - HCA map is inaccurate due to incorrect location of a landscape feature
3. Detailed approach, required for all property owners using the discretionary review standards
 - Application must be completed by qualified professional
 - Detailed criteria must be completed

B. Section 4. Uses and activities that are exempt

This section carries forward the activities that were identified in Title 13 and adds to the list other items that can be exempted from further review in this ordinance. Emergency procedures, routine maintenance and repair, existing developed residential properties, replacement to structures within the existing building footprint, and minor expansions to structures are included. Other key exemptions include:

- Development on a site that will remain at least 100 feet away from the boundary of the HCA (i.e. sufficient distance to ensure habitat protection even if there were any mapping errors).

- Sites with a phased development plan, once they have followed the procedures for the initial permit and site plan, are exempt from further review so long as building sites and coverages remain consistent with the original permit.
- Removal of nuisance plants and planting of native plants.
- Restoration projects that are part of an approved plan.
- Low-impact outdoor recreation facilities outside of Title 3 WQRAs, so long as they contain less than 500 sq. ft. of new impervious surface.

C. Section 5. Uses Allowed Under Prescribed Conditions

In this section two specific areas are called out for special attention.

- The Port of Portland has developed a Wildlife Hazard Management Plan to minimize the wildlife hazards, primarily from birds, to jets arriving and departing from international airports in the region. Port of Portland activities required to comply with a Federal Aviation Administration wildlife hazard management plan are exempted from all standards except mitigation, and mitigation is allowed off-site anywhere within the region.
- Within Multnomah County Drainage District No. 1, Peninsula Drainage District No. 1, Peninsula Drainage District No. 2, and the area managed by the Sandy Drainage Improvement Company, activities required to maintain the managed floodplain are allowed so long as native vegetation is maintained or enhanced, further disturbance to the waterways is minimized, and all applicable laws are followed.

D. Section 7. Development Standards

This section describes the clear and objective development standards, if an applicant proposes development that complies with these standards then there is no additional process required. The intent of Title 13, which directs all development within Habitat Conservation Areas to follow the avoid-minimize-mitigate standard, is carried out in this section through incentives for avoiding habitat, disturbance area limitations for High and Moderate HCAs, and mitigation requirements for all development within an HCA.

Flexible development standards are a critical component of this section, providing incentives to avoid and minimize Habitat Conservation Areas. Flexible development standards include:

- *Building setback flexibility*, reducing or eliminating front, side, and back-yard setbacks to allow placement of the building site as far from the HCA as possible.
- *Flexible landscaping requirements* to allow these to be met by preserving the HCA in a natural condition, and allowing certain on-site stormwater management facilities in the HCA. This incentive may be particularly helpful for commercial and industrial developments.
- *Flexible site design, or clustering*, to allow smaller lot sizes and creative configurations to cluster development away from or to minimize disturbance within the HCA.
- *Density bonus for habitat protection*, specifically for multi-family zones.
- *Density reduction for habitat protection*, which allows all habitat that will be permanently protected to be subtracted from calculations to determine minimum density.

- *Transfer of development rights*, an optional provision to transfer density from sites with over 50% in an HCA to 2040 mixed-use areas.

When development does occur within the Habitat Conservation Area there are certain standards that apply.

- *Disturbance area limitations*, to minimize impact to High and Moderate HCAs. There is one calculation method for single-family and another for all other zones.
- *Construction standards* to protect habitat during site development.
- *Utility standards* to minimize disturbance of habitat for utility connections.
- *Subdivision standards* that require new subdivision plats to show a percentage of the High and Moderate HCA as a separate non-buildable tract.

All disturbance within the Habitat Conservation Area must be mitigated. The amount of mitigation is calculated based on the size and number of trees removed or the area disturbed, whichever results in more vegetation planting.

E. Section 8. Discretionary Review

The discretionary review approach closely follows the performance standards and best management practices described in Title 13. An applicant who cannot or chooses not to meet the clear and objective standards may use this approach for development on a site with a Habitat Conservation Area.

All applications for development using these standards must conduct an impact evaluation that includes identification of the ecological functional values on the site, an evaluation of alternative locations, designs, or methods of development to minimize negative impacts, and determination of the development alternative that best meets the approval criteria. The approval criteria include:

- *Avoid.* Applicant must first avoid intrusion into the HCA to the extent practicable. The economic considerations are greater in a Low HCA than in a High HCA. Again, any requirement that would result in a decrease in the fair market value of a property is considered not practicable.
- *Minimize.* All development must minimize, to the extent practicable, detrimental impacts to ecological functions.
- *Mitigate.* An applicant must mitigate for adverse impacts to the HCA. Mitigation must occur on-site to the extent possible, second within the subwatershed, and outside the subwatershed only when the purpose can be better provided elsewhere. Two mitigation options are included; both include requirements to use habitat-friendly development practices. Option 1 allows the applicant to choose from a menu of habitat-friendly development practices and use a set mitigation ratio. Option 2 allows the applicant to reduce the mitigation ratio by achieving a lower percentage of effective impervious area through habitat-friendly development practices.

The other sections of the model ordinance are standard to address:

- Section 1. Intent
- Section 2. Relationship to Water Quality Resource Area and Flood Management Area, Consistency with Other Regulations

- Section 5. Prohibitions – nuisance plants, unauthorized clearing or grading
- Section 9. Variances
- Section 10. Severability
- Section 11. Definitions

4. REGIONAL FRAMEWORK PLAN AMENDMENTS

Several of the policies identified by the Council to implement a fish and wildlife habitat protection program as part of the Nature in Neighborhoods Initiative would be implemented through amendments to the Regional Framework Plan. These amendments are described below.

A. Summary of Growth Concept

This section would be amended to more accurately describe the functional plan requirements related to fish and wildlife habitat.

B. Chapter 1 – Land Use

A new section would be added, 1.9.4 “Protection of Regionally Significant Fish and Wildlife Habitat,” to describe the Council’s policies to protect habitat in new urban growth boundary expansion areas. It includes direction to conduct an inventory and provides direction to limit future conflicts between habitat protection and urbanization.

C. Chapter 3

The Council is currently considering Resolution No. 05-3574 that would direct the regional fish and wildlife protection, restoration and greenspaces initiative to be named “Nature In Neighborhoods.” Chapter 3 of the Regional Framework Plan is currently entitled “Parks, Natural Areas, Open Spaces and Recreational Facilities,” yet describes most of the programs that are proposed to be included within the Nature in Neighborhoods Initiative. Based on this, a key proposed amendment is to change the title of Chapter 3 to “Nature in Neighborhoods.” Other amendments to this chapter include:

- Section 3.2.2 – states that the fish and wildlife habitat program shall be developed to achieve four performance objectives and two implementation objectives
- Several sections through the chapter – minor wording changes to incorporate references to fish and wildlife habitat and Nature in Neighborhoods Initiative

D. Chapter 4

This chapter focuses on water quality issues, but also specifically relates to fish and wildlife habitat protection. The chapter is currently named “Water Management,” but is proposed to be renamed “Watershed Health and Water Quality” to more aptly describe the policies in the chapter. Section 4.18 would be renamed “Water Quality and Riparian Fish and Wildlife Habitat Corridors” and would describe how healthy fish and wildlife habitat and water quality are related. This language explicitly acknowledges as a matter of RFP policy the link between water quality and fish and wildlife habitat, enhancing future ties between Title 13 and federal water quality requirements.

E. RFP Policies and Implementation Recommendations or Requirements Table

Amendments to this table simply reference the appropriate Titles in the Functional Plan, and are purely technical in nature.

5. AMENDMENTS TO TITLES 3, 8, 10 AND 11 OF THE URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN

Implementing Title 13 of the Functional Plan has a cascading effect of simple amendments that are required to several other titles. These amendments are described below.

A. Title 3 – Water Quality and Flood Management

Title 3 addresses water quality and flood management, but also included direction to Metro to conduct planning that would protect fish and wildlife habitat. All references to fish and wildlife habitat have been removed, since these requirements are now placed in Title 13 of the Functional Plan. Two other amendments to Title 3 are included:

- Change to Section B(2)(d) requiring native vegetation to be planted in the Water Quality Resource Area. This amendment loosens the restriction by continuing to allow the removal of non-native or noxious vegetation but removing the requirement to replace it with native vegetation. The amendment encourages the planting of native vegetation but only requires replacement if native vegetation is removed.
- Repeal the variances section, since it applied only to fish and wildlife habitat areas and those provisions are now in Title 13.

B. Title 8 – Compliance with the Functional Plan

Title 8 describes how cities and counties must comply with the Functional Plan. Cities and counties will have to have amended their comprehensive plans and land use regulations to comply with Title 13 within two years of its acknowledgement by LCDC, and will have to make land use decisions compliant with Title 13 at that time (rather than one year after acknowledgement, with is the limit of Metro’s authority under state law). In addition, beginning one year after acknowledgement, any other amendments that cities and counties make to other parts of their comprehensive plans or other land use regulations will have to be consistent with Title 13.

C. Title 10 – Definitions

This title provides the definitions critical for effective implementation of the Functional Plan. Several definitions have been added to further clarify the intent of Title 13. The most important changes, already discussed above, are to the definitions of “Development,” and “Practicable.”

D. Title 11 – Planning for New Urban Areas

This title describes the key items to consider when developing plans for new urban areas. It has been amended to consider Habitat Conservation Areas when developing such plans, and to make efforts to minimize conflicts between protecting Habitat Conservation Areas and urban development of new urban areas.

ANALYSIS/INFORMATION

- 1. Known Opposition.** No known opposition to the specific elements in the proposed ordinance, however there has been a substantial public process throughout the course of this project. It is projected that there will be opposition from both sides of the spectrum during the public comment period for this ordinance. Some parties are likely to assert the difficulty of introducing new regulations after the passage of Measure 37, stating the uncertain legal climate and general political environment leading to the measure's success. Other parties will likely convey disappointment in a regulatory program that does not completely protect any regionally significant habitat and has been reduced in geographic scope by half from the time the Council made a preliminary ESEE determination in May 2004.
- 2. Legal Antecedents.** Statewide Planning Goal 5, OAR 660-015-0000(5), and the Goal 5 Rule, OAR 660-023, and specifically OAR 660-023-0080. ORS chapter 197, and specifically ORS 197.274. ORS chapter 268, and specifically ORS 268.380, ORS 268.390, and ORS 268.393. The Metro Charter, Regional Framework Plan, and Metro Code sections 3.07.310 to 3.07.370. Metro Resolutions Nos. 02-3176, 02-3177A, 02-3195, 02-3218A, 03-3332, 03-3376B, 04-3440A, 04-3488, 04-3489A, 04-3506A, 05-3574 and 05-3577.
- 3. Anticipated Effects.** Approval of this ordinance will allow Metro to complete the three-step process for complying with Statewide Land Use Planning Goal 5 by amending portions of the Regional Framework Plan and Urban Growth Management Functional Plan. This allows Metro to submit a complete package to the Department of Land Conservation and Development for acknowledgement review pursuant to ORS 197.274. Cities and counties would then be required to bring comprehensive plans and implementing ordinances in compliance with Metro's Functional Plan within two years.
- 4. Budget Impacts.** Adoption of this ordinance commits Metro to the long-term monitoring and reporting of regional progress in habitat protection and restoration. It also commits staff resources to providing technical assistance to cities and counties in the review of codes for barriers to habitat-friendly development practices. Staff resources will also be necessary to review city and county compliance reports after acknowledgement by DLCDC. The Council President's proposed budget for FY 05-06 includes 2 FTE for monitoring and technical assistance.

RECOMMENDED ACTION

Staff requests that Metro Council adopt the proposed amendments to the Regional Framework Plan and Urban Growth Management Functional Plan to implement new development standards in regionally significant fish and wildlife habitat areas identified as Habitat Conservation Areas.

ATTACHMENTS TO THE STAFF REPORT

Attachment 1. Vision Statement.

Attachment 2. Habitat Protection Tools Summary.

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**Staff Report for Ordinance #05-1077
Attachment #1**

Final DRAFT
October 4, 2000
Streamside CPR*
Program Outline

Purpose, Vision, Goal, Principles and Context

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*CPR = Conserve, Protect and Restore

Purpose, Vision, Goal, Principles and Context

I. INTRODUCTION

A. PURPOSE

This document provides the organizational, definitional and policy approach that will apply to the creation and implementation of Metro's Goal 5 – Fish and Wildlife Program decision. This Purpose, Vision, Goal and Principles document is intended to guide, inform, and be the philosophical underpinnings of the Goal 5 Streamside CPR program. It is not a regulatory document.

The purpose is to develop a streamside conservation, protection and restoration program that balances the goals of:

- building livable, Region 2040 communities and implementing the Regional Urban Growth Goals and Objectives (RUGGO);
- protecting and enhancing fish and wildlife habitat as required by the Metro Urban Growth Management Function Plan;¹
- supporting a strong economy;
- meeting State Land Use Planning Goal 5 standards and procedures;
- addressing Federal Endangered Species Act (ESA) requirements;
- adding to the progress already made by the implementation of Title 3, regional water quality and flood protection requirements; and
- providing the organizational, definitional and policy approach that will apply to the creation and implementation of Metro's Goal 5 – Streamside Fish and Wildlife Program decision.

Cities and counties, as general-purpose governments, are responsible for comprehensive planning including completion of a generalized coordinated land use map and policy statements that interrelate all functional and natural systems and activities relating to the use of land. Cities and counties also are responsible for implementing ordinances, especially zoning ordinances, to regulate land uses. Metro, a regional government, is responsible for addressing issues of metropolitan concern and the Metro Council may determine such issues and adopt regulations directing local governments to change their comprehensive plans and implementing ordinances to address identified regional issues. The Vision Statement, Regional Goal and Program Principles contained in this document provide overall direction to preparation and implementation of the regional safe harbor, local discretionary and riparian district plan option approaches to Metro Goal 5 compliance that will be available to local governments.

B. VISION STATEMENT

Our region places a high priority on the protection of its streams, wetlands and floodplains to maintain access to nature; sustain and enhance native fish and wildlife species and their habitats; mitigate high storm flows and maintain adequate summer flows; provide clean water; and create communities that fully integrate the built and natural environment. As ribbons of green, stream and river corridors maintain connections with adjacent upland habitats, form an interconnected mosaic of urban forest and other fish and wildlife habitat, and contribute significantly to our region's livability.

The RUGGO state that the region should "Manage watersheds to protect and ensure to the maximum extent practicable the integrity of streams, wetlands and floodplains, and their multiple biological, physical, and social values," as well as that "A region-wide system of linked significant wildlife habitats should be developed. This system should be preserved, restored where appropriate, and managed to

maintain the region's biodiversity." The streamside program will contribute to these objectives by balancing, economic, social, environmental and energy considerations as will future efforts to address watershed and upland habitats.

C. OVERALL GOAL

The overall goal is to conserve, protect and restore a continuous ecologically viable streamside corridor system, from the streams' headwaters to their confluence with others streams and rivers, and with their floodplains in a manner that is integrated with the surrounding urban landscape. This system will be achieved through conservation, protection and appropriate restoration of streamside corridors through time.

D. PROGRAM PRINCIPLES

The program will be designed to achieve the following future conditions:

Areas of existing forest cover or areas where it is appropriate to restore forest cover. Conserve, protect and restore the biological, physical and social values of streams, wetlands, riparian areas and floodplains, by encouraging the growth and management of mature forest conditions composed of native forest tree species, appropriate for specific site conditions, mixed with native shrubs and herbaceous species, and containing ample standing snags and downed woody debris. Forest conditions will be managed, where appropriate to address public safety concerns.

Areas where forest cover did not exist historically or where non-forest cover is appropriate, based on a natural resources plan. Conserve, protect and restore the biological, physical and social values of streams, wetlands, riparian areas and floodplains through management of native vegetation appropriate to non-forested conditions.

Developed 2040 Centers and areas where floodplain function is artificially controlled. Contribute to the conservation, protection and restoration of the biological, physical and social values of streams, wetlands, riparian areas and floodplains.

The program will be designed to achieve these future conditions using the following principles:

1. **Ecological Function.** The ecological function of the streamside corridor system will be restored and maintained to the maximum extent practicable given the opportunities and constraints of the urban landscape.
2. **Economically Sound.** Economic vitality and a healthy natural environment are necessary components of sustainable development in the metropolitan area. Investments in protection and restoration of our natural areas contribute significantly to the region's economic health.
3. **Protection and Restoration.**² Given the currently degraded condition of a majority of urban streams, wetlands, riparian areas and floodplains, protection and restoration are of equal importance in order to achieve the region's goals. Both protection and restoration are important in moving toward recovery of threatened and endangered salmonids, and avoiding future endangered or threatened listings of both aquatic and terrestrial species.
4. **Flexible Regulatory Approaches.** Protective regulations shall be based on the best available natural science balanced with economic, environmental, social and energy considerations, and shall provide local governments with flexibility in meeting the overall goals of this program. This

program is also intended to help local governments address the Federal ESA by preventing the need for additional ESA listings and avoiding legal restrictions that may result from current and potential future listings. Implementation of the Federal ESA program for endangered salmonids will need a wide range of actions to be taken by local, state and Federal agencies to recover the species. Metro's requirements are not intended to meet all ESA regulations, but are intended to address recovery obstacles within and along stream corridors. The objective is to obtain Federal approval of this program, so that local governments can use it if they choose. The program is not intended to be the exclusive means available to local governments in the region to address ESA requirements. Local governments can independently seek certification as an alternative.

5. ***Incentives Education and Acquisition.*** Regulatory efforts to conserve, protect and restore natural resources are most effective when combined with incentives, education and acquisition programs that encourage full community participation, therefore, such programs will be an element of the overall program.
6. ***Stewardship Responsibilities.*** All landowners and land users throughout each watershed have an important stewardship responsibility to contribute to the protection and restoration of streams, wetlands, riparian areas and floodplains.
7. ***Urban Form.*** Realization of the region's 2040 Growth Concept requires a compact urban form while protecting natural resources and water quality. This is accomplished in three primary ways:
 - a. Protecting natural areas outside the Urban Growth Boundary (UGB). Accommodate compact development within the UGB in order to minimize land extensive expansion that adversely impacts farm and forest lands and natural areas outside the boundary;
 - b. Accommodating urban growth in a compact form while protecting and enhancing key fish and wildlife habitat, natural areas, and water quality and quantity within the current UGB;
 - c. Protecting and restoring urban stream corridors to provide people with an effective means to access nature, providing ecological linkage to other important fish and wildlife habitats, and compact urban form through integration of the built and natural environments.³
8. ***Measure and Monitor.*** A measuring and monitoring system should be established and should include:
 - Assessment of existing conditions;
 - Use of "properly functioning conditions"⁴ as the description of desired future conditions; and
 - Assessment and regular monitoring over time of streamside conditions to determine progress in achieving the goals of properly functioning conditions.
9. ***Coordination and Cooperation.*** Effective management of the regional streamside resource cannot be achieved without a collaborative approach throughout the region. The Streamside CPR Program will provide local jurisdictions with the flexibility to pursue alternative collaborative management approaches that meet the standards of this programs, such as watershed planning, and will emphasize efforts that ensure coordination and cooperation between and among the region's partners including local governments, business, nonprofits and citizens.

E. CONTEXT

The preamble of Metro's voter-approved 1992 Charter declares that Metro's most important service is to "preserve and enhance the quality of life and the environment for ourselves and future generations."⁵ Through its Charter-mandated responsibilities, Metro Council has provided leadership in addressing growth management issues by working with citizens, elected officials and diverse interest groups to

craft a vision of how the region will grow. Through adoption of policies to achieve that vision, Metro Council has identified the need to balance natural resource protection with urban development while the region grows.

How this balancing will take place, and in what form it will be expressed across the urban landscape, is a key question addressed in various documents. For example, the region's 2040 Growth Concept map includes an environmental greenway along streams in the region to ensure connectivity throughout the urban landscape.⁶ The goal of the Greenspaces Master Plan is to create a cooperative regional system of natural areas, open space, trails and greenways for wildlife and people in the four-county metropolitan area.⁷ Other planning documents which speak to urban natural areas and water resources include the Future Vision⁸, the RUGGO, the Regional Framework Plan⁹, and the Urban Growth Management Functional Plan. A unifying feature of all of these documents is to achieve compact urban form and efficient delivery of urban services while at the same time preserving citizen access to nature and community livability.

A cornerstone of these regional policies is protection of natural systems—regionally significant fish and wildlife habitat, streams, rivers, wetlands and floodplains—because their protection and restoration is essential to maintaining and improving the region's livability, economic well-being and environmental health.

In addition to the regionwide policies, there are State and Federal policies which are also important considerations. The purpose of the State's Land Use Planning Goal 5 is "To protect natural resources and conserve scenic and historic areas and open spaces".¹⁰ At the Federal level, for a large part of the Pacific Northwest Coast and associated inland rivers and streams, the National Marine Fisheries Service (NMFS), is acting under the requirements of the Federal ESA. At this time, NMFS has designated four species of Steelhead and eight other species of salmon as either threatened or endangered in the Columbia River Basin. Local governments, through their comprehensive plans, will be implementing requirements to address natural resource protection. In order to address this status, our region will need to take actions that are consistent with the recovery needs of these species. In doing so, the region, its local government partners and the citizens of the metropolitan area can help ensure that one of the defining symbols of our region once again thrives.

To accomplish the planning work described in these policies, Metro is pursuing adoption and implementation of programs to:

- protect the beneficial uses associated with the region's streams and rivers, including water quality and protect life and property from dangers associated with flooding¹¹
- Protect, conserve and enhance fish and wildlife habitat within regionally significant riparian corridors under Statewide Planning Goal 5¹²
- Protect, conserve and enhance regionally significant upland wildlife habitat under Statewide Planning Goal 5,¹³ and
- Implement the Greenspaces Master Plan.

All of these programs, taken in concert and with full implementation by local governments, will realize the vision for growth enunciated in Metro's Charter, Future Vision and subsequent planning documents described above.

To complete this work effort Metro shall:

1. Establish criteria to define and identify regionally significant fish and wildlife habitat areas;
2. Examine existing Goal 5 data;
3. Identify inadequate or inconsistent data;
4. After considering items 1-3, and after holding public hearings, adopt a map of regionally significant fish and wildlife areas.

II. PROGRAM DESCRIPTIONS (TO BE ADDED)

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¹ The focus of the Purpose, Vision, Goal, Principles and Context Statement is on native species of fish and wildlife whose historic ranges include the metropolitan area and whose habitats are or can be provided for in urban streamside corridors. The Purpose Statement does not intend to include native species such as bear, cougar, lynx and deer, which may be conducive in specific areas such as Portland's Forest Park, but may not be conducive in urban stream corridors elsewhere in the metropolitan area.

² Proposed definition of restoration:

Restoration, in the context of the streamside CPR program, means action taken to return natural riparian functions and values for fish and wildlife. Restoration would be applied where riparian functions are in a degraded condition and are intended to return the riparian functions to good or excellent condition. While there may be instances where restoration to pre-development, natural conditions is possible, in general, restoration should not mean the end-state of re-establishing a totally pristine condition. It should address the improvements or re-introduction of functional values.

Conditions Under Which Restoration Would Occur:

Conditions under which restoration will occur will be established when the program is defined. The current draft of the Goal 5 program does not contemplate that homeowners and other property owners would be required to undertake restoration unless there was a development activity that required a permit for new development, significant modifications to structures, or redevelopment. In the absence of a development permit it is assumed that restoration would be achieved through incentive-based, voluntary, and community-based restoration and enhancement activities. Public education and the promotion of voluntary naturescaping and restoration would be part of the regionwide cooperative effort to improve the existing degraded conditions of our urban waterways.

³ "to provide people with an effective means to access nature" means to help people enjoy, approach or be near to nature. It is not intended to imply the right of any person to enter or make use of private property unless the property owner grants that right of public access.

⁴ Defined by Federal natural resource programs.

⁵ The preamble of Metro's Charter states the following: "We, the people of the Portland area metropolitan service district, [establish an elected regional government] that undertakes, as its most important service, planning and policy making to preserve and enhance the quality of life and the environment for ourselves and future generations." 1992 Metro Charter, page 1.

⁶ The Metro 2040 Growth Concept, acknowledged by the Land Conservation and Development Commission in 1995, states the following: "The basic philosophy of the Growth Concept is: preserve access to nature and build better communities." December 8, 1994, Page 1.

⁷ Other goals of the July 1992 Metropolitan Greenspaces Master Plan include preserving “diversity of plant and animal life in the urban environment, using watersheds as the basis for ecological planning.” The Greenspaces Master Plan is guided by the following ecological principles: “Maintain biological diversity by restoring and enhancing a variety of habitats, including wetlands, riparian corridors, forests and agricultural lands.” And “Protect, restore and recreate stream corridor vegetation by replacing riparian vegetation where it is lacking or dominated by exotic species and removing barriers, where possible, to maintain connections with adjacent upland habitats.”

⁸ The Future Vision states the following: “We value natural systems for their intrinsic value, and recognize our responsibility to be stewards of the region’s natural resources.” March 1995, page 1. In 2045, the region should be characterized by “Improved water quality, and increased biodiversity,” and “restored ecosystems protected from future degradation and decline.” Page 12. Specific actions identified: “Manage watersheds to protect, restore, and maintain the integrity of streams, wetlands and floodplains, and their multiple biological, physical, and social values.” Page 12.

⁹ Chapter 3 of the December 31, 1997 Regional Framework Plan establishes policies for parks, natural areas and open spaces, and identifies the important environmental benefits of maintaining and improving air and water resources, providing flood control, and protecting fish and wildlife habitat. It commits Metro to “develop a strategy and action plan to address inadequacies in the protection of regional Goal 5 resources. This plan will be carried out by Metro.” Page 108, see also page 190.

¹⁰ Goal 5 further states that “Local governments shall adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. These resources promote a healthy environment and natural landscape that contributes to Oregon’s livability.” Procedures and requirements for complying with Goal 5 call for an inventory, a determination of significance, an analysis of the economic, social, environmental and energy consequences of a decision that could allow, limit or prohibit a conflicting use.

¹¹ From Title 3, Sections 1-4 of the 1996 Urban Growth Management Functional Plan

¹² From Title 3, Sections 1, 2 and 5 of the 1996 Urban Growth Management Functional Plan.

¹³ From Title 3, Sections 1, 2 and 5 of the 1996 Urban Growth Management Functional Plan.

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**Staff Report for Ordinance #05-1077
Attachment #2**

Fish and Wildlife Habitat Protection and Restoration Tools

**Summary Descriptions and Recommended
Best Management Practices**

April 2005

Fish and Wildlife Habitat Protection and Restoration Tools

Tool Categories (See attached document for summary descriptions)		Program Objectives					
		Avoid				Minimize	Mitigate
		1: Streamside Connectivity	2: Large habitat patches	3: Wildlife Corridors	4: Habitat of Concern	5: Minimize Impacts	6: Mitigate & Restore
AVOID	1) Acquisition	●	●	●	●	○	○
	2) Tree protection standards	●	●	●	●	●	●
	3) Cluster development	●	●	●	●	●	○
	4) Transfer of development rights (TDRs)	●	●	●	●	●	○
	5) Riparian setbacks	●	○	○	●	○	○
MINIMIZE	6) Flexible site design	○	○	○	○	●	○
	7) Impervious surface reduction	○	○	○	○	●	○
	8) On-site stormwater management and erosion control	○	○	○	○	●	○
	9) Greenstreets standards	○	○	○	○	●	○

Tool Categories (See attached document for summary descriptions)		Program Objectives					
		Avoid				Minimize	Mitigate
		1: Streamside Connectivity	2: Large habitat patches	3: Wildlife Corridors	4: Habitat of Concern	5: Minimize Impacts	6: Mitigate & Restore
MINIMIZE (cont.)	10) Education and awareness	○	○	○	○	○	○
	11) Technical assistance	○	○	○	○	●	○
	12) Incentives	○	○	○	○	○	○
MITIGATE	13) Mitigation	○	○	○	○	●	●
	14) Restoration	●	●	●	●	○	●
	15) Ongoing monitoring	○	○	○	○	○	○

● = directly supports achieving goal; ○ = indirectly supports achieving goal; √ = area most applicable
 SL = strictly limit; ML = moderately limit; LL = lightly limit

Summary Description of Tools

1. Acquisition and conservation easements

Acquisition programs are very effective in habitat protection and restoration and are usually applied to privately-owned lands. Land may be purchased outright or with a conservation easement from willing landowners. Land acquisition programs are used by a select set of organizations. The high cost of land limits the ability of many smaller organizations to purchase land. Primarily city governments, Metro, federal programs, and a few non-profit organizations utilize acquisition programs. Since 1995, all of the programs combined have succeeded in protecting approximately 11,000 acres of land in the Metro region that is explicitly managed for fish and wildlife habitat protection.

Issues to consider for implementation in Metro region

Opportunities	Constraints
Acquisition	
<ul style="list-style-type: none"> • Habitat that is acquired for purposes of conservation may be considered protected in perpetuity. • Land can be donated to non-profits or governments for habitat conservation, property owners receive a tax deduction. • Once acquired, land can be restored and maintained to provide better quality habitat. 	<ul style="list-style-type: none"> • Cost of land in the urban area is very high and an acquisition program depends on willing sellers, limiting the potential for an expansive acquisition program. • Managing donated land is time and labor intensive. • Restoring and maintaining land is expensive. An endowment at the time of purchase can offset these expenses. • Difficult to achieve continuity of habitat.
Conservation Easements/Deed Restrictions	
<ul style="list-style-type: none"> • Conservation easements can be donated to non-profits or governments for habitat conservation; property owners receive a tax deduction. • Easements can be less expensive and allow private ownership of the land to continue. 	<ul style="list-style-type: none"> • Working with landowners with conservation easements is time and labor intensive. • Long-term maintenance and management of habitat land with easements can be expensive and difficult to manage. • While the deed restriction continues when a property is sold, there may need to be education for the new owner.

RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian and other habitat:

Metro should consider using existing resources and a variety of additional funding sources to carry out some or all of the following activities:

- a. Coordinate with non-profit agencies and others who are involved in acquisition to help identify prime fish and wildlife habitat for consideration of their acquisition programs.
- b. Apply for grants that can lead to targeted acquisition for prime areas, such as opportunities in Damascus and other new urban area planning.
- c. Use funds to leverage other purchases and target small areas for purchase outright or in easements.
- d. Launch a major acquisition effort tied to the fish and wildlife habitat area preservation and restoration focusing on:
 - Parcels that are so valuable they should not be lost when volunteer efforts and local regulations are not able to protect habitat.

- Key connector habitat areas and other low quality areas that offer important restoration opportunities.

Local jurisdictions should consider acquiring habitat lands through the following programs:

- Purchasing floodplains and/or other special habitats through SDC (system development charges) programs.
- Applying for FEMA grants to purchase floodplains.

2. Forest canopy (tree) protection standards

Tree protection ordinances often stipulate tree and forest retention and/or reforestation standards, and require developers to obtain permits before certain trees or percentages of forest cover can be removed, encroached upon, or in some cases pruned. Tree ordinances can also govern the planting and removal of trees within public rights-of-way, and can resolve conflicts between property owners that result when trees block views or sunlight. Some jurisdictions limit the cutting of trees through site design standards (e.g., cluster development) in their environmental or sensitive area overlay zones. Types of tree ordinances¹ include:

- Street Tree Ordinances
- Tree Protection Ordinances
- Forest Conservation Ordinances
- View Ordinances

Of the ordinance types listed above, the most applicable for the creation and protection of habitat are tree protection and forest/woodland conservation ordinances. The former (tree protection) ordinances typically set protection standards for individual trees, whereas the latter (forest conservation) require the protection of forest patches and/or canopy.

Issues to consider for implementation in Metro region

Opportunities:	Constraints:
<ul style="list-style-type: none"> • Tree protection and forest conservation ordinances can be an effective means for protecting fish and wildlife habitat. • Tree protection has additional benefits such as increase in property values, stormwater reduction, energy savings, air pollution reduction. • Many local jurisdictions already have some form of tree ordinances; effective local ordinances could serve as a model for jurisdictions that do not have them. • Undeveloped forest areas coming into the urban growth boundary (UGB) could be preserved. 	<ul style="list-style-type: none"> • Tree ordinances can be administratively and financially cumbersome to developers and existing property owners. • Tree ordinances may require extended permit processing time. • There may be a perceived loss of developable land as a result of forest protection and other costs. • Non-enforcement of tree ordinances can lead to ineffective protection. • There is a potential high cost to landowners/ developers if in-lieu-of fee approach is used. • Preservation of individual trees may be costly and potentially dangerous; sometimes replacement may be more effective than retention of trees. • Forest management is an important concern (e.g., removing competing vegetation to preserve certain habitat types such as White Oak woodlands).

¹ See appendix for a summary of tree ordinances in the Tualatin Basin.

RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian:

Local jurisdictions should protect trees in Class I and II Riparian habitat by adopting tree ordinances or other tools that effectively protect trees. Some provisions of an effective tree ordinance include:

- a. Prioritize tree canopy protection; e.g., natural stands or groups of trees given priority over individual specimens, largest trees with greatest environmental benefit.
- b. Establish minimum standards for tree canopy retention and reforestation standards such as number of trees over 6" dbh per acre; percentage (e.g., 50%) of tree canopy retained; 1:1 replacement according to total DBH; tree planting on site, off site, or in lieu payment.
- c. Promote retention of individual tree specimens within Habitats of Concern (such as white oak woodlands).
- d. Maintain or enhance understory of shrub and herbaceous layers within forest canopy habitat; require planting of native species and removal of noxious plants.
- e. Require a project arborist to oversee construction activities; protect critical root zone during all phases of construction including excavation around trees, grading and filling, placement of impervious surfaces, construction equipment and storage, etc.
- f. Include costs for maintenance of trees, or allow developers to contribute to a fund for maintenance rather than replace trees.
- g. Include provisions for enforcement of tree protection standards; incentive enforcement of tree code should be considered (see Appendix for description; city of Tigard).

Other habitat areas:

Local jurisdictions are encouraged to protect trees in other regionally significant habitat areas by adopting tree ordinances or other tools that effectively protect trees. In addition to the provisions listed above, effective tree ordinance for other habitat areas include:

- a. Retain upland wildlife habitat in as large of units as possible; minimize activities that fragment forest canopy into small units (below 28 acres).
- b. Maintain or enhance forest canopy connectivity between upland habitat patches and between riparian corridors and upland habitat.

3. Cluster development/on-site density transfer

Cluster development is a compact form of development that conserves land on one portion of a site in exchange for concentrated development on another portion of the site.² Typically, road frontages, lot sizes and setbacks are relaxed to allow the preservation of open space areas.

² See Appendix for an example of a proposed cluster development in SE Portland that preserves 17.5 acres of 26.9 acre site and achieves maximum allowed density (65 lots).

Issues to consider for implementation in Metro region

Opportunities	Constraints
<ul style="list-style-type: none"> • Cluster development is most likely to work well in habitat areas with a larger overall site size. • Reducing minimum lot sizes and densities in habitat areas could allow clustering to be more effective. Metro currently has an exemption for density requirements if natural resources are preserved. • Education to developers and public may increase use of clustering. • If the resource covers a small portion of a parcel clustering has more potential. 	<ul style="list-style-type: none"> • Many habitat areas have high minimum densities in place. Clustering would not be possible in these areas without changing the housing type (e.g., from detached single family to attached single family or multi-family). Changing housing types in existing neighborhoods may change neighborhood character, which is contrary to Metro policy (Title 12 of the Functional Plan, protection of residential neighborhoods). • Long-term management of habitat preserved through subdivision platting can be an issue.

RECOMMENDED BEST MANAGEMENT PRACTICES

High minimum required densities to meet 2040 goals may reduce the potential for cluster development in some habitat areas.

- a. Metro should review and amend, if necessary, current density target exemptions for natural resource protection to ensure workability.

Class I and II Riparian:

Local jurisdictions are required to allow cluster development in Class I and II streamside areas to preserve habitat. Some or all of the following actions could be taken to promote cluster development:

- a. Reduce minimum density requirements (zoning) in habitat areas to allow for clustering and larger lots that preserve habitat consistent with Metro direction.
- b. Allow cluster development (on-site density transfer) in habitat areas as a by-right method of development, reducing the level of review necessary and therefore minimizing costs.
- c. Allow for flexible lot design to reduce impervious cover and preserve the most amount of habitat.
- d. Include legal requirements for the long-term maintenance and management of preserved habitat.

Other habitat areas:

Local jurisdictions are encouraged to allow cluster development in all regionally significant habitat areas to preserve habitat.

4. Transfer of Development Rights

Transfer of Development Rights (TDR) is a tool used in many communities to preserve natural features, farmland, and historic landmarks. TDRs encourage a voluntary shift of development from places a community wants to save (sending areas, e.g., Class I riparian corridors) to the places where growth is wanted (receiving areas – e.g., in centers). The owners of the sending areas receive compensation for protecting their land by selling their development rights to another party to be used in a receiving area. Developers in a receiving area may build to a certain extent without using a TDR, but more units or floor space may be allowed with the purchase of a TDR (some jurisdictions have base density, minimum density, and maximum density that can only be reached with the purchase of a TDR). Such a program preserves

important places, encourages growth where the community wants it, does not require a substantial public expenditure, and provides compensation to property owners.

Issues to consider for implementation in Metro region

Opportunities	Constraints
<ul style="list-style-type: none"> • A banking system could be developed for development rights, purchasing the rights from affected landowners who wish to sell and reserving them for sale until needed by jurisdictions for upzoning or in UGB expansion areas. This bank could function at the regional scale or within a specific jurisdiction or planning area, and could be managed by a government or a foundation. • TDRs are particularly useful in UGB expansion areas where a program could be put in place prior to upzoning. This allows all property owners to benefit more equally from inclusion in the UGB and also preserves significant habitat. (Pleasant Valley includes an approach.) • As an alternative to a more traditional TDR program, a density transfer charge imposes a fee any time a developer wishes to build more than allowed on a site, or for any upzoning. Allows for the collection of money to be spent to preserve habitat lands by purchasing them. May not be much application in built out communities, but could apply to growing areas. 	<ul style="list-style-type: none"> • TDR programs have mostly been successful in areas without urban growth boundaries. In Oregon, development is restricted outside of the UGB, and in the Metro region densities have been increased substantially to achieve the 2040 Growth Concept and to focus development in centers. While it would be a relatively simple task to identify sending areas (Class I riparian, Class A upland for example), it is more difficult to identify receiving areas if a market for more density does not exist. • In the Metro region it may be difficult to implement a TDR program due to the existing high densities and the fact that many developers currently build at the minimum density. There does not appear to be much demand for increased densities to be transferred from habitat areas. • Portland has TDRs available for use to preserve habitat in two planning areas; however, they have never been used. • Expansion areas may not have a large capacity for density since there is a substantial amount of existing habitat.

RECOMMENDED BEST MANAGEMENT PRACTICES

- a. Metro should explore the potential of requiring any future upzoning throughout the region to require the purchase of a TDR or a density transfer fee to be used for habitat protection.
- b. Metro should work with local jurisdictions in urban growth boundary expansion areas to implement a TDR program prior to implementing urban zoning (e.g., in areas like Pleasant Valley and Damascus).
- c. Local jurisdictions should consider implementing a transfer of development rights program to preserve habitat.

5. Riparian setbacks

Setbacks are protective corridors of land along shorelines, lakes, streams, and wetlands where development is limited or prohibited. Setbacks provide important ecological and water quality benefits by providing a transition between upland development and adjoining surface waters. In short, they serve as barriers between development and waterways, and are an important resource in themselves. The majority of the region’s wildlife species depends on riparian areas. Setbacks can have either fixed or variable widths depending on a jurisdiction’s needs and the intended purpose of the setback regulations.

Issues to consider for implementation in the Metro region

Opportunities	Constraints
<ul style="list-style-type: none"> • Riparian areas are critical to water quality, fish and wildlife, yet many streams lack setbacks of any kind. Providing even minimal setbacks on all streams can help protect the region's water quality and biological diversity. • Because of their ecological importance, riparian areas represent some of the region's best restoration opportunities. Setbacks and current conditions can help define the target areas for riparian restoration. • Setbacks can create clear and objective standards, which are relatively easy to administer and can minimize map error issues. • A strong nexus may be made between riparian setbacks and compliance with federal laws (CWA, ESA); setbacks may help local jurisdictions meet TMDL and ESA requirements. 	<ul style="list-style-type: none"> • Limited benefit where riparian vegetation has already been replaced with development, but setback enhancements could be negotiated under redevelopment. • Setbacks may result in perceived or actual private property rights infringement; some development likely to occur within setback areas to avoid or minimize this issue. • Setbacks should be based on existing resources, which may require site-specific delineation such as those required by Clean Water Services. Site-specific delineation may be expensive.

RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian:

Local jurisdictions should expand the area to which Title 3 Water Quality Resource Area performance standards apply.

- a. Extend Title 3 WQRA performance standards longitudinally to all inventoried streams, including those draining less than 50 acres. Apply the 15-50 foot standard to the smaller streams.
- b. Extend Title 3 WQRA performance standards laterally to Class I and II streamside habitat, consistent with the ESEE treatments.

Local jurisdictions should also consider incorporating the following items in protection regulations for Class I and II habitat:

- a. Maintain or enhance forest cover in setback areas to improve stormwater management, habitat protection, and other benefits.
- b. Maintain or enhance native vegetation in setbacks areas to provide better wildlife habitat.
- c. Minimize stream crossings to promote continuity of riparian corridors.
- d. Delineate setback boundary so that it is visible before, during, and after site construction. Developers should be familiar with the limits of disturbance throughout construction.

6. Green development practices, or low impact development (LID) – impervious surface reduction and stormwater management

Low impact development (LID) is an innovative, ecosystem approach to site development and stormwater management. LID design requires careful evaluation of the physical and ecological characteristics of the site and consideration of how to minimize development impacts. LID design techniques typically serve to conserve native vegetation and soils, minimize impervious surfaces, slow down surface water runoff, detain and retain water on-site, maximize infiltration and remove pollutants in stormwater.

In urban and developing areas where impervious cover can be significant, the objective is to reduce imperviousness in the development process and increase natural areas. Reducing the amount of impervious surfaces reduces the amount of stormwater runoff generated in the first place. Conventional stormwater management practices collect and convey stormwater runoff in costly end-of-pipe facilities to one location. In contrast, LID addresses stormwater through small-scale landscape features located at the lot level. These landscape features, known as Integrated Management Practices (IMP), help to maintain natural flow patterns, filter pollutants and recreate or maintain the hydrology of a site.

Impervious surface reduction standards focus on some of the following areas:

- Native soils and soil amendments
- Driveway, street and sidewalk widths
- Flexible lot setbacks and shape standards
- Smaller building footprints
- Alternative foundations
- Permeable pavement options
- Reduced parking lot area
- Parking ratio requirements

Some of the practices used to manage stormwater include³:

- Bioretention/rain gardens
- Dry Wells
- Filter Strips
- Swales (wet and dry)
- Rain Barrels
- Infiltration Trenches
- Soil Amendments
- Greenroofs
- Greenstreets

³ See appendix for examples of low impact development and other green development practices.

Issues to consider for implementation in Metro region

Opportunities:	Constraints:
<ul style="list-style-type: none"> • Careful site design and stormwater management can allow for urban economic growth while contributing to the protection of sensitive habitat areas. • With better site design, individual developments and road projects can reduce impervious cover and increase natural areas conserved. • Reducing effective impervious surfaces can significantly cut infrastructure costs that developers pay for the construction of roads, sidewalks and stormwater infrastructure. • Permeable pavement can easily be integrated into new construction where soil, slope and traffic conditions are suitable. • Reducing stormwater drainage infrastructure (e.g., pipes, ponds, other structures) can lower infrastructure costs. • Developers using LID practices can potentially increase developable land by reducing size requirements for stormwater ponds. • Using low impact development design techniques assists in meeting Clean Water Act requirements. LID practices have been found to improve hydrologic conditions in a watershed and to remove various urban pollutants from stormwater runoff. • Metro has developed greenstreet standards⁴ to reduce impervious surfaces and manage stormwater that could be either required or encouraged throughout the region. • There are many more case studies in the region that provide working examples. 	<ul style="list-style-type: none"> • Most local jurisdictions' development codes do not allow for many LID practices (e.g., narrower roads or open road sections without curbs and gutters).⁵ • Many engineers and developers are not familiar with LID stormwater techniques and continue to rely on better known conventional practices. • Permeable pavement costs more (however, more materials are becoming available and prices are coming down). • The use of low impact stormwater management techniques is highly dependent on site conditions and is generally not applicable where soils are impermeable or where water soluble pollutants may contaminate an underlying aquifer. • Other barriers may include higher cost for development review, longer permitting process and additional permit requirements.

RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian and other habitats:

Metro should:

- a. Help identify barriers to employing the practices listed below,
- b. Determine an appropriate goal(s) for on-site stormwater retention for different sites throughout the region, and

⁴ *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* (Metro, June 2002).

⁵ *Stormwater/Pavement Impact Reduction (SPIR) Project* (Audubon Society of Portland, November 2003) identifies barriers in existing codes for jurisdictions in Washington County. *Economic Growth and Fish & Wildlife Habitat Protection: The Promise of Low-Impact Stormwater Management in the Portland, Oregon Metropolitan Region* (J. Sherman, Master Thesis, University of Washington) analyzes benefits, costs, methods of LID implementation throughout the Northwest, and provides some recommendations and considerations for incorporating low impact development into a fish and wildlife habitat program.

- c. Provide education and technical assistance to local jurisdictions and developers.

Class I and II Riparian:

Local jurisdictions should be required to reduce impervious surfaces in Class I and II habitat areas by removing barriers to allowing some or all of the following actions:

- a. Minimize grading and lot disturbance; use erosion and sediment control practices to protect soil surface and to retain sediment on site.
- b. Amend retained topsoil to regain some of the absorption, infiltration, retention and pollutant removal capabilities of the soil.
- c. Relax residential lot sizes, setbacks and shape standard to minimize extent of impervious surfaces.
- d. Encourage smaller building footprint through building design.
- e. Encourage use of alternative foundations, such as pier, post or piling foundation, that reduce impacts on soils and trees (see Appendix for example of alternative foundation).
- f. Use pervious paving materials in place of traditional impervious materials where appropriate.
- g. Reduce impervious impacts of residential driveways by narrowing widths, moving access to the rear of the site, using more pervious paving materials and promoting the use of shared driveways.
- h. Reduce width of residential streets, depending on traffic and parking needs.
- i. Reduce street length, primarily in residential areas, by encouraging clustering and using curvilinear designs.
- j. Reduce cul-de-sac radii and use pervious vegetated islands in center to minimize impervious effects.
- k. Reduce sidewalks width, place on one side of the street, and graded such that they drain to the front yard of a residential lot or retention area.
- l. Reduce impervious surfaces in parking lots by minimizing car spaces and stall dimensions, using shared parking facilities and structured parking, and using pervious paving materials where appropriate.
- m. Reduce parking ratios to limit excess parking space construction.

Local jurisdictions should be required to remove barriers in their development codes to allow for low impact development stormwater management in Class I and II habitat areas. Some or all of the following actions could be taken to manage stormwater on-site:

- a. Amend retained topsoil to regain some of the absorption, infiltration, retention and pollutant removal capabilities of the soil.
- b. Landscape with rain gardens to provide on-lot detention, filtering of rainwater, and groundwater recharge.
- c. Disconnect downspouts from roofs and direct the flow to vegetated infiltration/filtration areas such as rain gardens.
- d. Retain rooftop runoff in a rain barrel for later on-lot use in lawn and garden watering.
- e. Combine the rain gardens with grassed swales to replace a curb-and-gutter system.
- f. Use permeable pavers for walkways and parking areas.
- g. Design roads to incorporate stormwater management in right-of-ways where appropriate.
- h. Use multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems.
- i. Use bioretention cells as rain gardens in landscaped parking lot islands to reduce runoff volume and filter pollutants.

- j. Use green roofs for runoff reduction, energy savings, improved air quality, and enhanced aesthetics.
- k. Apply a treatment train approach to provide multiple opportunities for stormwater treatment and reduce the possibility of system failure.

Other habitats:

Local jurisdictions are encouraged to remove barriers to reducing effective impervious surface and allowing for low impact development stormwater management practices in other habitats and throughout their jurisdiction to address overall watershed health.

7. Design standards for fish passage and wildlife crossings

Design standards and best management practices can be used in road building and stream crossings that promote fish and wildlife continuity in the region. These include structural design provisions to allow wildlife to cross roads and better fish passage schemes at road crossing to aid in salmon and other fish migration.

Wildlife crossings:

- Bridges and overpasses – grade separation structures designed to allow wildlife to cross over an intersecting highway
- Culverts and underpasses – structures designed to convey wildlife under an existing roadway (bottomless culvert, arch culvert)
- Roadside escape structures – structures designed to allow an animal trapped on a roadway by a diversion fence to exit.

Fish passages

- Bridges (preferred over other structures)
- Culverts (bottomless arch culverts, embedded round culverts, concrete box culverts)

Issues to consider for implementation in Metro region

Opportunities:	Constraints:
<ul style="list-style-type: none"> • Use of wildlife crossing and fish passage facilities in the Metro region presents unique opportunity for promoting continuity of habitat and for minimizing loss of wildlife in urban areas. • Language in Regional Transportation Plan and local plans could be positive and proactive to minimize number of stream crossings. • Wildlife crossings can reduce property damage from accidents and reduced accident cleanup and disposal costs. • ODFW has detailed design specifications for stream crossings on fish bearing streams. • There are many existing culverts that need to be retrofitted to ensure safe fish and wildlife passage. • Local codes and transportation plan updates are opportunities to address conflicts with stream crossing objectives to minimize number of stream crossings. 	<ul style="list-style-type: none"> • Bridges tend to be more expensive than culverts. • Lack of experience in Metro region with habitat-friendly structures could pose significant challenge to effective implementation. • Many fish passage culverts or structures need to be custom made, are expensive, and tend to be oversized. • Some jurisdictions' transportation plans have not been reconciled with natural resource concerns, and result in conflicts with stream crossing objectives.

RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian:

Metro should:

- a. Maintain list of problem culverts and prioritize for retrofitting to ensure safe fish and wildlife passage.
- b. Review language in Regional Transportation Plan and consider changing language to require stream crossing standards from a positive perspective, such as: “where streams must be crossed, space crossings at intervals of 1,200 feet where practicable.”

Local jurisdictions should be required to incorporate fish and wildlife friendly passages in road design by addressing some of the following:

- a. Minimize the number of stream crossings and place crossing perpendicular to stream channel if possible.
- b. Use bridge crossings rather than culverts wherever possible.
- c. Design stream crossings for fish passage with shelves and other design features to facilitate terrestrial wildlife passage.
- d. Allow narrow street right-of-ways through stream corridors whenever possible to reduce adverse impacts of transportation corridors.
- e. Consider using simple ways to help wildlife such as building rock ledges along one side of culverts for wildlife passage, plugging bridge-deck drains, using “lampshades” on bridge lights and creating small animal habitat from logs and brush.

Other habitats:

Local jurisdictions are encouraged to incorporate wildlife friendly passages in road design addressing some of the following:

- a. Consider regional wildlife migration patterns for locating transportation facilities in upland areas.
- b. Extend vegetative cover through the wildlife crossing in the migratory route, along with sheltering areas.
- c. Carefully integrate fencing into the landscape to guide animals toward the crossings.
- d. Consider using simple ways to help wildlife such as building rock ledges along one side of culverts for wildlife passage, plugging bridge-deck drains, using “lampshades” on bridge lights and creating small animal habitat from logs and brush.

8. Education and awareness

Many landowners would like to manage their land in a way that benefits fish and wildlife habitat. However, frequently people do not know if certain activities are detrimental (using herbicides and pesticides), if there are alternatives (natural gardening), what to do to improve habitat (plant native plants, remove invasive species like ivy), and how to connect to agencies and organizations that provide grants and/or volunteers to help improve habitat. A program could be developed to focus efforts to increase people’s awareness of the connections between their activities and the health of streams and rivers, similar to fish stencil programs. Landowners in regionally significant habitat areas could be targeted to raise awareness of how individual activities impact fish and wildlife habitat. Education activities would be most effective when used in conjunction with a stewardship certification program, grant programs, and regulatory programs.

Metro currently has several education programs that help fish and wildlife habitat in the Parks and Greenspaces Department and the Solid Waste and Recycling Department. Many other organizations in the region also provide classes about the environment.

Issues to consider for implementation in Metro region

Opportunities	Constraints
<ul style="list-style-type: none"> • There are a number of strong education programs operated by Metro and other organizations that focus on fish and wildlife habitat protection and restoration. • Education oriented towards children may be most effective in long-term behavior change (e.g., recycling). 	<ul style="list-style-type: none"> • Focusing efforts on education and awareness is expensive. • Results are long-term and are unlikely to immediately protect or restore habitat.

RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian and other habitats:

Metro should consider using existing resources and a variety of additional funding sources to carry out the following activities:

- a. Coordinate fish and wildlife education messages into ongoing Metro program areas, including Parks and Open Spaces planning and outreach, Zoo exhibits such as a display on Metro urban fish and wildlife habitat and enhancement of Solid Waste and Recycling programs to target homeowners and developers of residential properties.
- b. Develop seminars, recognition and speaker programs and other special efforts to increase awareness of green development practices.
- c. Develop a list of all education programs in the region and determine which are most effective.
- d. Coordinate regional messages on fish and wildlife habitat, watershed function, and water quality to encourage people to think on a more broad and time-sensitive scale. Encourage the placement of signs in habitat areas as an important component of an educational program.
- e. Organize and prioritize a regional education campaign and provide a clearinghouse for education materials and referrals.

9. Technical assistance

Technical assistance programs are noted for being responsive to landowner or developer needs, providing practical information, and having knowledgeable resource staff. Such a program would not provide direct protection to resources, but would offer a means of improving stewardship and enhancement by private landowners. Technical assistance could help supplement cost-sharing programs, such as grants, to further protection and restoration efforts. Technical assistance could be focused on landowners, development practices, and/or local partners. Metro has provided technical assistance to local partners throughout the implementation of the Regional Framework Plan and the Regional Urban Growth Management Functional Plan. This has proved especially important in the implementation of Title 3 (stream and floodplain protection) and planning for 2040 centers.

Metro could work with local partners to develop technical assistance, incentives, recognition programs, and awards for development that helps protect fish and wildlife habitat. Metro, in conjunction with local partners, could develop regional low impact development standards and designs to reduce development impacts on fish and wildlife habitat. The Green Streets Handbook serves as a successful model of technical assistance for transportation infrastructure.

Issues to consider for implementation in Metro region

Opportunities:	Constraints:
<ul style="list-style-type: none"> • A technical assistance program can effectively change practices by working with interested parties • There are existing technical assistance programs (e.g., through soil and water conservation services, etc.) that could be supported and enhanced 	<ul style="list-style-type: none"> • Technical assistance can be very labor intensive • Technical assistance can only reach willing participants

RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian and other habitats:

Metro should consider using existing resources and a variety of additional funding sources to carry out the following activities:

- a. Provide technical assistance to jurisdictions to implement fish and wildlife habitat program recommendations, such as a Handbook of Green Development Practices. Also consider developing a certification process for city officials to help them integrate natural resource needs and development.
- b. Work with local jurisdictions to identify barriers in codes that limit green development practices, for example, flexible site design and on-site stormwater management practices.
- c. Provide technical assistance to the development community, primarily targeting new residential development to incorporate green development practices. For example, native landscaping, tree planting, and site design.

10. Incentives

Stewardship recognition programs

These programs publicly acknowledge landowners, businesses and other entities for conserving open space, protecting or restoring habitat areas, making financial contributions or carrying out good stewardship practices in general. Public agencies and nonprofit organizations can administer the programs, and the recognition could take the form of media publicity, awards ceremonies, or plaques and certificates. These programs, while not widely applied in the Metro region, have much potential for encouraging conservation behavior when combined with other programs.

A good stewardship agreement between a landowner and an organization interested in protecting or restoring habitat and monitoring success over time can be used to achieve some level of habitat protection. The Wetlands Conservancy uses stewardship agreements to enhance wetlands protected through their efforts. Such a program would recruit landowners to agree to voluntary stewardship agreements that allow residents to make a commitment to care for the land in a manner that promotes habitat value. A stewardship agreement program would be most effective when combined with other incentives such as education, technical assistance, and grants.

Landowner recognition programs on their own generally provide no permanent protection of resources because participation is voluntary. However, administrative costs may be relatively low compared to funding for programs such as acquisition that provide definitive permanent protection. This tool is most likely to be effective when integrated with other tools (e.g., grants and education) as part of an overall conservation strategy. Perhaps the greatest benefit is to provide publicity to developers and landowners, and thus encourage others to take similar actions.

Grants

Grants for restoration can provide the incentive for supportive landowners and other organizations to restore habitat on private and public lands. A small grant program, targeted to watershed councils, non-profit organizations, or local governments, could be created similar to Metro's recent grants for Regional and Town Center planning efforts. Small grants given in strategic places could build on existing work and encourage more efforts in targeted areas.

Funding can leverage additional benefits such as education and volunteerism. Private landowners may be interested in the concept of improving the habitat value on a portion of their land, and the availability of dollars can provide the impetus to conduct restoration activities. Many grants are provided with a required match of either dollars or in-kind materials or labor. These incentives provide landowners who contribute a portion of the proposed cost for conservation or restoration activities with additional funding opportunities. There are several programs in place for rural land in agriculture or forestry use, and some for urban lands. A grant program could target specific activities along stream reaches or within watersheds in coordination with Watershed Action Plans to accomplish the most effective restoration. A monitoring component of a restoration plan would be essential to assess effectiveness over time at restoring habitat function.

As part of a regional habitat friendly development program, Metro could develop a *Habitat-oriented Development Program* similar to Metro's Transit-oriented Development (TOD) Program to encourage construction of new developments or redevelopment that protects and restores fish and wildlife habitat. This would require funds to provide the incentives for developers to practice habitat friendly development.

Incentives for green streets

The Metro Council could establish a priority for funding transportation projects based on their impacts to regionally significant fish and wildlife habitat. A criterion could be added to the MTIP funding priorities that focuses on habitat issues, such as culvert replacement or removal, wildlife crossing improvements, or implementation of Green Streets design standards. Alternatively, a separate category or bonus points could be assigned to projects that meet habitat criteria to allow for the funding of projects that improve transportation and habitat in the region.

Property tax reduction

There are two state programs that could be applicable within the urban area: the *Riparian Lands Tax Incentive Program* and the *Wildlife Habitat Conservation and Management Program*. Both programs would require county or city action to be implemented. The riparian tax incentive

program allows for a tax exemption for property within 100 feet of a stream provided the land is protected and managed for habitat value. The program is limited to 200 stream miles per county. The wildlife habitat program allows designated habitat land to be taxed at a special, reduced rate as long as it is protected and managed for habitat value. This program is not limited by acres and can be applied to riparian or upland habitat.

Habitat protection and restoration may be most effective ecologically if applied strategically, for example, in a specific stream reach or headwater area. This tool could serve as an important incentive to encourage landowners to work in a coordinated fashion to leverage ecological improvements in a specific area. If used on a “first-come, first-served” basis there may be a scattered approach and less ecological benefit overall. A downside to using property tax relief as a tool for habitat protection is that a landowner can leave the program at any time, the only penalty being payment of back taxes, similar to opting out of a farm or forest tax deferral program.

Issues to consider for implementation in Metro region

Opportunities	Constraints
<ul style="list-style-type: none"> • Incentives can provide the necessary encouragement for people who already want to protect and restore fish and wildlife habitat. • An incentive allows for more people to be reached, providing more opportunities for technical assistance and education. • Willing participants. • Incentives can be incorporated with regulations to achieve better results. • Can achieve restoration of degraded habitat. 	<ul style="list-style-type: none"> • Incentives require an investment of both money and staff time. • Habitat is protected on a haphazard basis. • Voluntary protection can result in impermanent protection over time

RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian and other habitats:

Metro should consider using existing resources and a variety of additional funding sources to carry out the following activities:

- a. Coordinate with Centers Program to offer financial incentives for specific building projects that incorporate green development practices, especially those improving habitat conditions.
- b. Provide resources to watershed councils and friends organizations to increase their stability and productivity.
- c. Seek interagency and non-profit support for increased federal and state grant funding directed at watershed-based restoration activities (such as National Fish and Wildlife Foundation, USFWS Conservation and Restoration funds, EPA Smart Growth funds, etc).
- d. Develop an award program to foster and recognize green development practices, similar to the now defunct Stormwater Management Design Awards Program. Sponsor a yearly award ceremony, provide certificates, and encourage media coverage.
- e. Develop a Regional Fish and Wildlife Habitat Stewardship program that recognizes landowners for restoring and protecting habitat on their land. Sponsor a yearly award ceremony, provide certificates, and encourage media coverage.

- f. Develop signed voluntary stewardship agreements between a property owner and Metro or another sponsor for habitat protection. Most likely to be effective when used in conjunction with small grants and long-term monitoring.
- g. Provide financial incentives for green development practices in habitat areas.
- h. Encourage cities and counties to implement existing property tax incentive programs within the Metro region (WHCMP and RLTP).

Local jurisdictions should get extra points if they incorporate incentive programs for protection and restoration of regionally significant habitat.

11. Mitigation

Mitigation is the attempt to offset potential adverse effects of human activity on the environment⁶. Mitigation can be divided into two general categories: resources for which the state and federal governments control mitigation (wetlands, waters of the state), and habitats where there is no existing state or federal requirement for mitigation.

Title 3 serves as a building block for mitigation for habitat loss in areas not covered by state or federal regulations. Title 3 defines mitigation requirements for development within Title 3 Water Quality Resource Areas (WQRA) and requires “balanced cut and fill” for floodplain areas. Title 3 WQRA extend 50 feet from many of the region’s year-round streams, and can extend up to 200 feet in steep slope areas.

The Title 3 Model Ordinance contains a detailed description of mitigation requirements for development in WQRA depending on the existing condition of the vegetated corridor. These requirements could be extended to currently unprotected, high-value riparian habitat in Metro’s inventory. Essentially, this would mean an enhanced Title 3 program.

Local government plans also contain mitigation requirements for areas covered in their local Goal 5 programs (City of Portland's E-zones, Wilsonville's Significant Resources Overlay Zone, Hillsboro's Sensitive Lands Overlay District, etc.). Mitigation requirements under Metro's program would be most relevant for Class I and Class II riparian habitat not covered in local programs or where local programs lack mitigation requirements. However, local jurisdictions are encouraged to work closely with same-watershed jurisdictions to plan enhancement activities, and with Metro and other stakeholders to address upland habitat through voluntary measures.

⁶ See appendix for local examples of habitat degradation and loss from urban development.

Issues to consider for implementation in the Metro region

Opportunities	Constraints
<ul style="list-style-type: none"> • Mitigation can help offset the impacts of development on water quality, fish and wildlife by requiring compensatory enhancement of riparian habitat. • Mitigation can help maintain ecosystem services. • Title 3 provides a baseline of regulatory mitigation, has already been implemented by local jurisdictions, and contains specific mitigation instructions. • In the urban area, where habitats may be altered or degraded, out-of-kind mitigation (replacing one resource type with a different type) provides an opportunity to replace low-value riparian habitat with higher-value habitat. 	<ul style="list-style-type: none"> • Existing constraints limit the extent of new regulations (takings issues). • The urban growth boundary is space-limited. Setting high mitigation ratios would limit development opportunities in the UGB, and would create the need for mitigation lands when onsite mitigation is not an option. • The success of mitigation over time and space is uncertain. • Monitoring and enforcement are keys to success, but are often overlooked in mitigation programs. • Mitigation requirements would add to development costs.

RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian habitat:

Metro should:

- a. Use mitigation efforts to support watershed plans, regional restoration program and performance measures, and create a regional tracking system.
- b. Develop a regional restoration program that can support mitigation efforts locally.
- c. Continue to explore potential role for regional parklands as mitigation recipients.

Local jurisdictions should be required to preserve and enhance habitat by requiring developers or others disturbing the habitat to:

- a. Use strong avoid-minimize-mitigate principle, as in Title 3.
- b. When mitigation is necessary, mitigate for all habitat loss/damage where Allow-Limit-Prohibit (ALP) decision is other than Allow.
- c. Establish higher mitigation ratios for higher degrees of limit. Set realistic mitigation ratios (e.g., 0.5:1 for lightly limit, 1.5:1 for strictly limit) designed to offset damage from new activities.
- d. Discount stormwater fees or offer other incentives to encourage onsite retention of existing riparian habitat.
- e. Direct mitigation actions to strategize efforts that enhance ecological functions in habitat areas, create new habitat in strategic locations (connective habitat), restore habitat in redevelopment areas, and to preserve/restore Habitats of Concern or rare biological communities located on the site. Rare habitats may, in some cases, be offered for permanent conservation in lieu of enhancing existing habitat.
- f. Permanently protect mitigated lands.
- g. Include code language that facilitates restoration and removal of non-native or invasive vegetation.
- h. Typically, onsite mitigation is preferred when possible. However, off-site mitigation may be encouraged when appropriate – for example, when offsite mitigation would clearly provide a stronger benefit for fish or wildlife than onsite. Except in special cases, mitigate in the same watershed where the impacts occur.

- i. Allow out-of-kind enhancement/replacement when appropriate, but focus on healthy riparian systems and near-stream shade provided by Class I and Class II habitat.
- j. Ensure mitigation program includes long-term monitoring (≥ 5 years) and an adaptive management strategy that provides remedies if monitoring reveals mitigation efforts fail.
- k. Coordinate with Metro to document restoration sites, activities and success.
- l. To mitigate for riparian impacts, mitigation activities will need to stay primarily within existing or newly created Class I and Class II riparian.

12. Restoration

The Society for Ecological Restoration (SER) defines ecological restoration as the process of assisting the recovery and management of ecological integrity. In the urban region, where restoration of true native conditions may not be possible, the term “enhancement” is often used and is used interchangeably here with restoration.

Restoration of degraded habitat is an important component of a fish and wildlife habitat protection program. Restoration generally involves habitat improvement beyond that required through regulations to offset development impacts (mitigation). Restoration can assist the recovery of functions necessary for watershed health; in turn, healthy watersheds can support people, fish and wildlife. Efforts to protect and restore habitat can, in many instances, also benefit humans by reducing flood damage and protecting water quality⁷.

Metro is a logical choice for coordinating regional watershed planning. The impacts of urbanization cannot be realistically addressed through site-specific or small-scale restoration approaches; virtually all recent restoration literature suggests that watersheds are the *minimum* spatial unit for which restoration master planning should occur. Impacts in one watershed may influence adjacent or downstream watersheds, thus all watersheds within the urban area, plus all adjacent watersheds, should be considered in a master restoration plan. NOAA Fisheries (formerly the National Marine Fisheries Service) commented on the importance of considering restoration projects in a large-scale context (2000):

Projects planned and carried out based on at least a watershed-scale analysis and conservation plan and, where practicable, a sub-basin or basin-scale analysis and plan, are likely to be the most beneficial. NMFS strongly encourages those involved in watershed restoration to conduct assessments that identify the factors impairing watershed function, and to plan watershed restoration and conservation activities based on those assessments. Without the overview a watershed-level approach provides, habitat efforts are likely to focus on "fixes" that may prove short-lived (or even detrimental) because the underlying processes causing a particular problem may not be addressed.

Successful restoration depends on addressing the causes of environmental degradation, rather than the symptoms. Goodwin et al. (1997) suggest asking several questions related to the causes of degradation: Is the disturbance local to the riparian area or does it originate outside in the adjacent upland or watershed? Is the disturbance ongoing, and if so, can it be eliminated? And finally, will recovery occur naturally if the disturbance is removed? The answers to these questions can help guide a restoration plan.

⁷ See Appendix for examples of Port of Portland restoration projects.

Issues to consider for implementation in the Metro region

Opportunities	Constraints
<ul style="list-style-type: none"> • Restoration master planning is more effective than piecemeal efforts. • Restoration can help offset the impacts of development on water quality, fish and wildlife by improving degraded habitat, recovering ecological function(s), and building new habitat where none currently exists. • Regional and watershed-based master planning increases the spatial scale and therefore improves potential effectiveness of restoration planning. • Large-scale master planning builds partnerships, increasing knowledge and funding opportunities. • Potential for shared database of the region's watershed conditions and restoration activities could benefit many partners and increase effectiveness. 	<ul style="list-style-type: none"> • Complete recovery of urban ecosystems is not likely possible. • The success of in- and near-stream restoration activities can be impacted by watershed conditions – for example, imperviousness, forest cover and altered hydrologic conditions. Restoration planning will need to take such factors into account. • Restoration is expensive and funding sources need to be identified. • Monitoring restoration success is critical and will require funding.

RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian and other habitats:

Metro should:

- a. Convene the experts:
 - form a multi-disciplinary group to support watershed-based restoration activities and identify technical, financial, and institutional barriers to restoration efforts
 - coordinate with Soil and Water Conservation Districts, watershed councils, local, state and federal agencies
- b. Develop a regional restoration plan:
 - based on past, current, and projected future conditions
 - consider effects to and from adjacent watersheds (e.g., hydrologic alterations)
 - define regional restoration targets by watershed
 - create a regional geographic information system database drawing on watershed action plans, existing mitigation and restoration sites, Metro's regional habitat inventory and other sources of information to help identify watershed restoration priorities and track implementation and success of restoration and mitigation projects over time
 - work with partners to develop regional plan for strategic, ongoing invasive species removal
- c. Increase partnerships for funding and effectiveness:
 - provide resources to watershed councils and friends organizations to increase their stability and productivity
 - consider contributing funds directly to SOLV for specific restoration projects
 - increase funds available in the NFWF restoration bank and solicit corporate donations
 - support leveraged restoration projects with partnerships similar to Americorp Japanese Knotweed and Tualatin River Keepers Gotter's Bottom projects

- seek interagency and non-profit support for increased federal and state grant funding directed at watershed-based restoration activities (such as National Fish and Wildlife Foundation, EPA Smart Growth funds, etc).
- d. Prepare for initiating and managing a bond measure program:
 - coordinate with non-profit groups, local governments, citizens and others to identify regional target areas
 - identify local share funds as part of the bond measure proposal
 - create a challenge grant program to local governments and non-profit organizations to leverage the use of public bond measure funds in acquisition and restoration efforts
 - create a short-term revolving fund to purchase land in targeted areas, implement conservation easements and use surplus funds (resale revenue) to create a funding source for land management purposes

Local jurisdictions should promote effective fish and wildlife habitat restoration by:

- a. Removing barriers to common and effective restoration practices (e.g., no onerous permitting process for non-native blackberry removal).
- b. Participating in watershed planning activities across jurisdictional boundaries.

13. On-going monitoring

Long-term monitoring is important to determine whether various tools are achieving the overall goals for habitat protection. If monitoring shows that goals are not being met, adaptive management strategies may be employed to correct the problem(s).

Monitoring should be based on sound science, and be structured to allow comparisons with other data and over time to determine whether biological goals are being achieved. Some common monitoring targets include vegetative growth, presence of invasive species, biological indicators such as macroinvertebrates, water quality, and ESA-listed species presence. Some monitoring, such as water quality and invasive species, must be conducted in the field. Other monitoring efforts can be conducted using Geographic Information Systems (GIS) – for example, mapping existing near-stream vegetation and monitoring changes over time.

There are many monitoring efforts going on around the region. Agencies such as DEQ, certain local jurisdictions, Oregon Department of Agriculture, ODFW, USGS, and others have collected a variety of data through a variety of methods. There is no comprehensive survey of regional data pertaining to watershed health.

Issues to consider for implementation in the Metro region

Opportunities	Constraints
<ul style="list-style-type: none"> • Long-term monitoring can help determine whether regional habitat goals are being met. • Helps identify key water quality issues as well as preservation, restoration and enhancement opportunities. • Substantial baseline data exists in the region and only needs to be gathered and mapped. • GIS can be used as a relatively inexpensive, but effective, monitoring tool. 	<ul style="list-style-type: none"> • Funds will need to be located for field-based monitoring efforts. • Existing data may not be compatible/consistent with Metro's data needs. • Methods will need to comply with other agencies' standards (e.g., DEQ). • Monitoring certain aspects of fish and wildlife habitat – for example, connectivity – may not be possible without best

<ul style="list-style-type: none"> • A regional monitoring program provides an excellent partnership opportunity. • Mitigation and restoration efforts can be mapped, adding important new information to the fish and wildlife habitat inventory and enabling broad effectiveness monitoring. • Regional monitoring framework can produce a consistent and rich dataset, and considers an ecologically appropriately spatial scale. • Helps lay scientific foundation for future natural resources work. • Provides key data to other agencies and organizations, at no cost to them. • Volunteers may be recruited for certain monitoring efforts, lowering costs and increasing public interest in natural resources. 	<p>professional judgment, and will need to be repeatable.</p> <ul style="list-style-type: none"> • Certain GIS constraints must be considered; for example, when streams not previously mapped are added to the streams data layer, care must be taken not to confuse new information with improved ecological conditions. • Distinguishing cumulative effects (e.g., non-point source pollution) with site-specific effects may be difficult in the urban area. • As certain watersheds increase urban land cover, cumulative effects may obscure improvements from activities such as near-stream enhancement.
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RECOMMENDED BEST MANAGEMENT PRACTICES

Class I and II Riparian and other habitats:

To establish an effective regional monitoring framework, Metro should:

- a. Establish a watershed-based, ongoing monitoring program for habitat quality, including restoration and mitigation accomplishments.
- b. Improve baseline data on existing habitat conditions to enable monitoring of the region’s progress in achieving fish and wildlife habitat targets.
- c. Use existing data when available and appropriate.
- d. Coordinate with other departments and agencies collecting data to improve exchange of information and consistency.
- e. Participate on state and local task forces to share information on restoration and monitoring methods and results.
- f. Seek partnerships to monitor long-term health of mitigation and restoration projects.
- g. Work with partners to gain additional grant funding to support monitoring programs.
- h. Work with stakeholders to set watershed-based targets and a series of straightforward, ecologically relevant, repeatable measurements/indicators of success.
- i. Use GIS tools to map and measure changes in habitat location, quality and quantity (e.g., changes in each habitat class; changes in near-stream or overall canopy cover). Include some field-based monitoring components, such as macroinvertebrate communities, basic water quality, and temperature. Base monitoring components on Metro’s fish and wildlife habitat objectives, targets and indicators.
- j. Include an adaptive management component that responds to regional monitoring findings. Adaptive management incorporates research into conservation action. Specifically, it is the integration of design, management, and monitoring to systematically test assumptions in order to adapt and learn.
- k. Incorporate a citizen or student volunteer monitoring effort element (for example, temperature monitoring).
- l. Require jurisdictions to update data layers (e.g., streams, wetlands) and provide the data to Metro’s Data Resources Center in a standardized form.
- m. Publish monitoring results reports and make data freely available to others.

Acknowledgement:

This report was developed with the advice and review of the Fish and Wildlife Habitat Implementation Work Group.

Chair:

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Heidi Berg, Clean Water Services
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BEFORE THE METRO COUNCIL

APPROVING THE TUALATIN BASIN)	RESOLUTION NO. 05-3577.
NATURAL RESOURCES COORDINATING)	
COMMITTEE’S FISH AND WILDLIFE)	Introduced by Michael Jordan, Chief
HABITAT PROTECTION PROGRAM)	Operating Officer, with the concurrence of
)	David Bragdon, Council President

WHEREAS, the Regional Framework Plan and Urban Growth Management Functional Plan (“UGMFP”) state that Metro will undertake a program for protection of fish and wildlife habitat; and

WHEREAS, in the year 2000 Metro initiated work that has included extensive scientific studies, mapping, and analysis to develop a regional fish and wildlife habitat protection program consistent with the requirements of Statewide Planning Goal 5 and the administrative rules adopted to guide the application of Goal 5, division 23 of chapter 660 of the Oregon Administrative Rules; and

WHEREAS, Metro completed a draft inventory of regionally significant fish and wildlife habitat in the Metro region in August 2002; and

WHEREAS, in 2002, Washington County, the cities of Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, King City, Sherwood, Tigard, and Tualatin, Clean Water Services, and the Tualatin Hills Parks and Recreation Department joined together to form the Tualatin Basin Natural Resource Coordinating Committee (“TBNRCC”); and

WHEREAS, on May 22, 2002, Metro and the TBNRCC entered into an intergovernmental agreement (the “IGA”), approved by the Metro Council on May 16, 2002, by adoption of Resolution No. 02-3195 (which resolution includes a copy of the agreement and of the TBNRCC formation agreement), that authorized the TBNRCC, in close coordination with Metro, to conduct its own analysis of the economic, social, environmental, and energy (“ESEE”) consequences of protecting or not protecting fish and wildlife habitat in the Tualatin Basin, using the draft regional fish and wildlife habitat inventory developed by Metro; and

WHEREAS, pursuant to the IGA the TBNRCC has developed its own program to protect regionally significant fish and wildlife habitat based on its ESEE analysis, almost simultaneously with Metro’s development of its program based on Metro’s ESEE analysis; and

WHEREAS, the IGA was twice modified, as approved by the Metro Council on May 15, 2003, by adoption of Resolution No. 03-3332, and again on March 17, 2005, by adoption of Resolution No. 05-3557, to reflect delays in the development of the Metro and TBNRCC programs to protect regionally significant fish and wildlife habitat; and

WHEREAS, pursuant to the IGA, on April 4 the Tualatin Basin Natural Resource Coordinating Committee approved the Tualatin Basin Program and on April 7, 2005, the TBNRCC submitted its fish and wildlife habitat protection program, the “Tualatin Basin Goal 5 Program,” attached hereto as Exhibit A, to Metro for review, approval, and, if approved by the Metro Council, inclusion in Metro’s regional habitat protection program; and

WHEREAS, Metro is considering Ordinance No. 05-1077, “Amending The Regional Framework Plan and the Urban Growth Management Functional Plan Relating to Nature in Neighborhoods,” to implement a regional fish and wildlife habitat protection program and, if approved by the Metro Council, the Tualatin Basin Goal 5 Program will be included into Ordinance No. 05-1077 as part of the regional program; and

WHEREAS, pursuant to the IGA Metro has solicited and will solicit comments on the Tualatin Basin Goal 5 Program from the public and from appropriate advisory committees including the Metro Policy Advisory Committee (“MPAC”), the Metro Technical Advisory Committee (“MTAC”), the Water Resources Policy Advisory Committee (“WRPAC”), and the Goal 5 Technical Advisory Committee (“G5TAC”), consistent with Metro’s citizen involvement program; and

WHEREAS, pursuant to the IGA Metro has analyzed whether the Tualatin Basin Goal 5 Program substantially complies with the “overall goal” statement included in the “Streamside CPR Program Outline—Purpose, Vision, Goal, Principle, and Context,” adopted by MPAC on October 4, 2000, (the “Vision Statement”) a copy of which is included in Exhibit A to Metro Resolution No. 02-3195; and

WHEREAS, the “overall goal” is to “conserve, protect and restore a continuous ecologically viable streamside corridor system, from the streams’ headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with the surrounding urban landscape. This system will be achieved through conservation, protection and appropriate restoration of streamside corridors through time”; and

WHEREAS, pursuant to the IGA Metro’s review of the Tualatin Basin Goal 5 Program for compliance with the above standard has included evaluation of the program’s potential to improve regionally significant habitat conditions basin-wide and within each of the basin’s subwatersheds; now therefore

THE METRO COUNCIL RESOLVES AS FOLLOWS:

1. The Metro Council has considered and concluded review of the Tualatin Basin Goal 5 Program and supporting record and by adoption of this resolution takes action on that recommended program and supporting ESEE analysis as provided herein.
2. The Metro Council concludes that the Tualatin Basin Goal 5 Program has the potential to improve regionally significant habitat conditions basin-wide and within each of the basin’s subwatersheds, and that it substantially complies with the “overall goal” of the Vision Statement provided that the following conditions are met:
 - a. Within the compliance timeline described in Paragraph 6 of the IGA, the TBNRCC and its members comply with the six steps identified in section B of Chapter 7 of the Tualatin Basin Goal 5 Program Report, attached hereto as Exhibit A;
 - b. Clean Water Services approves and begins implementing its Healthy Streams Plan;
 - c. The TBNRCC members agree to renew and extend their partnership to implement the projects on the Healthy Streams Project List and target projects

that protect and restore Class I and II Riparian Habitat, including habitat that extends beyond the Clean Water Services "vegetated corridors," and the TBNRCC shall continue to coordinate its activities with Metro and cooperate with Metro on the development of regional public information about the Nature in Neighborhoods Initiative;

- d. Provisions are adopted that require the use of habitat-friendly development practices, where technically feasible and appropriate, in all areas identified as Class I and II riparian habitat areas on the Metro Regionally Significant Fish and Wildlife Habitat Inventory Map. Table 3.07-13a in Exhibit C to Ordinance No. 05-1077 provides examples of the types of habitat-friendly development practices that shall be required;
 - e. Provisions are adopted that allow cities and counties to reduce the density and capacity requirements of Title 1 of the Urban Growth Management Functional Plan, Metro Code sections 3.07.110 to 170, consistent with Section 3(H) of Exhibit C to Ordinance No. 05-1077. Particularly, the provisions shall (1) apply only to properties that were within the Metro urban growth boundary on January 1, 2002; (2) require the protection of regionally significant habitat on the property, such as via a public dedication or restrictive covenant; and (3) allow only for a reduction in the minimum density calculation based on the are protected as provided in part (2) of this paragraph. In addition, cities and counties will be required to report to Metro as provided in Section 3(H)(3) of Exhibit C to Ordinance No. 05-1077;
 - f. Cities and counties that are members of the TBNRCC shall comply with the provisions of Exhibit C to Ordinance No. 05-1077 as those provisions apply to upland wildlife habitat in territory added to the Metro urban growth boundary after the effective date of that ordinance. Such compliance shall include compliance with one of subsections 3(B)(1) to 3(B)(3) of Exhibit C to Ordinance No. 05-1077. For example, (1) each city and county shall either adopt and apply Metro's Title 13 Model Ordinance to upland wildlife habitat in new urban areas, (2) substantially comply with the requirements of Section 4 of Exhibit C to Ordinance No. 05-1077 as it applies to upland wildlife habitat in new urban areas, or (3) demonstrate that they have implemented an alternative program that will achieve protection and enhancement of upland wildlife habitat in new urban areas comparable with the protection and restoration that would result from one of the two previous approaches described in this sentence; and
 - g. Cities and counties that are members of the TBNRCC shall comply with the monitoring and reporting requirements of Section 5 of Exhibit C to Ordinance No. 05-1077.
3. The conditions described in paragraph 2 of this resolution shall be incorporated as compliance conditions in Exhibit C to Ordinance No. 05-1077, "Amending The Regional Framework Plan and the Urban Growth Management Functional Plan Relating to Nature in Neighborhoods."

ADOPTED by the Metro Council this _____ day of _____, 2005.

David Bragdon, Council President

Attest:

Approved as to Form:

Christina Billington, Recording Secretary

Daniel B. Cooper, Metro Attorney

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STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 05-3577 APPROVING THE TUALATIN BASIN NATURAL RESOURCES COORDINATING COMMITTEE'S FISH AND WILDLIFE HABITAT PROTECTION PROGRAM.

Date: April 14, 2005

Prepared by: Andy Cotugno and Chris Deffebach

CONTEXT AND BACKGROUND

In January 2002 Metro entered into an intergovernmental agreement (“IGA”) with local governments and special districts in the Tualatin Basin (called the Tualatin Basin Natural Resources Coordinating Committee, TBNRCC) setting forth a cooperative planning process to address regional fish and wildlife habitat within the basin. The IGA provided that the Tualatin Basin partners would submit their program and analysis to Metro for review and, if it met standards for habitat protection described in the IGA, then Metro would include it as part of the regional habitat protection program. Approximately 16,650 acres of Metro’s total habitat inventory of 80,000 acres are located within the jurisdiction of the local governments participating in the Tualatin Basin partnership. The regional fish and wildlife habitat protection program is part of Metro’s Nature in Neighborhoods initiative (Resolution No. 05-3574).

The IGA describes the goals the TBNRCC must strive to achieve in the Tualatin Basin. The overriding goal of the Basin Approach is taken from Metro’s Streamside CPR Program Outline “Vision Statement”, which states:

The overall goal is to conserve, protect and restore a continuous ecologically viable streamside corridor system, from the stream’s headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with the surrounding urban landscape. This system will be achieved through conservation, protection and appropriate restoration of streamside corridors through time.

In order to achieve this goal (and to further define the scope), the IGA also identified improvement in the environmental health of each of the eleven subwatersheds in the basin and of the entire Tualatin Basin as a primary objective.

Consistent with the terms of the IGA, the TBNRCC accepted Metro’s regionally significant fish and wildlife habitat inventory and undertook its own separate Environmental, Social, Economic and Energy (ESEE) analysis. The TBNRCC reviewed the ESEE analysis and a draft protection program with the public and with Metro’s technical and policy advisory review committees, as per the IGA.

On April 4, 2005, the TBNRCC approved the Tualatin Basin Goal 5 Program Report and forwarded it to the Metro Council for consideration as part of the regional habitat protection plan on April 7, 2005. Per the IGA, Metro Council has agreed to determine if the Tualatin Basin Program meets the overall habitat goals and take action on the Tualatin Basin Program within

120 days. Metro is scheduling public hearings to provide additional public comment opportunity and will review the proposal with Metro's technical and policy advisory committees.

Current Action

Resolution No. 05-3577 presents the staff recommendation on the Tualatin Basin Program for Metro Council consideration. The Metro Council may take one of the following approaches when considering this Resolution:

- Approve the Basin Program and include in the regional program;
- Disapprove the Basin Program; or
- Approve the Basin Program with conditions for inclusion in the regional program.

If Metro Council approves this Resolution, the Tualatin Basin Program will be included as one of the compliance alternatives for cities and counties participating in the TBNRCC in proposed Title 13 of the Urban Growth Management Function Plan and presented for additional public review and comment. Two other pieces of legislation related to nature in neighborhoods and fish and wildlife habitat are currently under Metro Council consideration that relate to this Resolution.

- Resolution No. 05-3547 describing Metro's Nature in Neighborhoods initiative is also available for public review. This resolution is scheduled for final consideration on May 12, 2005.
- Title 13: Nature in Neighborhoods, and accompanying amendments to Metro's Urban Growth Management Functional Plan and Framework Plan are available now for public comment in Ordinance No. 05-1077. This ordinance is scheduled for final consideration in Fall 2005.

Final action on the Tualatin Basin Program will occur when Ordinance No. 05-1077, amending the Regional Framework Plan and the urban growth management functional plan relating to Nature in Neighborhoods, is adopted. If Metro Council approves this resolution for inclusion of the Tualatin Basin Program as part of the regional program, Metro would carry out the required public notice process. Upon final program adoption by Metro Council, the Tualatin Basin Program would be submitted to the Land Conservation and Development Commission (LCDC) along with the regional program for acknowledgement under Statewide Planning Goal 5. Finally, upon Metro Council adoption of the Basin Program and its acknowledgement by LCDC, the TBNRCC has agreed, per the IGA, to begin amending local comprehensive plans and land use regulations to complete implementation within one year of Metro's action.

SUMMARY OF TUALATIN BASIN PROGRAM AND COMPARISON WITH METRO'S PROPOSED PROGRAM

In December 2004, the Metro Council approved Resolution No. 04-3506A, which directed staff to develop a fish and wildlife habitat protection program to reflect the following principles:

- Focus the regulatory element on the most valuable Class I and II Riparian habitat. About 9,600 acres of Class I and II Riparian habitat are located within the Tualatin Basin (inside the jurisdiction of the TBNRCC and within Metro's boundary).
- Develop a strong voluntary, incentive-based approach to protect and restore all regionally significant habitat.
- Apply regulations to limit development in Class A and B upland habitat in future urban growth boundary expansion areas.

As described in Exhibit A to this Resolution, the Basin Program relies on two major elements for protection of regionally significant fish and wildlife habitat.

- Clean Water Services' (CWS) basin-wide updated Vegetated Corridor standards. This is the regulatory element of the program.
- CWS Healthy Streams Plan. This describes the non-regulatory element of the program.

A brief summary of the Basin Program and comparison with Metro's proposed regional program is included below.

A. Vegetated Corridor Standards

The Vegetated Corridor standards implement the regional Title 3 standards. They were recently updated and now regulate significantly more stream miles than required by Metro's Title 3 water quality standards. The development standards include a requirement to avoid, minimize, and mitigate within the Vegetated Corridor. There is also an enhancement requirement for the Vegetated Corridor even if a proposed development on a site does not intrude into the corridor. They include protection of headwater streams and along the Tualatin River. The Vegetated Corridor standards generally protect and enhance riparian vegetation within:

- 15 feet of flat headwater streams, including streams that drain 10 acres,
- from 15-200 feet in other headwater streams depending on steep slopes,
- within 50 feet of other streams, and
- within 125 feet of the Tualatin River.

For undeveloped floodplains outside of the Vegetated Corridor, balanced cut and fill is the only requirement. Balanced cut and fill addresses water storage issues to prevent floods from damaging other property, but does not address other habitat functions.

The Basin Program does not propose additional regulation of areas outside the existing Vegetated Corridors. Local Goal 5, floodplain, tree protection and other standards protect habitat at varying levels outside of the Vegetated Corridors. The Basin Program also proposes a model low impact development ordinance to be developed for consideration by jurisdictions to promote habitat-friendly, low impact development practices.

B. Healthy Streams Plan

The TBNRCC proposes using the Clean Water Services Healthy Streams Plan (HSP) to direct revenue and voluntary efforts to their list of watershed enhancement priorities. The Healthy Streams Plan, which is in draft form and has not yet been adopted, recommends \$95 million in capital improvements over the next 20 years, ranging from \$3.5-\$6.5 million per year. The plan focuses projects in areas of highest quality resources. Typical plan projects will include:

- community tree planting,
- riparian corridor restoration and enhancements,
- culvert replacements,
- storm water outfall retrofits, and
- flow restoration.

Some of the plan's project priorities lie outside of Metro's jurisdiction but would still improve overall watershed health. For example, a flow restoration project outside of Metro's jurisdiction can positively affect stream flow downstream, and restoration of headwaters outside the Metro jurisdiction can help to reduce stream temperature downstream. Exhibits to this Resolution include the current draft Healthy Streams Plan and a map of its recommended priority projects.

The Healthy Streams Plan will be implemented by Clean Water Services and is scheduled for its consideration in the next few months. The HSP was approved by the Healthy Streams Plan Advisory Committee, a technical committee comprised of staff from local jurisdictions and other agencies. The Basin Plan includes a proposal that the TBNRCC will recommend projects for implementation and CWS will make the final decision on which projects are chosen. The Healthy Streams Plan's restoration projects are guided by watershed assessment and a model developed by researchers at Oregon State University called the Restore model. The Restore model incorporates existing and anticipated conditions to identify priority restoration and enhancement projects designed to strategically enhance the Basin's watersheds.

Clean Water Services estimates that the surface water management (SWM) fees currently collected, together with existing funds, are expected to cover program costs for several years. However, CWS anticipates that a future SWM fee increase may be necessary to complete the 20-year plan. The CWS surface water management program is currently funded at a very modest level relative to similar jurisdictions throughout the region and the state. Clean Water Services recently conducted a public values survey in which over ninety percent of respondents were willing to support a modest fee increase of \$1 to \$2 per month. Based upon recent estimates, a \$1 per month per ESU (equivalent service unit) increase will generate more than \$63 million over twenty years. The Basin Program indicates that CWS will consider increases over time, as necessary to implement the Healthy Streams Plan.

All of the capital improvements identified in the HSP are projects designed to enhance riparian corridor conditions and/or improve stream health. These projects generate ongoing, cumulative benefits to water quality and aquatic habitat. The community tree planting projects will provide multiple benefits including water quality, in-stream, and near stream habitat improvements, as well as community education and awareness.

Other potential funding alternatives (including grants, local bond measures, opportunities for parks Systems Development Charges, etc.) may be utilized for education, restoration and enhancement or acquisition within the Basin.

C. Comparison of Basin Program and Metro's proposed program

As summarized above, the Basin Program relies on current Clean Water Services regulations that implement Metro's water quality and flood management requirements for regulatory protection of streamside habitat in the Tualatin Basin. However, the Basin Program includes a strong voluntary, incentive-based restoration and enhancement component that is based on a reliable funding source – surface water management fees. Comparisons between the Basin Program and the regional program being recommended by Metro staff, which is still subject to review and amendment by the Metro Council, are described below.

Regulatory Protection

Both Metro and the TBNRCC have attempted to quantify the difference in regulated area between the Basin Program and the Metro program recommended by staff in Ordinance No. 05-1077. Since CWS does not map the Vegetated Corridor boundaries, an easy, direct comparison between the areas covered by CWS standards and those that may be covered by Metro's standards is not possible. One proxy developed by Washington County staff estimated that 65% to 75% of Metro Class I and II riparian habitat in the basin is located within areas subject to either CWS Vegetated Standards or its balanced cut and fill requirements.

Metro staff has made the following estimates of the amount of Metro's Class I and II riparian habitat in the Tualatin Basin that would be covered by Metro's Title 3 requirements, as adopted by Metro in 1998:

- **Water Quality Resource Area (WQRA):** 3,850 acres covered, or 40% of Metro's Class I and II riparian habitat;
- **Flood Management Area (FMA):** 2,020 additional acres covered, or 21% of Class I and II riparian habitat; and
- **Outside Title 3:** 3,720 acres outside Metro's Title 3, or 39% of Class I and II riparian habitat.

It should be noted, however, that CWS Vegetated Corridor standards apply to more streams than required by Title 3. For example, the Vegetated Corridor standards apply to headwater streams and additional stream miles added to the CWS stream database. Thus, although neither of these approaches is perfect, Metro staff believes that it is reasonable to conclude that the Vegetated Corridor standards apply to approximately 65% to 75% of Metro's Class I and II riparian habitat in the basin.

Metro staff's proposed program would apply the avoid-minimize-mitigate standard to all Class I and II riparian habitat. In the Tualatin Basin, a substantial portion of the Class I habitat is within the Vegetated Corridor, and subject to the same avoid-minimize-mitigate standard. However, less of the Class II habitat would fall within the Vegetated Corridor, since much of it is further

from streams. Any Class I or II riparian habitat outside of the Vegetated Corridor would not be covered with regulatory protection.

Another difference is the level of protection for undeveloped floodplains. In Ordinance No. 05-1077 staff recommends that undeveloped floodplains be subject to the same avoid-minimize-mitigate standard that is applied by CWS in the Vegetated Corridor. The Basin Program relies on a balanced cut and fill requirement for these areas, unless modified by local floodplain regulations, which have been adopted by some of the local jurisdictions in the basin.

Voluntary, Incentive-based Program

It is difficult to compare and contrast the voluntary component of the Basin Program with the program proposed by Metro staff. The program proposed by staff in Ordinance No. 05-1077 encourages cities and counties to develop a voluntary component to accomplish protection, restoration and enhancement. Metro's Council President has proposed consolidating and re-directing resources for habitat protection, restoration, and open spaces into a Nature in Neighborhoods initiative (Resolution No. 05-3574), which would include a regional bond measure for fish and wildlife habitat acquisition and restoration in November 2006.

The Basin Program contains a strong voluntary, incentive-based component that is founded on an existing funding source with the potential to raise additional dollars over time. However, there is no guarantee built into the Basin Program as written that the TBNRCC will commit to renew and extend its partnership to implement the projects described in the Healthy Streams Plan.

D. Implementation Plan for Basin Program

If Metro approves the Tualatin Basin Program and incorporates it into Title 13 of the Functional Plan, Chapter 7 of the Tualatin Basin Program: Program Implementation, Administration and Monitoring describes the general steps anticipated for implementation. They are:

1. Development and adoption of local ordinances implementing the provisions of the Basin Program, as incorporated in Metro's program and holding additional public notice and hearings as appropriate.
2. Development of a model low impact development ordinance for the basin, including local adoption of LID guidelines.
3. Coordination with CWS for activities necessary for implementation of the Healthy Streams Action Plan as well as for local actions needed to support the updated Stormwater Management Plan.
4. Coordination with Metro on development of a regional bond measure supporting protection of regionally significant fish and wildlife habitat.
5. Coordination with CWS, Metro and others as necessary to develop and support the voluntary and educational components of the Basin Program.
6. Coordination with CWS, Metro and others as necessary to develop and support that monitoring and adaptive management components of the Basin Program.

E. Summary and Conditions for Approval

The Tualatin Basin Program is similar in some ways to the staff recommendations in Ordinance No. 05-1077. The IGA does not require the Tualatin Basin Program to be the same as the regional program, but to achieve the same vision for ecological health. The staff analysis concludes that the Basin Program generally has the potential to improve regionally significant habitat conditions basin-wide and within each of the basin's subwatersheds, and that it substantially complies with the "overall goal" of the Vision Statement with a few exceptions as described in this Resolution. These exceptions relate to:

- Uncertainty of commitment to the Healthy Streams Plan;
- The need to continue to coordinate in the Nature in Neighborhood Initiative;
- Potential loss of habitat in Class I and II Riparian Habitat outside of Vegetated Corridors and especially in undeveloped floodplains;
- Use of habitat-friendly development practices in all Class I and II riparian habitat areas;
- Consistency with other cities and counties on implementing the program relating to lower minimum densities for habitat protection, monitoring and reporting; and
- Application of the program in upland wildlife habitat in future UGB expansion areas.

Based on these points, staff recommends conditions of approval relating to:

- 1. Commitment to implement the Healthy streams plan.** Staff recommends that the TBNRCC demonstrate commitment to the Healthy Streams Plan by requiring CWS to approve the plan. In addition, staff recommends that the TBNRCC members agree to renew and extend their partnership to implement the projects on the Healthy Streams Project List.
- 2. Metro Coordination.** In addition to the implementation points included in the Basin Program staff recommend that the TBNRCC agree to continue to coordinate its activities with Metro and cooperate with Metro on the development of regional public information about the Nature in Neighborhoods initiative.
- 3. Target projects for protection of the Class I and II Riparian areas outside of the vegetated corridors.** According to one estimate, the CWS Vegetated Corridor Standards covers only approximately 65% to 75% of the Class I and II Riparian areas, and includes substantively less restrictive regulations for protection of habitat values in undeveloped floodplains than those proposed by staff in Ordinance No. 05-1077. This leaves approximately 25% to 35% for protection through capital projects in the Healthy Streams Plan, voluntary adoption of low impact development standards, and protection through existing local programs. Due to the importance of protecting habitat in Class I and II Riparian areas for achieving the overall goal for the Basin, staff recommends that the TBNRCC place the highest priority on HSP projects that protect and restore Class I and II Riparian Habitat, including habitat that extends beyond the Vegetated Corridors.
- 4. Habitat-Friendly Development Standards for all of Class I and II Riparian Areas.** In Ordinance No. 05-1077, staff recommends that the use of Habitat Friendly Development Practices in Class I and II Riparian areas be required by cities and counties

where technically feasible, and be encouraged elsewhere in the watershed. Staff recommends that the TBNRCC require the use of these practices in Class I and II Riparian areas to help minimize loss of habitat outside of the Vegetated Corridors.

- 5. Lower density standards to protect habitat and ongoing monitoring and reporting.** The TBNRCC has proposed to use lower density standards as a tool to protect habitat and has proposed to participate with Metro in ongoing monitoring and reporting of conditions in the Basin. Staff recommends that the TBNRCC agree to use the same protocol for establishing protection of habitat when reducing density and for monitoring and reporting as the other cities and counties, as proposed in Ordinance No. 05-1077.
- 6. New Urban Area Planning.** In December 2004, Metro Council clarified its intent to establish higher expectations for habitat protection in future new urban areas, including protection of both Riparian and Upland Habitat Areas. In response, staff propose that the cities and counties within the Tualatin Basin comply with Title 13 as it applies to upland wildlife habitat in future urban areas by either (1) adopting Metro's Title 13 Model Ordinance, (2) substantially complying with the performance standards and best management practices in Section 4 of Title 13, or (3) by developing alternative approach comparable to the results that would be achieved by following option (1) or (2).

ANALYSIS/INFORMATION

- 1. Known Opposition.** The Audubon Society of Portland, Tualatin Riverkeepers and others have raised concerns with the Tualatin Basin Program. Other opposition is included in the public comment report submitted to Metro from the Tualatin Basin.
- 2. Legal Antecedents.** This Resolution carries out the IGA between Metro and the TBNRCC.
- 3. Anticipated Effects.** Approval of this resolution will allow Metro to incorporate the Basin Program approach as a package, with conditions if needed, and complete the three-step process for complying with Statewide Land Use Planning Goal 5 by amending portions of the Regional Framework Plan and Urban Growth Management Functional Plan. This allows Metro to submit a complete package, including the Tualatin Basin's program within Metro's regional program, to the Department of Land Conservation and Development for review. In addition, basin cities and counties have voluntarily committed, in the IGA, to implement the program within one year of Metro approval of the Basin program, which is sooner than Metro may require cities and counties to comply with new functional plan requirements.
- 4. Budget Impacts.** Additional staff work and coordination resulting from Council's acceptance of the Basin program would be considered part of the ongoing implementation of Metro's Nature in the Neighborhoods initiative.

RECOMMENDED ACTION

Staff requests that Council approve this Resolution and direct staff to incorporate the Tualatin Basin Program into Ordinance No. 05-1077, amending the Regional Framework Plan and Urban Growth Management Functional Plan relating to the Nature in Neighborhoods initiative.

EXHIBIT A—RESOLUTION NO. 05-3577

**TUALATIN BASIN NATURAL RESOURCES COORDINATING COMMITTEE GOAL 5
PROGRAM (WITH MAPS)**

Item 1: Program Report

Item 2: Tualatin Basin program maps

Item 3: Clean Water Services Healthy Streams Plan

Item 4: Clean Water Services Design and Construction Standards

A copy of item 1 is attached to Resolution 05-3577

Items 2-4 are available online:

http://www.co.washington.or.us/deptmts/lut/planning/tualatin_basin.htm

<http://www.CleanWaterServices.org>



Partners for Natural Places

REVISED RECOMMENDATION

Tualatin Basin Goal 5 Program Report

Submitted to: Metro

Submitted by: Tualatin Basin Natural Resources
Coordinating Committee

Prepared by: Tualatin Basin Steering Committee

March 28, 2005

Acknowledgements

Tualatin Basin Natural Resources Coordinating Committee

Beaverton	Rob Drake, Mayor – TBNRCC Vice Chair
Cornelius	Steve Heinrich, Mayor
Durham	Dean Gibbs, Councilor
Forest Grove	Richard Kidd, Mayor
Hillsboro	Tom Hughes, Mayor
King City	Ron Shay, Councilor
Metro	Carl Hosticka, Councilor Susan McLain, Councilor
North Plains	Cheryl Olson, Mayor
Sherwood	Mark Cottle, Mayor
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Tualatin	Ed Truax, Councilor
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BIBLIOGRAPHY

APPENDICES

- A. Metro-Tualatin Basin Intergovernmental Agreement (IGA) and “Basin Approach”
- B. David Noren, Legal Memo on Fees and System Development Charges, June 2004
- C. Metro Inventory Documents
- D. Clean Water Services Design & Construction Manual
- E. Portland BES Stormwater Manual
- F. Tualatin Basin EEHR June 2004
- G. TBNRCC Meeting Agendas
- H. Public Involvement Materials (notice, open house comments, web site, other)

1 **EXECUTIVE SUMMARY**

2
3 ***Background***

4 The April 2005 program recommendation from the Tualatin Basin Steering Committee
5 represents a revised approach toward fulfilling obligations set forth in the Metro-Basin inter-
6 governmental agreement. Under the IGA, the primary goal for the Tualatin Basin Partners for
7 Natural Places (Partners) is to recommend a program proposal for Metro Council consideration
8 that will result in improvement of the environmental health of the Tualatin River Basin and its
9 component urban watersheds. Demonstrating an improvement of this nature requires a
10 commitment over time to resource protection, impact mitigation and restoration as well as
11 continuing monitoring of program effectiveness resulting in program adjustments as necessary.
12 Toward this end, the Basin Approach incorporates a plan for implementation and continued
13 cooperation and coordination among the Partners to execute the underlying commitment.

14
15 ***Revised Approach***

16 The Basin Approach is designed to address Metro’s inventory of regionally significant fish &
17 wildlife habitat, demonstrate compliance with Goal 5 administrative rule requirements for
18 LCDC acknowledgement, and support efforts to protect habitat of threatened and endangered
19 species under the ESA, as well as the Basin’s obligation to meet overall water quality standards
20 under a combined NPDES permit. If adopted by Metro, the Basin Approach will be regarded as
21 a means for achieving substantial compliance with pending Urban Growth Management
22 Functional Plan (UGMFP) requirements under Title 3.

23
24 In its initial configuration, the regulatory component of the Basin proposal relied—as it
25 continues to—upon existing Vegetated Corridor provisions for protection and enhancement of
26 core riparian areas as adopted by Clean Water Services and implemented by cities and
27 Washington County. As well, the program proposal for August 2004 included a regulatory
28 framework for areas outside of Vegetated Corridors that would have advanced a consistent Goal
29 5 regulatory approach throughout the urban portion of the basin.

30
31 In response to a shifting focus at state and regional levels away from the use of land use
32 regulations as a means of achieving planning objectives, the Partners developed a revised
33 approach for March 2005 that defaults to existing resource protection programs and regulatory
34 requirements, including local Goal 5 programs, in lieu of proposing a new regulatory scheme.
35 While specifics of existing programs vary among jurisdictions, their composite provides a solid
36 regulatory basis for protecting resource areas beyond the limits of Vegetated Corridors
37 standards. The components fundamental to achieving the Partners’ goal of improved health,
38 namely the riparian enhancement investment strategy and a commitment to continued
39 partnership for implementation and ongoing program management, remain unchanged by the
40 recent program revision.

41
42 ***Program Components***

43 At the front of the report document is a matrix entitled “Proposed Tualatin Basin Goal 5
44 Program Overview.” This matrix summarizes the program framework in terms of its four major
45 components, namely revenue, regulatory, voluntary and administration/monitoring; each of
46 these is described more fully in the program report.

1
2 The program significantly augments existing regulatory programs through the following means:

- 3 • a funded, major capital investment strategy for system-wide improvements;
4 • efforts to facilitate various voluntary actions aimed at diminishing conflicting use impacts;
5 and
6 • a commitment to continued coordination among Partners regarding implementation, project
7 oversight, and a monitoring and adaptive management approach designed to assure the
8 effectiveness of program efforts.
9

10 The foundation of the Basin Approach is its investment strategy, which involves the Partners
11 coordinating with Clean Water Services in the implementation of their draft Healthy Streams
12 Plan (HSP), which calls for \$95 million in improvements and other implementation efforts over
13 the next twenty years, including education and partnerships. Additional sources of existing and
14 future revenue may be applied toward acquisition of key resources, including upland areas.
15

16 ***Report Overview***

17 The first chapter of the program report provides an overview of the Tualatin Basin Approach,
18 including steps involved in the Goal 5 process, extensive public outreach efforts, interim
19 decisions and an outline of the program approach. The Basin Approach uses Metro's inventory
20 of riparian and upland wildlife habitat to conduct an ESEE analysis, make an allow-limit-
21 prohibit decision, and develop an implementing program. Public outreach and involvement
22 efforts were executed at each major step in the process in conjunction with interim decisions.
23 The Basin Approach emphasizes preservation of core riparian resource areas, overall stream
24 system enhancement, and diminishment of future stream impacts via incentives for property
25 owners and developers to temper conflicting use activities through a variety of habitat sensitive
26 practices.
27

28 The second chapter provides a relevant regulatory context, including those related to Goal 2
29 coordination requirements, as well as regional and local policy issues regarding Goal 5 resource
30 areas. This chapter additionally describes baseline references for future basin environmental
31 health assessments.
32

33 Chapter 3 describes urban program elements, including: descriptions of ALP designations,
34 overlap with existing local programs, low impact development guidelines, best management
35 practices, administration and procedures, and inventory maintenance. The proposed program
36 incorporates existing regulatory provisions applicable to riparian resource areas as defined by
37 Clean Water Services' Design & Construction standards for Water Quality Sensitive Areas
38 (WQSAs) and Vegetated Corridors. These standards exceed the minimum necessary to
39 substantially comply with existing Title 3 requirements for water quality under Metro's UGMFP
40 inasmuch as development along similar stream corridors is regulated and restoration of degraded
41 corridors is required in association with new adjacent development. Pursuant to Goal 5
42 administrative rule provisions, the vegetated corridor standards are considered clear and
43 objective and are not modified as part of this proposal. While the areas regulated as WQSAs and
44 Vegetated Corridors are not mapped, GIS analyses conservatively estimate that over 65% of

1 these areas correlate with Class I and II Riparian inventory areas¹. In addition, the proposed
2 Basin Approach relies upon (but does not incorporate) a variety of existing resource-related
3 programs throughout the region. Some of these include local tree protection ordinances, best
4 management practices for ESA compatibility regarding roadway operations and right-of-way
5 vegetation maintenance, and local wetland and floodplain protections. These programs have
6 direct and indirect benefits for Goal 5 resources and in many instances go beyond the
7 boundaries of the Metro resource inventory area.

8
9 Program elements applicable outside the UGB are addressed in Chapter 4. While local authority
10 does not cover regulation of farm and forestry practices, there are upland and riparian habitat
11 conservation programs in place for development activities, as well as floodplain protections. In
12 addition to these regulatory-based programs, best management practices mentioned above are
13 implemented, and there are efforts in practice to improve and preserve urban fringe headwater
14 areas through CWS enhancement of a federal conservation incentive program. These elements
15 of the rural program component represent features of the proposed Basin Approach that exceed
16 Metro's draft program.

17
18 Chapter 5 provides a preliminary description of the non-regulatory and voluntary program
19 elements the Partners are committed to exploring and implementing if feasible. These elements
20 are designed to augment the regulations and capital improvements in environmentally sensitive
21 areas. The non-regulatory options include:

- 22 ▪ targeting of revenue to extend restoration and enhancement activities outside of
- 23 vegetated corridor areas;
- 24 ▪ education and outreach programs for property owners, builders and developers;
- 25 ▪ review and implementation of appropriate tax incentives;
- 26 ▪ stewardship recognition;
- 27 ▪ development of a model low impact development (LID) ordinance with commitments to
- 28 removal of barriers to implementation of LID techniques;
- 29 ▪ provision of technical assistance for property owners and developers;
- 30 ▪ provision of support for volunteer activities; and
- 31 ▪ review of, participation in and support for state, federal and private grant programs.

32
33 Collectively (and independent of the other program elements), these proposed actions and
34 activities can provide significant improvement to regionally significant habitat and work toward
35 improving environmental conditions throughout the basin.

36
37 Chapter 6 outlines the program's response to meeting the Partners' goal of improving the
38 environmental health of the basin, and reviews the fundamental program components from the
39 standpoint of achieving this goal. In general, the existing regulatory structure—including various
40 local Goal 5 and related programs—provides a basis for preserving and enhancing the habitat
41 function of core stream resource areas, as well as protecting broader ecological functions.
42 Proposed capital investments will augment regulatory programs, and will be focused on Class I
43 and II Riparian resource areas. The program proposes further enhancement of these activities
44 through efforts to promote non-regulatory program elements described above, particularly

¹ During the summer of 2004, Metro updated their inventory to incorporate existing CWS stream data for the Tualatin Basin that resulted in a significant increase in the amount of area covered by the Metro inventory.

1 through voluntary and incentive efforts such as educational programs and technical assistance
2 for property owners and developers. In addition, local jurisdictions will be required to amend
3 local codes to incorporate guidelines for low impact development and green design, and facilitate
4 their implementation.

5
6 The Healthy Streams Plan includes a strategy for directing a cost-effective capital improvements
7 instrumental to enhancement of stream health. The capital investments outlined in this plan will
8 cover community tree planting, necessary culvert replacements, stormwater outfall retrofits, flow
9 restoration and a variety of riparian corridor restoration and enhancement projects. The latter
10 will potentially include streamside preservation and re-vegetation, channel and wetland
11 enhancement, large wood placement, in-stream pond adjustments, and streamside property
12 owner education. The intent of the HSP is to guide the adaptive management of the surface
13 water system. The Basin Approach endorsement of the HSP reflects a progressive step in inter-
14 governmental coordination of habitat-related issues in the Basin that is modeled after the
15 successful WCCC coordination of transportation projects. Local funding to begin these projects
16 has already been committed.

17
18 Basin plans for program implementation, administration and monitoring are addressed in
19 Chapters 6 and 7. A strength of the Basin's program lies in the Partners' commitment to
20 continue to coordinate resource protection and enhancement efforts at both the regional and
21 local levels by establishing the Tualatin Basin Natural Resources Coordinating Committee as a
22 permanent standing committee. Chapter 7 further outlines steps anticipated for future
23 implementation and coordination with Metro.

24 25 ***ESEE Update***

26 In spite of the fact that the Basin's revised approach no longer includes additional development
27 restrictions, the conclusions drawn from the original ESEE work continue to be applicable. The
28 analysis therefore has been supplemented with an update to address changes related to
29 Economic and Social factors. It is expected that the investment strategy will be more than
30 adequate to achieve the Partners' goal without the need for new land use restrictions.

1 **CHAPTER 1 INTRODUCTION**

2
3 **A. Purpose**

4 This chapter documents the Basin Partners recommendations for a proposed program to
5 implement the *Tualatin Basin Goal 5 / Natural Resources Draft Economic, Social, Environmental and*
6 *Energy (ESEE)-ALP decision*. This proposed program addresses significant **Riparian Corridor**
7 and **Wildlife Habitat** resources and their impact areas within the Tualatin Basin Program Area
8 in compliance with State Goal 5 and in cooperation with Metro’s Goal 5 planning efforts.

9
10 **Goal 5 Process**

11 Oregon’s nineteen statewide planning goals are the framework for local planning programs in
12 the State. The purpose of Goal 5, Oregon Administrative Rule (OAR) 660-023-0000, is to
13 protect natural resources and conserve scenic and historic areas and open spaces. Local
14 governments, both counties and cities, must address Goal 5. In addition, the Goal 5 rule
15 provides for a “Regional” Goal 5 process to be conducted by the Metropolitan Service District
16 (Metro).

17
18 The steps necessary for compliance with Goal 5 are described in OAR 660, Division 23
19 Procedures and Requirements for Complying with Goal 5. However, in general, the basic steps
20 include:

21
22 Step 1. Map Significant Regional Resources. The Metro Council has adopted Resolution
23 01-3141C establishing criteria to define and identify regionally significant riparian
24 corridors and wildlife habitat relating to the inventory phase of the Goal 5
25 aspects of its Fish and Wildlife Habitat Protection Program. The Tualatin Basin
26 ESEE analysis is based on Metro’s inventory of Riparian Corridors and Wildlife
27 Habitat that have been determined to be regionally significant consistent with
28 State Goal 5. Clean Water Act requirements and Endangered Species Act listings
29 are also addressed in a basin watershed approach.

30
31 Step 2. ESEE Analysis. A general analysis of the Economic, Social, Environmental and
32 Energy (ESEE) consequences of allowing, limiting or prohibiting conflicting
33 uses in resource and impact areas throughout the inventoried portion of the
34 Basin was completed in April 2004. After significant resource sites were
35 identified, land uses that *conflict* with Goal 5 resource sites (known as “conflicting
36 uses”) were identified. The economic, social, environmental, and energy
37 consequences of allowing or not allowing conflicting uses were then considered.
38 The ESEE analysis is the basis of the Basin’s determination of whether to:

- 39 ▪ **Allow** conflicting uses,
- 40 ▪ **Limit** (Lightly [LL], Moderately [ML], Strictly [SL]) conflicting uses,
41 and/or
- 42 ▪ **Prohibit** conflicting uses.

43
44 The Allow, Limit, Prohibit analysis is referred to as the “ALP decision.” For the
45 Basin Approach, the mapped ALP determinations were refined through a second

1 phase ESEE analysis, which resulted in several site-specific modifications to the
2 ALP decision. This work was completed in July 2004.

3
4 In March 2005, new program direction called for a modification of the social and
5 economic analysis factors of the general Basin ESEE analysis. The results of the
6 cumulative analysis are summarized in Table 1-1, below.

7
8 **Table 1-1: Tualatin Basin ALP Decision**

Land Area Category	Conflicting Use Category			
	High Intensity Urban	Other Urban	Future Urban (2002 and 2004 additions)	Non-Urban (outside UGB)
Class I and II Riparian resource (Inside Vegetated Corridor)	ML*	SL	SL	N/A
Class I and II Riparian resource (Outside Vegetated Corridor)	ML	ML	ML	ML
All Other Resource Areas	LL	LL	LL	LL
Inner Impact Area	LL	LL	LL	LL
Outer Impact Area	LL	LL	LL	LL

9 * Vegetated Corridor standards are applied consistently throughout the District; in HIU areas they
10 supercede the ALP designation.

11
12 The ESEE analysis and ALP decision provide the findings and the basis for Step
13 3: the program.

14
15 Step 3. Develop a Program to implement the ESEE decision. The primary focus of this
16 chapter is to document the process and procedures utilized to develop the
17 recommended program to implement the ALP decision within significant
18 Riparian Corridor and Wildlife Habitat resources and their impact areas within
19 the Tualatin Basin Study Area.

20
21 ***Resources Considered in the Tualatin Basin***

22 The Tualatin Basin Goal 5 program addresses:

- 23 ■ Riparian Corridors (OAR 660-023-0090), and
- 24 ■ Wildlife Habitat (OAR 660-023-0110).

25
26 Riparian Areas. A riparian area is defined in the Goal 5 rule as “the area adjacent to a river, lake,
27 or stream, consisting of the area of transition from an aquatic ecosystem to a terrestrial
28 ecosystem.” A *Riparian corridor* is defined as “a Goal 5 resource that includes the water areas, fish
29 habitat, adjacent riparian areas, and wetlands within the riparian area boundary”. A *Riparian*
30 *corridor boundary* is “an imaginary line that is a certain distance upland from the top of bank...”
31

32 The Goal 5 riparian corridors provide essential habitat for many fish and wildlife species during
33 critical life stages for some and general development for others. These corridors also provide
34 basic food and shelter and serve as travel corridors for the movement of fish and wildlife across

1 the landscape. A well-vegetated corridor can moderate stream temperatures and protect water
2 quality as stormwater runoff is filtered before it flows into streams..

3
4 Wildlife Habitat. Through the use of Geographic Information Systems (GIS), Metro created a
5 model of upland wildlife habitat. The wildlife habitat assumptions included:

- 6 ▪ Large patches are better than smaller patches
- 7 ▪ Interior habitat is more important to at-risk species than edge habitat
- 8 ▪ Connectivity to other patches is important
- 9 ▪ Connectivity and/or proximity to water is important
- 10 ▪ Unique or at-risk habitats that deserve special consideration

11
12 Each of the wildlife criteria or characteristics was modeled in the study area and the aggregate
13 score was mapped. Additionally, Habitats of Concern (HOC) were mapped for known sensitive
14 and at-risk habitat areas in the region. This information was collected from a variety of agencies,
15 citizens, groups, and other sources of habitat information. In addition, all significant wetlands
16 were included as HOC's. The Goal 5 "Wildlife Habitat" resource provides for the food and
17 shelter requirements of wildlife in the area including small mammals, birds, and others found in
18 the study area. Riparian corridors and wildlife habitat share many functions and values. Although
19 fish are considered wildlife too, for this analysis, fish habitat is considered as part of the riparian
20 corridor discussion.

21
22 Impact Areas. The Goal 5 rule directs that an impact area be delineated for significant natural
23 resources in order to identify the area for the ESEE consequences analysis. The only guidance
24 given in the Goal 5 rule for determining impact areas is that the impact area shall be drawn to
25 include only the area in which allowed uses could "adversely affect" the identified resource. The
26 impact area defines the geographic limits within which to conduct the ESEE analysis for the
27 identified significant resource site. In addition, any regulatory program that may result from the
28 Goal 5 process must be limited to those areas mapped as significant Goal 5 resource sites and
29 impact areas.

30
31 For the purposes of the Tualatin Basin ESEE analysis, two types of Impact Areas have been
32 identified:

- 33 ▪ Inner Impact Areas. The inner impact areas are comparable to the impact areas
34 established by Metro for the purposes of the Regional ESEE analysis. It includes:
 - 35 - The area within 150 feet of a stream, wetland or lake that is not within a significant
36 resource site; and
 - 37 - The area within 25 feet of Wildlife Habitat and HOC significant resource sites and
38 within 25 feet of the edge of remaining Riparian Corridor significant resource sites
39 (not already covered in first part).
- 40
41 ▪ Outer Impact Areas. The outer impact areas include all land within the Tualatin Basin
42 ESEE Study Area, which is not within a resource or an inner impact area. Establishing
43 outer impact areas supports a watershed approach and is consistent with Effective
44 Impervious Area data. Literature cited throughout Metro's work establishes a nexus
45 between the levels of general development throughout watersheds to the viability of
46 significant resources. For example, one source established that altered hydrology and
47 increased impervious surfaces increase flooding and damage streams. Recognizing that

1 riparian corridor and wildlife habitat health is the responsibility of the entire watershed
2 will enable the impacts of any eventual program to be more equitably shared among
3 beneficiaries and property owners.
4

5 **B. Tualatin Basin Partners for Natural Places**

6 “Partners for Natural Places” is the name of the collective community efforts underway to
7 improve the natural environment. The Partners’ work will lead to programs to conserve, protect,
8 and restore streams and waterways, to support healthy fish and wildlife habitat. Tualatin Basin
9 Partners for Natural Places is an alliance of local governments in Washington County working
10 together with Metro to meet federal and state requirements for protecting natural resources in
11 the Tualatin Basin. The draft Tualatin Basin ESEE Analysis and Program Report has been
12 prepared by the Tualatin Basin Partners, through their participation by elected officials in the
13 Tualatin Basin Natural Resource Coordinating Committee (TBNRCC) and by technical staff in
14 the Tualatin Basin Steering Committee (TBSC):
15

Tualatin Basin Partners	
• Clean Water Services	
• Metro*	
• Tualatin Hills Parks and Recreation District	
• Washington County, and	
• The cities of:	○ King City
○ Beaverton	○ North Plains
○ Cornelius	○ Sherwood
○ Durham	○ Tigard
○ Forest Grove	○ Tualatin
○ Hillsboro	

16 *While Metro coordinated with and provided input throughout the Partners’ process, they did
17 not assist in preparing this report; Metro Councilors participate as non-voting members on the
18 TBNRCC.
19

20 The Tualatin Basin Partners developed the “Basin Approach” (Appendix A) wherein local
21 governments in the Tualatin Basin have worked together to develop a more detailed ESEE
22 analysis and ultimately suggest a program approach to address the impacts of conflicting uses
23 that might occur within resource areas.
24

25 ***The Basin Approach***

26 The Basin Approach provides an opportunity for the Partners to coordinate concurrent, joint
27 efforts by the Tualatin Basin governments, Clean Water Services (District) and others that are
28 working to address Federal Clean Water Act requirements and Endangered Species Act listings
29 that likely will affect the same areas as Metro’s fish and wildlife habitat protection plan. In
30 addition to reducing the number of times that the same areas are analyzed and public outreach
31 provided and applying more detailed information than is readily available region-wide, the Basin
32 Approach allowed for coordination among similar but distinct, Federal, State and Regional
33 requirements. The Basin Approach also provided local governments with an opportunity to
34 shape a basin-wide program that is tailored to local conditions within the Tualatin River basin
35 while addressing regional Goal 5 objectives.

1
2 The following is the goal statement from the Basin Approach document:
3

4 *Metro's fish and wildlife vision articulates the overriding goal of the Basin*
5 *Approach:*
6

7 *The overall goal is to conserve, protect and restore a continuous ecologically viable*
8 *streamside corridor system, from the streams' headwaters to their confluence with*
9 *other streams and rivers, and with their floodplains in a manner that is integrated*
10 *with the surrounding urban landscape. This system will be achieved through*
11 *conservation, protection and appropriate restoration of streamside corridors*
12 *through time.*

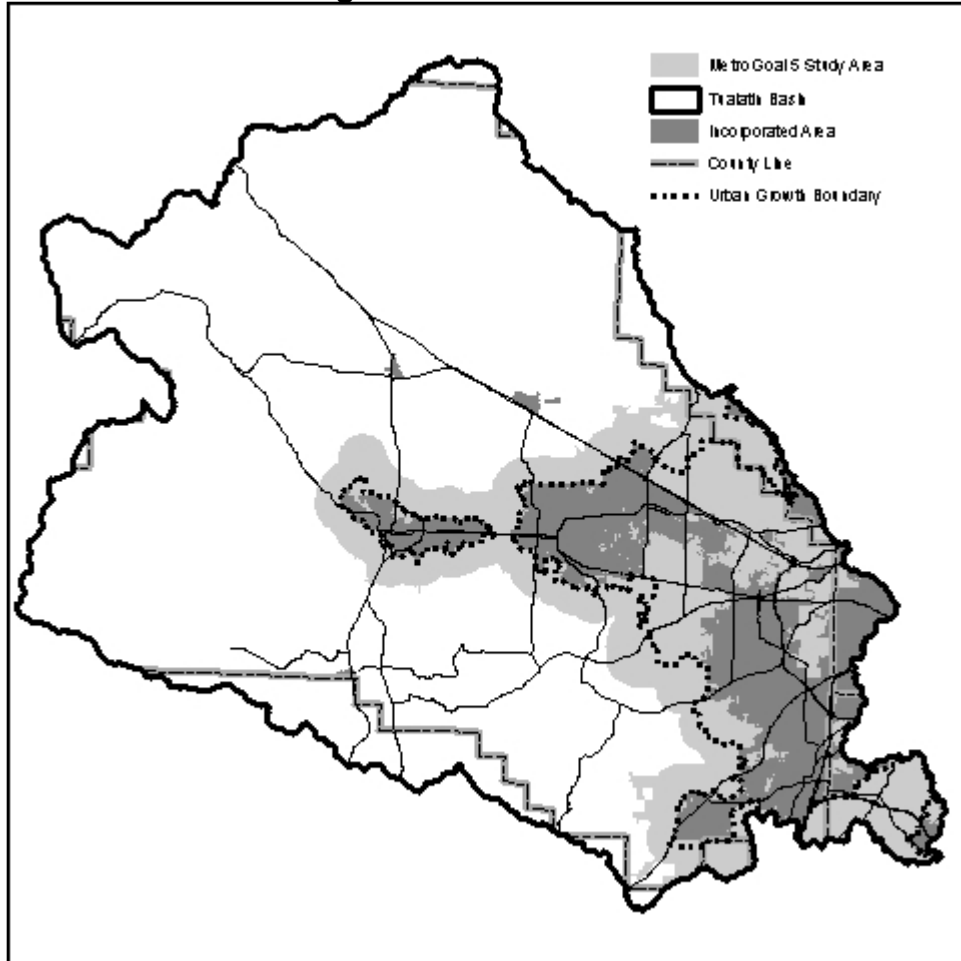
13
14 *Improvement of habitat health within each of the Region's 27 hydrologic units*
15 *including the eleven hydrologic units inside the Tualatin Basin shall be a primary*
16 *objective of the Basin Approach. The following objectives within Metro's Fish and*
17 *Wildlife Habitat Vision Statement shall be pursued by the Basin Approach: to*
18 *sustain and enhance native fish and wildlife species and their habitats; to mitigate*
19 *high storm flows and maintain adequate summer flows; to provide clean water;*
20 *and to create communities that fully integrate the built and natural environment.*
21 *The region wide system of linked significant fish and wildlife habitats will be*
22 *achieved through preservation of existing resources and restoration to recreate*
23 *critical linkages, as appropriate and consistent with ESEE conclusions about*
24 *whether to prohibit, limit or allow conflicting uses within a regionally significant*
25 *resource site. Avoiding any future ESA listings is another primary Basin*
26 *Approach objective.*
27

28 ***Tualatin Basin Program Area***

29 The general geographic extent of the Basin Program Area is that area draining the Tualatin River
30 within the corporate limits of Washington County. The majority of the basin falls within
31 Washington County. However, as shown in Figure 1-1, portions of the Tualatin Basin also fall
32 within unincorporated Tillamook, Yamhill, Columbia, Multnomah and Clackamas counties
33 including the cities of Lake Oswego, Portland, River Grove and West Linn as well.
34

1
2

Figure 1-1: Tualatin Basin

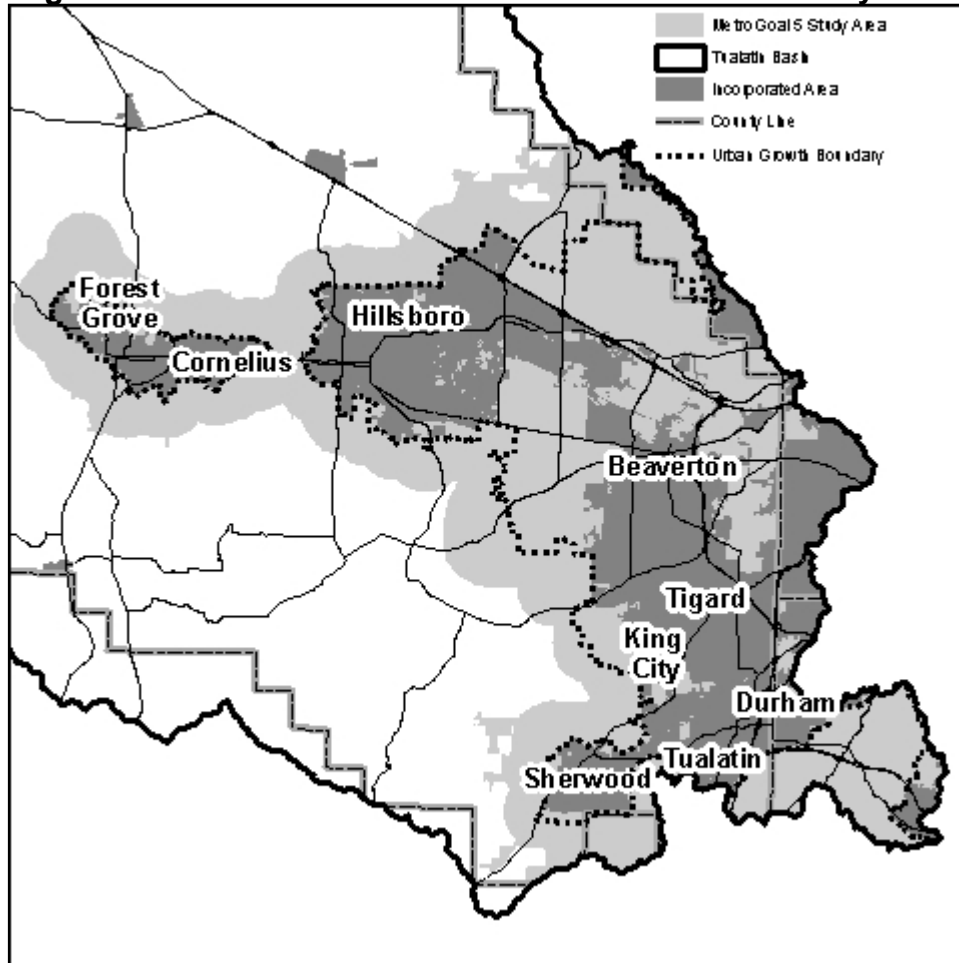


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11

For the purposes of this Goal 5 program, the Tualatin Basin Urban Program Area includes those areas of the Tualatin River basin within the Portland Metropolitan Area Urban Growth Boundary and lands within one mile of the Metro jurisdictional boundary as shown in Figure 1-2. Rural, farm and forest lands that are more than one mile from the UGB were not included in the ESEE Study Area due to limitations of the Goal 5 inventory area. Natural resource protection for all rural areas are addressed in Chapter 4 pursuant to local, regional, state and federal regulations.

1
2

Figure 1-2: Jurisdictions Within the Tualatin ESEE Study Area



3
4
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19
20

C. Public Outreach Efforts

In 2002, the intergovernmental agreement forming the Tualatin Basin Natural Resources Coordinating Committee was signed. It's designated *Steering Committee* formed subcommittees to aid in its work, one of which was the *Public Outreach* subcommittee. This subcommittee has met and coordinated Basin Goal 5 public outreach since June of 2002. Members include public involvement or planning staff from the thirteen public partner agencies, and importantly, also include representatives from an assortment of interested private agencies: Community Planning Organizations (CPO), Audubon Society of Portland, Tualatin Riverkeepers, Home Builders Association, Associated General Contractors, Westside Economic Alliance, and SOLV. They named themselves, and the Basin's coordinated Goal 5 effort, *Partners for Natural Places*. Members include:

- Anne Madden, Washington County, Chair
- Sheri Wantland, Clean Water Services
- Gina Whitehill-Baziuk, Metro
- Karen Withrow, Metro
- David Endres, Tualatin Hills Park and Recreation District
- Megan Callahan, Beaverton

- 1 ▪ Barbara Fryer, Beaverton
- 2 ▪ Jennifer Wells, Hillsboro
- 3 ▪ Julia Hajduk, Tigard
- 4 ▪ Stacy Hopkins, Tualatin
- 5 ▪ Steve Kelley, Washington County, liaison with Steering Committee

6
7 Private agency partners:

- 8 ▪ Linda Gray/Patt Opdyke, CPOs
- 9 ▪ Jim Labbe, Audubon Society of Portland
- 10 ▪ Brian Wegener, Tualatin Riverkeepers
- 11 ▪ Kelly Ross, Home Builders Association of Metropolitan Portland
- 12 ▪ Cindy Catto, Associated General Contractors
- 13 ▪ Betty Atteberry, Westside Economic Alliance (WEA)

14
15 The Partners undertook a lengthy series of outreach efforts, which are summarized in tables in
16 Appendix B. This report summarizes their public outreach efforts to-date and what they have
17 heard from the public about the Tualatin Basin Goal 5 fish and wildlife habitat protection
18 program.

19 20 ***Phase One: Inventory Outreach***

21 In **September 2003**, the Partners organized three open houses to share Goal 5 progress to-date
22 with the general public. These were held in Forest Grove, Beaverton and at the Tualatin Valley
23 Fire & Rescue Training Facility between Tualatin and Sherwood. In all, approximately 240
24 people attended the open houses. Additional outreach activities included publication of a
25 Newsheet, two televised presentations at the Washington County Public Affairs Forum in
26 October 2003, talks at CPO's 1 and 5, the creation of a Partners' website, and numerous articles
27 in jurisdictions' newsletters. Media releases and posters combined with creative outreach by all
28 the Partners helped with public awareness. The Partners produced a panel television show under
29 the auspices of Tualatin Valley Television (TNTV), which was broadcast throughout the late
30 winter and early spring of 2004. Outreach from other entities included multiple Metro
31 presentations to interested parties, a well-attended Goal 5 Business Summit organized by
32 Commercial Real Estate Economic Council (CREEC) in October 2003, a Raindrops to Refuge
33 open house, and other outreach by organizations, such as the Audubon Society of Portland and
34 the Tualatin Riverkeepers.

35 36 ***Comment Forms***

37 Jurisdictional staff and elected officials were available at the Fall 2003 open houses to answer
38 questions and listen to individuals' views on the habitat program. Maps of regionally significant
39 habitat and informational newsheets were available at these events, along with public comment
40 forms. The Basin Partners made use of the Comment Sheet created by Metro, which set forth
41 six questions.

- 42
- 43 1. The first asked whether habitat protection should be equal or varied based on ecological
44 value. The numbers were almost equally split between protecting the most ecologically
45 valuable areas first and protecting all equally; a small minority said no new regulations were
46 needed.
- 47

- 1 2. The second asked about varying protection by land use (zoning) and considering habitat
2 while planning for roads and utilities. Respondents called for balance and flexibility in
3 regulations to preserve economic viability, and were pleased with the idea of local knowledge
4 being applied in decision making. However, they affirm that natural resource protection does
5 improve property values. Regarding infrastructure, respondents overwhelmingly favored
6 considering the impacts of roads and utilities on habitat areas.
7
- 8 3. The third asked if habitat areas that provide connections to other areas should be given
9 priority. Most respondents supported greater protection efforts for these areas, though a few
10 of these suggest that all habitat areas should be equally protected. A few respondents raised
11 concerns about the impacts of this decision on private property. Others mentioned
12 acquisition of these areas as a potential policy approach.
13
- 14 4. The fourth addressed protecting established versus new development, allowing exceptions
15 from development restriction, and requiring mitigation. Most respondents support
16 protection standards on newly developed and re-developed land, while some people favor
17 exempting already developed land from protections. Still others favor protections on all land.
18 Respondents mostly favor mitigation, though a few expressed concerns about whether
19 mitigation was equal to protection. In general, people favored a balanced approach of
20 avoiding impacts when possible and mitigating losses when they occur.
21
- 22 5. The fifth asked the public for input on the types of incentives that should be used to protect
23 habitat. The most commonly reported suggestions include: tax incentives (e.g., reduced
24 property taxes), grants and technical assistance for habitat protection and restoration,
25 education efforts including school programs, community recognition and awards for habitat
26 protection and restoration, free or reduced cost native plants and other restoration materials,
27 and conservation easements or transfer of development rights.
28
- 29 6. The sixth addressed how the habitat protection program should be funded and personal
30 willingness to support public financing mechanisms. The majority of respondents were
31 supportive of public financing mechanisms, including bonding. Other funding mechanisms
32 mentioned include fees on development, stormwater fees, grants, and voluntary
33 contributions.
34

35 **Letters**

36 One letter was received from the Audubon Society of Portland and one from an interested
37 citizen, both calling for strong protection standards. The Audubon Society is particularly
38 concerned about riparian corridor continuity and upland wildlife habitat, which has fewer
39 protections in place than riparian areas do.
40

41 **Postcards**

42 The Friends and Advocates of Urban Natural Areas (FAUNA) distributed pre-addressed
43 postcards to be sent to Metro and the Tualatin Basin partners in support of the Goal 5
44 protection program. Metro received 1,320 postcards and Tualatin Partners received another 168.
45 Only two expressed concerns about property rights and were less supportive of a habitat
46 protection program. The following are major themes expressed in the postcards that support a
47 regional habitat protection program:

- 1 ▪ Desire and need for additional regulations to protect watershed and habitat resources
- 2 ▪ Need to pursue responsible development and stop reckless development
- 3 ▪ Importance of habitat areas for environmental health and neighborhood livability
- 4 ▪ Positive influence protected natural areas have on property rights
- 5 ▪ Long time frame involved in recovering resource health relative to the short timeframe
- 6 of degrading resources
- 7 ▪ Desire and need to protect habitat resources to maintain the character of our region and
- 8 for the benefit of future generations

10 **Summary**

11 Based on that early feedback, the public appeared generally supportive of protecting fish and
12 wildlife habitat and including regulatory and non-regulatory measures. Metro reports that the
13 majority of the critical feedback received was through phone calls from concerned citizens who
14 worry about the impacts of Metro's habitat protection program on the use of their property or
15 who oppose all habitat protection based on private property rights or anti-tax sentiments. Other
16 critical feedback suggested that Metro was not currently doing *enough* for the protection of fish
17 and wildlife habitat.

19 **Phase Two: ESEE Analysis and Allow/Limit/Prohibit Decision**

20 Over the fall and winter of 2003-2004, as the ESEE analysis and development of Allow-Limit-
21 Prohibit maps was proceeding, Tualatin Basin staff spoke before the Washington County
22 Medical Society, WEA, CPOs 10 and 5, and the Tualatin River Watershed Council. They also
23 made a presentation at the second CREEC Goal 5 Business Summit March 2, 2004. Media
24 releases, posters, and continued creative outreach by all the Partners continued to help build
25 public awareness.

27 In **March 2004** the Partners held three open houses, one in Hillsboro, one in Tualatin, and one
28 in Beaverton, to share the results of the ESEE analysis and the proposed Allow-Limit-Prohibit
29 maps; 255 people attended. The public notice for these events was created and mailed jointly by
30 the Partners and Metro to 43,011 citizens. Planners and laptop computers loaded with property
31 information were available for one-on-one interaction. A second edition of the Newsheet was
32 produced for wide distribution. A slide show presentation on the status of the process was
33 shown five times each evening (except in Beaverton). The Clean Water Services' video *Wild by*
34 *Design* was shown. Citizens were encouraged to write their comments for the public record.

36 The March 29, 2004 Open House in Beaverton was followed by the Partners' first Goal 5
37 **Public Hearing**. Taped by TVTV, it was rebroadcast around the Basin through June of 2004
38 approximately a dozen times. About 100 persons attended, with 40 providing formal testimony.

40 **Summary**

41 All told, counting oral testimony, comment cards, letters, and e-mail, approximately 160 pieces
42 of testimony were received. Although the lines of demarcation were not always clear and many
43 spoke to the need to balance environmental and economic concerns, in general the ratio of
44 comments received was two-to-one in favor of higher levels of protection. Of the 56 who
45 expressed support for development rights, these were their major themes:

- 46 ▪ Regulations are already in place; stop moving the goal posts.
- 47 ▪ Landowners must be compensated for loss of economic value.

- 1 ▪ If the public wants more greenspace, they should buy it.
- 2 ▪ Metro’s inventory maps contain errors, especially in counting as habitat suburban
- 3 gardens, orchards, etc.
- 4 ▪ Site specific analysis is necessary.
- 5 ▪ Honor the UGB and agricultural land by keeping development constrained, even if it
- 6 means loss of habitat within the UGB.
- 7 ▪ Institutional campuses (schools, universities, hospitals) are pressed for space.
- 8 ▪ The region suffers from a shortage of industrial land.
- 9 ▪ Too-strict regulations prohibit responsible stewardship, force people to harvest timber,
- 10 etc.

11
12 Of the 104 who called for strengthening habitat protection, their major issues were as follows:

- 13 ▪ We support science-based efforts to preserve and enhance eco-system health.
- 14 ▪ It is foolish to develop flood-prone land or steep slopes.
- 15 ▪ Please identify the habitat land already in public ownership (parks, etc.); this will help
- 16 alleviate concerns.
- 17 ▪ Please develop proactive conservation education programs.
- 18 ▪ Environmental health improves economic value.
- 19 ▪ Fragmenting habitat lessens its value.
- 20 ▪ Environmental degradation is a major “takings” from us all and from our own future.
- 21 ▪ Please protect the best interests of the greatest number of the citizenry.
- 22 ▪ This is a unique opportunity to do the right thing – make the most of it.

23
24 One person summed it up this way: “No one these days objects to sanitary sewer requirements,
25 as it is generally accepted that as population densities increase, our aquifers would suffer without
26 the waste water management sewer systems provide. Our densities now require further
27 community actions to protect broader aspects of our natural environment. Flood control,
28 wildlife protection, water quality, etc. are all required for a reasonable quality of life. If these
29 benefits are sacrificed, property values throughout the basin will be reduced. Property values and
30 natural values converge. I urge you to protect our region’s natural assets for our children.”

31 32 ***Phase Three: The Program***

33 Public outreach efforts continued throughout the spring and summer of 2004. Media releases
34 and editorial briefings resulted in stories in the major newspapers, as well as in the newsletters of
35 all the Partners, including the CPOs. Mayor Tom Hughes of Hillsboro and Senior Planner Hal
36 Bergsma of Beaverton made a guest appearance on TVTV’s Talk of the Town (rerun on cable
37 TV four times). Information was also available at many community events, including Tualatin’s
38 Songbird Festival and a Public Works Fair at Washington Square on May 15; Beaverton’s
39 Neighborhood Clean Up on June 5; Tigard’s Balloon Festival June 17-20; Tualatin River
40 Discovery Day on June 26; Beaverton’s Summerfest July 16-18; and the Washington County Fair
41 July 28 through August 1. Information was also available on the County’s Planning web site.

42
43 Open houses in July and a public hearing in August were set to share possible program options
44 with the public. In mid-July, Public Notices were mailed to approximately 35,000 property
45 owners and interested parties inviting them to these events. Open Houses on the proposed
46 Tualatin Basin Goal 5 program were scheduled for the following dates and locations:

- 47 ▪ Monday July 26, 4 to 7:30 pm, Beaverton Library, 12375 SW 5th Street, Beaverton

- 1 ▪ Wednesday July 28, 4 to 8 pm, Forest Grove Community Auditorium, 1915 Main Street,
2 Forest Grove
- 3 ▪ Thursday July 29, 4 to 8 pm, Tualatin High School, 22300 SW Boones Ferry Road,
4 Tualatin

5
6 The Public Hearing was held on:

- 7 ▪ Monday August 2, 6 to 8 pm, Public Services Building Auditorium, 155 N First Avenue,
8 Hillsboro – this hearing was continued until August 9th.

9
10 Continuations of the initial Hearing on the proposed Basin Program:

- 11 ▪ Monday August 9, 1 pm, at the Beaverton City Library, 12375 SW Fifth Avenue,
12 Beaverton; public comment period held open until 5:00 pm - hearing was continued until
13 Monday, August 16th
- 14 ▪ Monday August 16, 1 pm, at the Beaverton City Library, 12375 SW Fifth Avenue,
15 Beaverton; hearing was continued until Monday, August 30th for continued deliberations
16 on proposed Program
- 17 ▪ Monday August 30, 1 pm, at the Beaverton City Library, 12375 SW Fifth Avenue,
18 Beaverton; hearing was continued until Monday, September 13, 2004 for continued
19 deliberations on proposed Program
- 20 ▪ Monday September 13, 1 pm, at the Beaverton City Library, 12375 SW Fifth Avenue,
21 Beaverton; hearing was continued until Monday, September 27, 2004 for continued
22 deliberations on proposed Program
- 23 ▪ Monday September 27, 1 pm, at the Beaverton City Library, 12375 SW Fifth Avenue,
24 Beaverton; at this hearing, decisions on the draft Program were deferred for further
25 consideration of outstanding issues

26
27 Further TBNRCC Public Meetings considering proposed Basin Program:

- 28 ▪ On Monday November 15, 1:00 pm, at Beaverton City Hall, 4755 SW Griffith Drive,
29 Beaverton; meeting to consider issues and potential revisions to Metro’s Regional Goal 5
30 Program (Metro Draft Resolution 04-3506A) – discussed Measure 37 implications and
31 determined that potential changes to Regional Program and/or effects of Measure 37
32 may require new direction for Basin program. Directed Steering Committee to work with
33 Metro on affects of Measure 37.
- 34 ▪ Through August 9th at 5:00 pm the public was also invited to submit comments in
35 writing to:

36 The Tualatin Basin Natural Resources Coordinating Committee
37 Washington County Department of Land Use and Transportation
38 Planning Division, 155 N First Avenue, Suite 350-14
39 Hillsboro, OR 97124

40
41 After holding final public hearings, the Coordinating Committee will make final
42 recommendations to the Metro Council on a Goal 5 program for the Tualatin River Basin.
43 Metro will consider the Tualatin Basin program and, in turn, hold its own public hearings. The
44 Basin Partners anticipate that Metro will accommodate the Tualatin Basin program into their
45 regional Goal 5 program. Following Metro’s approval, local governments will have 180 days to
46 adopt implementing ordinances. A subsequent update to the Basin-Metro IGA extends the
47 implementation period to one year.

1
2 **Phase Four: Program Revision**

3 Public involvement activities during recent Program Revisions have focused on invitations for
4 public comments at Steering Committee meetings being held three to four times per month
5 since early February as well as invitations for public comment at TBNRCC meetings in January
6 and February. An extended public comment period is being scheduled during the upcoming
7 TBNRCC public hearing on March 28th.

8
9 Following TBNRCC adoption of final Program recommendations for the Basin, those
10 recommendations, together with relevant findings will be forwarded to Metro for Council
11 consideration for incorporation in the draft Regional Program. Additional opportunities for
12 public involvement and comments on the Basin Program will be in afforded as Metro holds
13 Open Houses and Public Hearings on the Regional Program in April and May of this year.
14 Metro is also expected to provide public notice in compliance with the requirements of ORS
15 197.047 (also known as Measure 56 notice) prior to holding public hearings for final adoption of
16 a Regional Program. This notice is expected to cover all potentially affected properties in the
17 Tualatin Basin and will provide opportunities for public comment at Metros adoption hearings.
18 Finally, prior to any new Basin Goal 5 Program elements becoming effective, local governments
19 throughout the Basin will be required to provide yet another public notice pursuant to Measure
20 56 standards and hold public hearings before their local Commissions, Boards and/or Councils.

21
22 **D. Organization and Approach to Goal 5 Program**

23 The Tualatin Basin Goal 5 Program approach emphasizes three key elements:

- 24
25
 - 26 ■ **Preserve** existing system through regulation of new development and landscape
 - 27 ■ **Enhance** overall health of regional sites through capital improvements designed to
 - 28 ■ **Mitigate** new development impacts to significant resources throughout Basin through
- 29 encouraging the use of Low-Impact-Development (LID) practices, along with the
30 removal of existing barriers to implementing those guidelines for LID approaches.
31 Provide incentives to utilization of LID such as flexible development standards.
32
33

34 In addition to the above, the non-regulatory program component addresses non-development
35 related activities, and includes the following elements:

- 36
 - 37 ■ Education
 - 38 ■ Stewardship Recognition
 - 39 ■ Restoration Funds
 - 40 ■ Tax Incentives
 - 41 ■ Technical Assistance
 - 42 ■ Promote Volunteer Activities
 - 43 ■ Acquisition.
- 44

1 **CHAPTER 2 RELATIONSHIPS TO OTHER ENVIRONMENTAL**
2 **REGULATIONS AND PROGRAMS**

3
4 The policy framework under which this Program Report is submitted is part of a state and
5 regional land use and natural resource policy framework that is complex. This chapter describes
6 various other activities and explains how the Tualatin Basin Goal 5 Program fits into this
7 framework.
8

9 **A. Statewide Planning Goal 2 Coordination**

10 Land Conservation and Development Commission’s (LCDC) Statewide Planning Goal 2
11 requires coordination with affected local governments. Prior to completion of the original
12 Tualatin Basin Approach and the formation of the Tualatin Basin Natural Resources
13 Coordinating Committee, all governments within the Tualatin Basin were invited to be members
14 and/or participants. Multnomah County, Columbia County, Clackamas County, Yamhill County,
15 the city of Portland, the city of Lake Oswego and the city of West Linn all declined the
16 invitation. However, all requested they receive notices and be allowed to comment on all
17 technical and policy work products. That coordination has been happening since the beginning
18 of this work. Additionally, the Tualatin Basin Partners participated and periodically briefed a
19 variety of the Regional Goal 5 committees hosted by the Metropolitan Service District (Metro)
20 as well as the Metro Council and its policy advisory committee (MPAC).
21

22 **B. Regional and Local Policy Framework**

23 ***Metro’s Regional Goal 5 ESEE and Program***

24 The Goal 5 rule provides for a “Regional” Goal 5 process to be conducted by Metro.
25 Specifically, OAR 660-023-0080 defines “regional resources” and authorizes Metro to adopt one
26 or more regional functional plans to address all applicable requirements of Goal 5 and the OAR
27 for one or more resource categories. Ultimately, the program requirements for Metro’s Goal 5
28 work will become part of the Urban Growth Management Functional Plan (Functional Plan),
29 specifically, Title 3, Section 5. Once adopted by the Metro Council and acknowledged by LCDC,
30 the Functional Plan text will become part of the Metro Code and local governments will be
31 required to take actions and/or show “compliance” with its provisions.
32

33 Metro began conducting a Goal 5 process for the area within its service boundaries in 1999. In
34 2002, Metro adopted an inventory for Regionally Significant Riparian Corridors and Wildlife
35 Habitat and began work on a regional ESEE analysis. The Basin Approach is being completed
36 concurrently with Metro’s regional tasks. The Tualatin Basin is most likely to be implemented
37 sooner than other portions of the region if the non-basin jurisdictions wait for the Metro
38 regional safe harbor to be completed and acknowledged by the state before they begin local
39 implementation tasks.
40

41 ***Clean Water Services (District)***

42 Water quality problems have long been recognized in the Tualatin Basin. To address these
43 issues, the Unified Sewerage Agency (USA, now Clean Water Services) was formed as a special
44 district under Oregon Revised Statutes (ORS) 451 by a vote of the people in the 1969 election
45 season in order to combine the 26 operating wastewater treatment plants operating in the

1 Tualatin Watershed at the time. This action was motivated by the Environmental Quality
2 Commission (EQC) establishing a building moratorium in the watershed until the poor water
3 quality was corrected (an order, not a lawsuit). The ORS requires that its Board of Directors be
4 the County Commission. This is the only connection to County government.

5
6 Over the years, Clean Water Services built two new “regional” plants (Durham and Rock Creek),
7 upgraded two more to modern operating standards for the watershed (Hillsboro, formerly West
8 Hillsboro, and Forest Grove), and took the remainder out of wastewater treatment and replaced
9 them with pump stations, hooked them into “interceptor lines” and moved the waste to the
10 regional plants for treatment.

11
12 The Department of Environmental Quality (DEQ), in compliance with section 303 of the Clean
13 Water Act (CWA), is required to establish Total Maximum Daily Loads (TMDLs) in twelve
14 watersheds, the first being the Tualatin. When the TMDLs were established in 1988, twelve
15 cities within Washington County asked the District to form a stormwater utility. To do so, the
16 District had to ask the Legislature to amend ORS 451 to allow stormwater management along
17 with the existing wastewater collection. Following that amendment, the cities established
18 interagency agreements with the District to allow the agency to do wastewater collection and
19 stormwater management in the respective cities.

20 21 ***Basin Approach to Title 3 – Vegetated Corridors***

22 The local governments in the Tualatin Basin developed a unified program, implemented through
23 the Clean Water Services District’s Design & Construction Standards, to successfully comply
24 with Title 3 of Metro’s Urban Growth Management Functional Plan, which outlines water
25 quality and flood management requirements for the region. The District’s Design and
26 Construction Standards exceed the minimum requirements of Title 3 for water quality protection
27 of the Tualatin and its 700 miles of tributaries, providing for vegetated stream corridor buffers
28 up to 200 feet wide and mandating restoration of corridors in marginal or degraded condition.
29 District compliance with existing Title 3 requirements also addresses protection of flood
30 management areas in order to protect life and property from dangers associated with flooding;
31 and provides for flood storage, reduction of flood velocities, reduction of flood peak flows and
32 reduction of wind and wave impacts. The multi-jurisdictional approach resulted in a method for
33 implementation of Title 3 based on water quality standards, good science, and best management
34 practices that meet Metro’s substantial compliance requirements.

35 36 ***Clean Water Services Healthy Streams Plan***

37 The Healthy Streams Plan (HSP) is an updated watershed plan designed to address the Clean
38 Water Act and Endangered Species Act (ESA), with a focus on the urban and urban fringe
39 portions of the Tualatin Basin. The District, local cities, Washington County, Metro, and
40 Tualatin Hills Park and Recreation District, are all partners in the Healthy Streams Plan
41 development and implementation. The Healthy Streams Plan contains the following key
42 elements: an inventory of the stream location and condition (Watersheds 2000), an analysis of
43 public habits and values, an economic analysis, policy and programmatic focus areas (effective
44 impervious area reduction, vegetated corridors, hydrology / hydraulics, and operations and
45 maintenance). The HSP was recommended for approval by its project advisory committee, and
46 is anticipated to be before the District Board for consideration in June 2005.

1 Watersheds 2000 is the ecological stream inventory and water resource modeling component of
2 the Healthy Streams Plan. The study area for Watersheds 2000 included the urban and urban
3 fringe areas draining into waters primarily managed by Clean Water Services. Consultants were
4 used to gather field information and generate the hydrology and hydraulic models. Project
5 Committee's of citizens, regulators, cities, and other stakeholders were formed for three separate
6 regions of the study area to assist with identifying desired conditions for specific stream reach
7 types based on the scientific data delivered and social values of the participants.
8

9 The Water Resource Engineering element of the Watersheds 2000 Inventory developed detailed
10 topographic surveys of the floodplain and stream cross sections. Hydrology models using HEC-
11 HMS and Hydraulic models using HEC-RAS were developed. The engineers and ecologists also
12 evaluated culverts and bridges for conveyance and fish passage.
13

14 The ecological inventory element of Watersheds 2000 was conducted from July to early
15 November 2000. Follow-up gap analysis, replicate sampling, and detailed macroinvertebrate
16 sampling also occurred from September through early November 2001. Ecologists sampled
17 streams using the Tualatin Basin Rapid Stream Assessment Technique (RSAT). Numerous sites
18 were sampled and applied to a proportionate stream reach in miles to determine the physical
19 condition and habitat character of our stream system. Streams and other water quality sensitive
20 features in the study area that were not sampled were still field verified for location and
21 condition (piped, open, etc.). In addition, Clean Water Services and the Watershed Council
22 worked with Oregon Department of Fish and Wildlife to collect fish and crawfish at 67 sites
23 between 1999 and 2001. Clean Water Services contracted the monitoring of 63
24 macroinvertebrate sites in 2002.
25

26 ***Existing Environmental Health Report (March 2004)***

27 The Existing Environmental Health Report (EEHR) was prepared by the Tualatin Basin
28 Partners for Natural Places to provide an assessment of the environmental health of the eleven
29 Regional Sites found within the urban portion of the Tualatin River Basin, which are the subject
30 of Metro's Goal 5 natural resource planning process. The EEHR serves as a preliminary
31 indication for reviewing strategies for improving the health of Tualatin Basin Watersheds in
32 future programs, as well as a reference for determining whether program strategies achieve the
33 goal of promoting improved overall health.
34

35 The EEHR is based on a comparative model of existing data sources: Metro Regionally
36 Significant Inventories for Riparian Corridor and Wildlife Habitat, Clean Water Services Rapid
37 Stream Assessment Technique (RSAT) data, and Clean Water Services Effective Impervious
38 Area (EIA) data. Each set of information represents a different method for assessing the
39 environmental health. The EEHR uses the Metro inventory to provide the boundaries of the
40 natural resource Regional Sites and associated scoring attributes. The Metro Regional Sites are
41 then analyzed on a local level utilizing available Clean Water Services data.
42

The EEHR is principally organized around the following environmental key environmental criteria:

1. Effective Impervious Area (EIA)
2. Stream Flow
3. Geomorphology
4. Riparian Vegetation
5. Water Quality
6. Aquatic Habitat
7. Upland Wildlife Habitat

The comparative assessment of the District’s and Metro inventory data provided one approach to evaluating the existing environmental health of the urban portion of the Tualatin Basin and eleven major sub basins. In addition, this methodology provides the basis that will allow for measurement of improvement in environmental health over time. This process provides both a static snapshot of current health as well as a tool for dynamic measurement of future health over time. The table below provides a summary of the assessments for each of the eleven Regional Sites and an overall summary of the environmental health for the entire Basin Study Area. While there is considerable variability, when considered as a whole, the riparian and wildlife habitat conditions within the urban portion of the Tualatin River Basin merit an overall environmental health rating of “Fair.”

Table 2-1: Summary of Basin Study Areas from the EEHR

Study Area Sub Basins	Metro Regional Site	Overall Rating
Council Creek, Gales Creek, and Upper Dairy Creek	Site 5	Fair to Good
Dairy Creek, McKay Creek, and Waibel Creek	Site 6	Fair
Middle and Upper Rock Creek, Abbey Creek, Holcomb Creek	Site 7	Poor to Good
Lower and Upper Beaverton Creek, Bronson Creek, Cedar Mill Creek, and Basin	Site 8	Poor to Fair
Rock Creek, Reedville Creek, Dawson Creek, and Turner Creek	Site 9	Fair
Butternut Creek, Gordon Creek, and Tualatin River Tributary	Site 10	Fair
Hedges, Nyberg, and Saum Creeks	Site 11	Fair
Ash Creek, Upper Fanno Creek, Sylvan Creek, Vermont Creek, and Woods Creek	Site 12	Poor to Fair
Summer Creek	Site 13	Poor to Fair
Ball Creek, Lower Fanno Creek and Red Rock Creek	Site 14	Fair
Chicken Creek, Cedar Creek, and South Rock Creek	Site 15	Fair
Entire Basin Study Area		Fair

1 **C. Clean Water Act Wetland Fill and Removal Permits (Section 404)**

2 ***Army Corps of Engineers and Oregon Division of State Lands***

3 These two agencies implement sections of the Clean Water Act that require case by case review
4 and permitting for fill and/or removal of over 50 cubic feet of material from a wetland or waters
5 of the United States (creeks and streams). These permits are coordinated by both of these state
6 and federal agencies, who in turn seek and receive comments from other state and federal
7 agencies as well as local land use permitting agencies. Currently, the District's Design &
8 Construction standards for Water Quality Sensitive Areas and their associated Vegetated
9 Corridors do not regulate areas that are part of a 404 permit application and mitigation plan. The
10 final Tualatin Basin Goal 5 program will address the hierarchy of mitigation and permit activities
11 so that resource protection is coordinated and reviews are not duplicative.

1 **CHAPTER 3 URBAN PROGRAM ELEMENTS**

2
3 **A. Introduction**

4 This chapter of the Tualatin Basin Program Report identifies proposed Fish & Wildlife Habitat
5 Protection program elements that will be applied to the study area located within the Urban
6 Growth Boundary (UGB) area of Washington County. These elements of the proposed program
7 are intended to meet the requirements of the Goal 5 Administrative Rule, and satisfy Metro's
8 criteria for meeting regional Goal 5 requirements, pursuant to the Metro-Tualatin Basin Natural
9 Resources Coordinating Committee (TBNRCC) intergovernmental agreement.

10
11 The proposed program consists of four major components, including a revenue component, a
12 non-regulatory (voluntary and incentive) component, a regulatory component and a monitoring
13 component. The program proposal serves as a basis for implementing the recommendations of
14 the draft Tualatin Basin Goal 5 Economic, Social, Environmental, and Energy (ESEE) analysis
15 and Allow-Limit-Prohibit (ALP) decision. The focus of this chapter is to describe the proposed
16 program elements that will apply to the urban portion of the Tualatin River Basin, including
17 those use categories defined in the ESEE report as High Intensity Urban (HIU), Other Urban
18 (OU) and Future Urban (FU). The program approach that is proposed for the Non-Urban (NU)
19 use category is described in Chapter 4 of this report, which is entitled "Rural Program
20 Elements."

21
22 The existing regulatory element of the proposed urban program approach applies to proposed
23 development and redevelopment activities within and adjacent to areas designated as Water
24 Quality Sensitive Areas and Vegetated Corridors and subject to Clean Water Services' (CWS)
25 Design & Construction Standards. As proposed, incentive and voluntary elements of the
26 program apply to all areas of the Basin, and special development flexibility is available for
27 development of Class I and II Riparian inventory areas and their vicinities, where they occur
28 outside of Vegetated Corridors. The proposed program is structured to achieve the following
29 three goals:

- 30
31
- 32 ■ *Improvement of the environmental health of the basin* through restoration, mitigation and
33 enhancement efforts in riparian areas, funded by the investment of fee-generated revenue, in
34 conjunction with the Healthy Streams Plan (HSP);
 - 35 ■ *Preservation of the existing core system* through resource conservation, impact reduction and
36 enhancement of degraded and disturbed resource areas among lands classified as Water
37 Quality Sensitive Areas and Vegetated Corridors; and
 - 38 ■ *Mitigation of future resource impacts* by encouraging and providing incentives for the use of Low
39 Impact Development practices in resource areas, in part to meet water quantity management
40 targets pursuant to Clean Water Services' Design & Construction standards.

41 This chapter elaborates on the regulatory aspects of the second and third bulleted goals. The
42 description of the program approach toward meeting the first bulleted goal is provided in the
43 Healthy Streams Plan. This draft watershed plan has been recommended for adoption and is
44 anticipated for CWS Board consideration in June 2005.
45

1 **B. Applicability and Resource Location**

2 As will be explained throughout this chapter, the proposed program applies differently in
3 different areas of the Basin. Generally speaking, the program regulatory component intended to
4 preserve and enhance the core riparian system is reliant upon existing Design & Construction
5 standards currently administered by CWS and Basin cities. These standards, specifically
6 applicable to Water Quality Sensitive Areas (WQSAs) and their associated Vegetated Corridors,
7 are particularly relevant for the protection of riparian fish and wildlife habitat, and thus provide a
8 Goal 5 function. All Goal 5 resource areas with a Basin ALP designation of Strictly Limit (SL)
9 fall within the parameters of the Vegetated Corridor boundaries. Vegetated Corridor areas are
10 not regulated beyond the CWS District boundary, which generally corresponds with the UGB.
11 As such, there are no SL areas identified outside the UGB.

12
13 The Basin resource areas identified with a Moderately Limit (ML) ALP designation are generally
14 consistent with the areas where Class I and Class II Riparian inventory lands occur beyond the
15 limits of the Vegetated Corridors. This is the case throughout the entire inventoried area, which
16 extends approximately one-mile beyond the year 2000 UGB, however the application of the ML
17 designation can be characterized differently in urban versus rural situations. Outside the UGB
18 (where Vegetated Corridor standards do not apply), all inventoried Class I and II Riparian
19 resource areas feature a ML designation. The rural ML areas very generally represent significant
20 stream corridors with approximate widths typically ranging from 300 to 350 feet, and much
21 broader in floodplain areas. Within the UGB, Class I and II Riparian areas typically occur within
22 100 feet of the Vegetated Corridor boundary, although these also are much broader in
23 floodplain areas. For cases where the Class I and II resources correspond with HIU conflicting
24 use areas, the ALP designation reflects a ML designation. In addition, there are limited cases
25 throughout the Basin where a Site-level ESEE decision adjusts for a Lightly Limit designation in
26 Class I and II Riparian resource areas. These adjustments are based on unique circumstances and
27 are reflected on the ALP map.

28
29 All other portions of the study area, including Inner and Outer Impact Areas, are provided with
30 a Lightly Limit ALP designation. While the impact areas are not considered to feature significant
31 fish and wildlife habitat resources per se, activities that occur in all areas of the watershed could
32 have a potentially adverse impact on stream resources. Accordingly, the Basin Outer Impact
33 Areas meet the definition for impact area provided by the Goal 5 OAR (660-023-0010(3)).

34
35 ***Implementation of ALP Designations***

36 Pursuant to the Design & Construction standards, the limits of WQSAs and Vegetated
37 Corridors are to be identified using parameters defined in the standards. The basis for this is the
38 site-specific and fluctuating nature of the resource; factors such as soil type, water table level and
39 slope each represent significant determining factors. Accordingly, the identification and
40 delineation of these features occurs on a case-by-case basis. In order to properly administer the
41 applicable regulations, any proposed development activity for areas nearby potential wetland or
42 stream vicinities is required to undergo a site review to make a more accurate determination of
43 sensitive area locations. This procedural practice will continue to apply, and therefore there is no
44 need for implementing jurisdictions to adopt maps of SL areas for Goal 5 purposes. As
45 explained in Part Two of the ESEE analysis, even in cases where the underlying ALP decision is
46 less than SL for Goal 5 purposes, the Vegetated Corridor standards will apply consistently within

1 CWS-defined areas regardless of the Goal 5 decision. However, the clear and objective Design &
2 Construction Standards related to Vegetated Corridors include an option for an alternative
3 review process which may be used in cases with corresponding ML and LL designations in order
4 to achieve additional flexibility to accommodate development while achieving necessary
5 objectives for stream corridor protection.

6
7 As explained above, land areas with ML designations are part of significant riparian corridors.
8 Outside the UGB, these generally correspond with vegetated stream corridors and are thus
9 relatively easy to locate at the site level or with aerial photography. Inside the UGB, ML areas
10 typically are located in-between SL and LL areas. While there is a process for identifying the
11 outer margins of SL areas as they correspond with the regulatory measures for Vegetated
12 Corridors, delineating the boundary between ML and LL areas is a different matter. As further
13 explained elsewhere in this chapter, the precise site-level distinctions between ML and LL areas
14 are not critical for programmatic purposes. To begin with, the boundaries between ALP
15 designations do not follow “site” boundaries from a development (i.e., conflicting use)
16 standpoint. For development purposes, site boundaries are generally consistent with tax lot lines,
17 which form the basis for articulating the limits of proposed development activity in nearly all
18 cases. Individual development activities are expected to overlap ML and LL areas on a regular
19 basis.

20
21 The general programmatic distinction between ML and LL areas is the availability of bonus
22 flexibility in development regulations pertaining to site design, in exchange for resource benefits.
23 For example, on-site density transfer, reduced setbacks, and below-minimum residential
24 densities may be utilized by a property developer where special provisions are made to
25 permanently preserve significant resource areas on a site. Provisions such as these are more likely
26 to be useful if they are applied to the entire site, rather than a limited portion of a site,
27 particularly in the urban area where most affected tax lots are of a relatively small scale. These
28 provisions are intended to provide resource benefits, and it is appropriate for them to extend
29 beyond the limits of streamside ML areas if opportunities exist to protect significant resource
30 areas in this manner. It is therefore not important for local jurisdictions to adopt maps showing
31 the precise extent of ML areas. The Basin ALP map recommended for adoption by Metro is
32 sufficient to generally locate properties where the special provisions for design flexibility can be
33 applied, as well as the adjacent LL inventory areas into which they may be extended.

34 35 **C. Program Elements**

36 The following provides more detail in describing salient Basin program elements. A comparative
37 overview of the urban program is provided below in **Table 3-1**, Program Approach – Summary
38 Table. This Table summarizes the program approach for each of the three program resource
39 areas, in order to illustrate the relative distinctions among them. In general, the proposed
40 program approach is most liberal in the Lightly Limit areas and most rigorous in Strictly Limit
41 areas.

42
43 Traditionally, the practice of Goal 5 programming has involved land use planning and regulatory
44 approaches to achieving administrative rule requirements. The Partners’ approach is less
45 traditional in that it provides a revenue basis for limiting impacts to significant resources. In
46 addition, the proposed program incorporates existing regulatory procedures to address habitat

1 protection in core riparian areas. The program elements described in this chapter elaborate on
2 the Partners' objective to provide development-related incentives for reducing resource impacts.

3
4

Table 3-1: Program Approach – Summary Table

				PROGRAM LIMIT DECISION		
				Lightly Limit	Moderately Limit	Strictly Limit
Goals:	<ul style="list-style-type: none"> ▪ encourage minimizing impact through sensitive development and maintenance practices ▪ encourage and support preservation and enhancement of resource areas ▪ optional resource retention, where resources are present 	<ul style="list-style-type: none"> ▪ target and fund environmental projects for riparian system enhancement ▪ design flexibility for minimizing disturbance ▪ encourage minimizing impact through sensitive development and maintenance practices ▪ encourage and support preservation and enhancement of resource areas ▪ optional resource retention 	<ul style="list-style-type: none"> ▪ target and fund environmental projects for riparian system enhancement ▪ development generally not allowed ▪ development that is permitted must avoid or minimize disturbance of resource area ▪ require use of sensitive development and maintenance practices ▪ require enhancement of degraded resource areas 			
Approach:	<ul style="list-style-type: none"> ▪ incentives to preserve and enhance vegetation ▪ technical assistance available to facilitate and encourage use of tools and incentives ▪ guidelines for LID and habitat sensitive green design approaches 	<ul style="list-style-type: none"> ▪ special development tools available to minimize potential resource disturbance area ▪ incentives to preserve and enhance vegetation via credit toward on-site storm water management requirements ▪ technical assistance available to facilitate and encourage use of tools and incentives ▪ guidelines for LID and habitat sensitive green design approaches 	<ul style="list-style-type: none"> ▪ development allowed in limited cases or under certain circumstances ▪ any permitted disturbance must be mitigated ▪ required enhancement of degraded resource areas within vegetated corridors ▪ technical assistance available to facilitate and encourage use of tools and incentives ▪ guidelines for LID and habitat sensitive green design approaches 			

5

6 ***ALP Designations***

7 Strictly Limit (SL) Areas: In Strictly Limit areas, protection, conservation, enhancement and
8 mitigation are required. Projects must be designed to avoid impacting Strictly Limit areas and
9 may not encroach into these areas except under limited circumstances as provided for under
10 CWS' Design & Construction Standards. (Examples of exceptions include one house on a lot
11 that is entirely within a Vegetated Corridor area, and utility crossings). The use of land use tools,
12 such as height and setback flexibility, would be supported in order to avoid or minimize the total
13 disturbance area.

14

15 Moderately Limit (ML) Areas: Conservation and restoration will be encouraged in ML areas.
16 Density reduction would be allowed provided conserved resource lands are permanently
17 protected. Resources in ML areas would be targeted for restoration or enhancement projects.

1
2 Lightly Limit (LL) Areas: A Lightly Limit Program decision is applied to all remaining Goal 5
3 resource areas as well as to Impact Areas. The focus in Lightly Limit areas will be on education
4 and incentives for the implementation of LID and green design approaches.

5
6 Impact Areas: The Goal 5 Administrative Rule requires that the ESEE address conflicting uses
7 in impact areas. The March 2004 Tualatin Basin ESEE describes the approach to impact areas in
8 detail, modified by the March 2005 addition to address Part Two of the Basin-Wide ESEE. The
9 basin ESEE Report describes the Partners' approach to impact areas, which reflects a conviction
10 that impacts to fish and wildlife habitat resources are not limited to areas immediately adjacent
11 to the resource. Factors such as non-point source pollutants and hydrology have significant
12 impacts on stream condition and water quality, and incremental impacts of development and
13 increased impervious surfaces exacerbate these problems which, in turn, have a rippling effect
14 on habitat quality throughout the basin's identified resource areas. The basin's urban program
15 approach identifies the entire watershed as an impact area, and does not distinguish between
16 Inner Impact Areas (which are based on Metro's definition for Impact Area) and Outer Impact
17 Areas, which cover the remainder of the urban portion of the basin, from the standpoint of
18 available program elements.

19
20 ***Overlap with Existing Floodplain and Local Goal 5 Programs***

21 Goal 5 resource areas often correspond with areas already subject to regulation by cities and the
22 District through floodplain, wetlands, tree protection ordinances and other existing Goal 5
23 programs. These existing regulations meet regional requirements under Metro's Title 3
24 provisions, as well as state and federal requirements to comply with the Clean Water Act. For
25 these areas, existing regulatory programs such as local floodplain ordinances and wetland
26 inventories, the District's Design & Construction Standards, and state/federal Removal and Fill
27 permits would remain in place and the proposed Basin Goal 5 program would apply as well. For
28 most cases, both sets of provisions would take effect; however, existing regulations would
29 dominate where they are more restrictive. For example, an applicant may not be permitted to
30 develop in a ML area if it also is within a floodplain and under a jurisdiction that restricts
31 floodplain development.

32
33 Local floodplain and wetland ordinances vary to some degree by jurisdiction. For example, some
34 cities actively manage development in the floodplain while others permit development in
35 floodplain areas provided there is no decrease in flood water storage capacity as a result of the
36 project (i.e., balanced cut and fill). This represents a circumstance where the proposed Goal 5
37 program provisions would add value to existing regulations because any development allowed in
38 floodplain areas where a ML designations also applies would be allowed to incorporate a LID
39 and/or density-reducing approach to the site design. This could effectively result in a more
40 environmentally sensitive treatment of floodplain areas throughout the urban portion of the
41 basin.

42
43 The District's requirements include the following:

- 44 ▪ Preparation of a surveyed delineation and Natural Resource Assessment for
45 evaluation of Vegetated Corridors adjacent to Sensitive Areas (defined as intermittent
46 or perennial streams, the Tualatin River, wetlands and springs). A Natural Resource

1 Assessment (Site Analysis) may be required for site developments located within 200
2 feet of a Sensitive Area in order to obtain a Service Provider Letter from the agency.

- 3 ■ Revegetation of degraded and marginal condition Vegetated Corridor areas with
4 native vegetation.
- 5 ■ Placement of areas adjacent to streams and wetlands in separate public easements or
6 tracts.
- 7 ■ Other enhancement of Vegetated Corridors such as removal of invasive plants, in
8 accordance with Design & Construction standards.
- 9 ■ Some buffer averaging is permitted.
- 10 ■ Very limited uses are allowed.
- 11 ■ Rules for erosion control and prevention.

12 13 ***Low Impact Development (LID) Guidelines***

14 The proposed program encourages the use of environmentally sensitive site design practices
15 throughout the watershed in order to reduce the impact of new development on fish and wildlife
16 habitat in the basin and to aid in improving environmental quality. These design practices
17 include a variety of techniques known collectively as Low Impact Development (LID).

18
19 Habitat Benefits: Low-impact stormwater management is a tool that can be used to limit
20 development impacts on fish and wildlife habitat. These development impacts typically arise
21 from altered hydrology and non-point source pollution to sensitive water bodies resulting from
22 high levels of impervious surfaces.¹ The LID approach would encourage the retention of
23 existing habitat resources on a given site because undeveloped resource areas would be factored
24 into a site's EIA calculation and would be counted as unconnected impervious surface area (i.e.,
25 would help off-set the impact of the new development).

26
27 Stormwater Management Benefits: Urban imperviousness causes significant negative hydrologic
28 impacts to habitat areas by way of increased stormwater flow rate and volume, resulting from
29 decreased soil infiltration and plant uptake.² Low Impact Development techniques are a means
30 by which proposed development projects can meet Clean Water Service's storm and surface
31 water management requirements. The water quantity management component of the Healthy
32 Streams Plan proposes revising water quantity design standards so that LID techniques may be
33 utilized to meet these requirements in lieu of the traditional use of a detention facility.

34
35 Low Impact Development (LID) is a stormwater management strategy concerned with
36 maintaining or restoring the natural hydrologic functions of a site designed to achieve natural
37 resource protection objectives and fulfill environmental requirements. LID employs a variety of
38 natural and built features that reduce the rate of runoff, filter out its pollutants, and facilitate the
39 infiltration of water into the ground. By reducing water pollution and increasing groundwater
40 recharge, LID helps to improve the quality of receiving surface waters and stabilize the flow
41 rates of nearby streams. LID incorporates a set of overall site design strategies as well as highly
42 localized, small-scale, decentralized source control techniques known as Integrated Management
43 Practices (IMPs). IMPs may be integrated into buildings, infrastructure, or landscape design.

¹ Sherman, 2004.

² Sherman, 2004.

1 Rather than collecting runoff in piped or channelized networks and controlling the flow
2 downstream in large stormwater management facilities, LID takes a decentralized approach that
3 disperses flows and manages runoff closer to where it originates. Because LID embraces a
4 variety of useful techniques for controlling runoff, designs can be customized according to
5 resource protection goals, as well as site constraints. New projects, redevelopment projects, and
6 capital improvement projects can all be viewed as candidates for implementation of LID
7 techniques.

8
9 Typically, on-site runoff retention measures to meet hydrology impact requirements entail the
10 construction of a detention basin. The proposed LID requirements would implement similar
11 hydrologic performance standards on a given site through a design approach that incorporates
12 conservation, storage, conveyance, landscaping and/or infiltration techniques to retain runoff on
13 site. Features such as stormwater planters and bioswales in parking lots or adjacent to roads
14 would be designed to balance out or reduce the effect of impervious area for a given
15 development, thereby reducing the indirect, cumulative impact of urbanization on water quality
16 and habitat resources in the basin. While hydrology requirements will continue to apply
17 throughout the District service area, the use of LID techniques should be established as the
18 preferred method of meeting those requirements.

19
20 It is intended that program implementation include the development of a model ordinance to
21 address a menu of several applicable low impact development (LID) approaches and the
22 inclusion of LID guidelines in local development codes. The program will also address removal
23 of current impediments to the implementation of LID development techniques. As well, the
24 permit process will be streamlined to allow beneficial activities, such as tree planting, resource
25 enhancement, and removal of noxious plant species either “by-right” or through a relatively
26 simple and low-cost administrative review process. Procedures relating to enhancement activities
27 for improvement of resource conditions (including invasive species removal, revegetation,
28 grading to create habitat or stabilize stream banks, large wood placement, and fish habitat
29 improvements) that are consistent with the Healthy Streams Plan (and coordinated with the
30 District) will be streamlined and subject to an administrative review only.

31
32 Note that for many if not most jurisdictions in the basin, removal of obstacles in existing
33 regulations will be required in order to allow for an LID approach to meeting stormwater
34 management requirements. Program development will include a review of the Audubon
35 Society’s Stormwater/Pavement Impacts Reduction (SPIR) report for identification of specific
36 conflicts.

37
38 Reducing Effective Impervious Area (EIA): According to the July 2002 Draft of CWS’ Tualatin
39 Basin Effective Impervious Area Reduction Task Force Report:

40
41 *In a simplified undisturbed hydrological cycle, precipitation falls from the sky, gets*
42 *intercepted by vegetation, infiltrates into the rich duff layers of forests and prairies,*
43 *recharges groundwater, and emerges in local streams and wetlands as base flow.*

44
45 In the typical urbanized landscape in Washington County, the amount of effective impervious
46 area increases dramatically over pre-development conditions, and most storm water from this

1 urbanization is typically handled in a piped system. Impervious surfaces or “hardscapes”
2 circumvent the natural hydrologic cycle and concentrate water into a piped stormwater system,
3 which is composed of above ground retention ponds, detention basins, underground catch
4 basins, pipes, curbs and gutters. Most stormwater controls currently in place are designed to
5 quickly direct water away from the built environment (roads and buildings) and to prevent
6 flooding, erosion and impacts to adjacent property. Impervious area that collects and drains the
7 water directly to a stream or wetland system via pipes or sheet flow is considered “effective
8 impervious area” (EIA) because it effectively drains the landscape. Impervious area that drains
9 to landscaping, swales, parks, and other pervious areas is **not** considered EIA because the water
10 infiltrates through the soil and into ground water, without a direct connection to the stream or
11 wetland. The term EIA better describes urban hydrology and provides an objective
12 measurement for management of stormwater from impervious areas.

13
14 Low Impact Development Applicability: As a key element of the proposed Basin Program,
15 guidelines for the implementation of LID techniques will be developed and LID approaches will
16 be encouraged in order to reduce the impacts of future development on environmental health.
17 Program implementation will include the development of a model Low Impact Development
18 ordinance for the Basin. This ordinance would be developed in cooperation with Clean Water
19 Services ongoing efforts to update their stormwater management program.

20
21 Low Impact Development Techniques: It is anticipated that a model LID ordinance will provide
22 incentives for the use of a variety of optional tools designed to reduce the total EIA of typical
23 land development activities. A broad array of LID techniques (tools) are currently in use
24 throughout the world. Many of these techniques can be applied to typical development here in
25 the Pacific Northwest. Examples include:

- 26
27 1. **Landscaping:** Techniques can be employed that maximize effectiveness of runoff
28 filtration and detention. This includes practices such as the use of compost at least
29 twelve inches in depth and a multi-layered canopy in forested areas. Landscaping
30 standards could be coordinated with the District’s requirements for use of native
31 species, as outlined in the Design & Construction standards. The program would
32 also promote limited pesticide and herbicide use through property owner education
33 and as a result of incorporating native species, which are more suitable as low-
34 maintenance plantings. A requirement to incorporate predominantly native plants
35 will augment the habitat benefits of this approach, and may decrease maintenance
36 costs.
- 37
38 2. **Tree Canopy Preservation:** Tree canopy preservation and maintenance of native
39 understory vegetation is recognized as an effective method of reducing EIA.
- 40
41 3. **Bioswales:** The creation of bioswales can improve water quality, help reduce EIA,
42 and provide new habitat. Bioswales can be flexibly integrated into site design with a
43 variety of alternative shapes and sizes. Rooftops, parking lots, decks, walkways and
44 other impervious features can be designed to drain into bioswales. “Weepholes” in
45 curbs can allow stormwater to drain into bioswales or other pervious landscape
46 areas.

- 1
2 4. **Green Streets:** The term “Green Street” describes an alternative roadway design
3 incorporating LID type stormwater treatments. Typical designs drain stormwater
4 runoff from paved road surfaces through a bioswale within the right-of-way. The
5 design of these bioswales includes vegetation that cleans the stormwater before it is
6 allowed to infiltrate into the ground. For the proposed program, the “green streets”
7 option could apply to either public or private streets or parking lots, where feasible.
8

9 Note that there may be maintenance concerns related to green street design which
10 will require further review and analysis prior to final implementation. Recently, a
11 technical group from jurisdictions in the Tualatin Basin met as an advisory
12 committee to discuss what types of changes or design parameters should be included
13 if green street design options were to be included in local road design standards.
14 There were a variety of concerns expressed by the group, including new and
15 untested/unknown maintenance methods, concerns about areas that may not be
16 appropriate for green streets such as steep slopes and aquifer protection areas, and
17 that specific clay soil types that may not readily allow for infiltration of stormwater.
18 The latter concern, however, can be overcome by sub-grade application of gravel and
19 other soil amendments.
20

- 21 5. **Pervious Pavement:** Pervious pavements which soak up and infiltrate storm water
22 may be applied in a variety of situations without conflicts with other standards
23 (ADA). Some examples include pavers, porous asphalt or concrete, and grass paver
24 systems.
25

- 26 6. **Eco-roofs and Disconnected Downspouts:** Eco-roofs are also known as green
27 roofs, and include those planted with vegetation that absorbs rainfall, and are built to
28 be pervious instead of impervious. Large roof areas drain acres of stormwater
29 through downspouts, many of which are typically required to drain directly into the
30 piped system in accord with local codes. There are several examples of eco-roofs in
31 the Portland metropolitan area, including the Clean Water Services Field Operations
32 Center on Merlo Road and the Multnomah County Building in southeast Portland.
33 Rain gardens are areas designed to manage disconnected downspouts and allow slow
34 filtration of stormwater runoff. For example, stormwater scuppers (which are
35 openings at the side of a building for the drainage of water from the roof) can
36 effectively drain a rooftop into stormwater gardens or planter boxes. Note that the
37 use of the eco-roof option may be more appropriate for larger scale development,
38 such as commercial, industrial and multi-family residential structures. Single family
39 dwellings however, can also disconnect roof drains in order to reduce the effect of
40 their impervious roof surfaces.
41

42 Administration: While there are clearly habitat benefits to the proposed program’s LID
43 component (particularly with regard to the use of native plantings and incentives to preserve tree
44 canopy), the EIA reduction aspect helps implement the stormwater management element of
45 Clean Water Services’ Healthy Streams Plan and NPDES MS4 permit. The dispersion and
46 detention of runoff on-site effectively mitigates concentrated flows and non-point source

1 pollution loads, which result in cleaner, more stable stream conditions. In addition, EIA
2 reduction approaches result in increased volume and duration of summertime flows. In other
3 words, reducing the volume and rate at which stormwater enters the surface management system
4 more closely simulates the runoff performance of a less urbanized area, which in turn reduces
5 impacts on basin fish and wildlife habitat areas.

6
7 As proposed in the HSP, the District's surface water management program will update the
8 Design & Construction standards to include specifics on impervious area management and the
9 LID approaches as described above, which can be used to achieve required EIA targets
10 throughout the urban area. Local jurisdictions would adopt these standards by reference. In
11 addition, the District is developing a template to facilitate and standardize data input for
12 applicants to utilize in calculating increases in EIA. EIA targets would be determined by the
13 District, and engineers with local jurisdictions would review for compliance.

14 15 ***Best Management Practices***

16 Washington County's Best Management Practices for Roadway Operations (BMPRO) 2003 is
17 the result of an analysis of roadway management activities and the integration of public works
18 engineering with environmental sciences, and has been designed to for submittal to provide
19 guidance to county employees in the effective operation of the roadway system. These practices
20 are designed to maintain the functional integrity of the roadway system, to provide for public
21 safety, to preserve critical habitat and to meet the specific requirements outlined by NOAA
22 Fisheries for coverage under the Endangered Species Act (ESA) Section 4(d) rules for
23 threatened salmon and steelhead species. BMPRO 2003 includes a description of roadway
24 management activities along with a description of techniques to minimize or avoid actions that
25 may cause harm to endangered fish species, resource waters or wildlife habitats.

26
27 The BMPRO 2003 program includes several goals that relate to the management of vegetation
28 along county roadways. An important part of this Best Management Practices program is the
29 research, development and implementation of an Integrated Vegetation Management Program
30 (IVMP) that will provide for an appropriate balance between conflicting uses such as
31 maintenance practices and the basin's diverse natural environments. The IVMP incorporates
32 multiple methods of vegetation management to achieve goals for public safety, cooperation with
33 neighbors, environmental protection, and operational effectiveness.

34 35 ***Administration and Procedures***

36 Because of the overlapping nature of Goal 5 resource areas with those managed by Clean Water
37 Services, the program concepts outlined in this report will require District-jurisdictional
38 coordination of proposed development activities. It is logical to accomplish this through the
39 expansion of existing procedures. Although the details of program administration cannot be well
40 articulated until after the program is more fully developed, below are some preliminary thoughts
41 about how they might operate.

42
43 The aim of this expanded review process would be to provide technical assistance to property
44 owners and developers regarding the implementation of special development provisions and site
45 design techniques for minimizing impacts to habitat resources. The intention would be to
46 explore site design alternatives and regulatory flexibility to achieve balanced results. Local

1 government and development interests would be best addressed through a process that involves
2 District participation and technical assistance at an early stage in the development review
3 process, such as through the service provider letter process, when site designs are typically in a
4 preliminary phase. Current review practices require applicants for development proposals on
5 property near WQSAs to obtain a service provider letter from the District.
6

7 For development sites that also include ML Goal 5 overlays, the proposed program provides for
8 technical assistance to explore potential site design solutions that would conserve and/or protect
9 sensitive habitat areas. However, this represents an expansion of District responsibilities and
10 would likely require funding for the District to support additional staffing, or a fee assessment
11 for the service provided that could cover added staffing costs. Alternatively, the cities and the
12 county may wish to collectively subsidize a shared staff person who has land use planning and
13 ecological expertise. Ideally, Goal 5 technical review staff would be housed within the District
14 and would be familiar with the Design & Construction standards, but funded by the local
15 jurisdictions. This would allow for the most efficient, simultaneous provision of resource area
16 design assistance and vegetated corridor review.
17

18 ***Inventory Maintenance***

19 Development activities in the basin will result in adjustments to inventoried resource areas. For
20 instance, some areas that are set aside in tracts or easements via the development review process
21 may be re-assigned with a SL program determination, while resource areas that are encroached
22 upon through the development review process may garner a reduced inventory score or removal
23 from the inventory. In addition, newly mitigated or enhanced areas will create fish and wildlife
24 habitat where it may not have existed previously. To adjust for these modifications over time,
25 the program will include the development of an inventory maintenance process, to be
26 coordinated with Metro. Metro staff have noted the logic in having a centralized venue for
27 processing these adjustments, particularly because of the regional nature of the inventory.
28 Further, having Metro oversee the adjustments is appropriate because they developed the
29 inventory scoring methodology and, therefore, can continue to apply it consistently to areas that
30 require re-evaluation. As the details of the basin's program are developed, consideration will be
31 given to a notice procedure that would keep Metro informed of inventory adjustments as they
32 occur as a result of development, mitigation and enhancement activities. The TBNRCC may also
33 be periodically apprised of basin-wide inventory adjustments resulting from development and
34 enhancement activities.
35

1 **CHAPTER 4 RURAL PROGRAM ELEMENTS**

2
3 **A. Applicability**

4 The program elements described in this chapter apply to that portion of the Tualatin Basin in
5 rural Washington County, outside of existing UGB. This includes the Non-Urban (NU)
6 conflicting use category addressed in the Basin ESEE Analysis (basically consisting of the Metro
7 study area extending approximately one mile beyond their jurisdictional boundary) and the
8 remainder of the county that extends beyond the study area. The Basin study area includes new
9 Goal 5 resource inventory data provided by Metro. While there is no new inventory data for the
10 outlying rural portion of the county, the county will continue to implement its existing,
11 acknowledged Goal 5 program in that area. In addition, the Basin program proposes to augment
12 the existing program as described below.

13
14 **B. Rural Elements of the Proposed Basin Goal 5 Program**

15 The rural element of the proposed Basin program is addressed in two parts based upon the
16 geographic area covered. Each of these is described in general terms below.

17
18 ***Within Metro Study Area***

19 As mentioned above, the NU conflicting use category lands fall within the study area for the
20 Metro resource inventory and generally extend approximately one mile beyond the Metro
21 jurisdictional boundary. The program recommendations for this area focus on targeting high-
22 value, regionally significant resources for restoration, enhancement and/or acquisition. The
23 following program directions will apply to rural lands within the Metro inventory area:

24
25 For all areas within the one-mile buffer, including those with Moderately Limit and Lightly Limit
26 ALP designations, the urban program applications proposed for resource areas will be applied as
27 appropriate for rural development. These include the following:

- 28 ▪ continued application of regulatory requirements of the Rural/Natural Resources
29 element of the Washington County Comprehensive Plan, including Significant Natural
30 Resources overlays and related standards;
- 31 ▪ potential re-evaluation of resources in areas subject to future UGB expansions
32 (coordination with Metro through Title 11 concept planning provisions);
- 33 ▪ support of CWS Enhanced CREP (Conservation Reserve Enhancement Program)
34 efforts;
- 35 ▪ continued state oversight of standards applicable under the Oregon Forest Practices Act;
- 36 ▪ continued state oversight of standards applicable under regulations administered by the
37 Oregon Department of Agriculture;
- 38 ▪ continued state oversight of water quality standards administered by the Oregon
39 Department of Environmental Quality; and
- 40 ▪ the implementation of the county's Best Management Practices for Roadway Operations
41 and associated Integrated Vegetation Management Program for ESA compliance
42 (described in chapter 3 of this report).

43
44 In the working landscapes of rural Washington County, agricultural and forestry practices near
45 streams may have a much greater impact on water resources than rural residential development
46 activities. However, the county does not have land use authority over farm and forest practices,

1 which fall under the auspices of the state departments of Agriculture and Forestry, respectively.
2 Thus, the existing land use regulatory program (and any proposed program) will continue to be
3 limited in applicability to non-farm and non-forest activities only.
4

5 For those areas within the one-mile buffer portion of the study area that are identified as
6 regionally significant Class I & II Riparian resources (and thus feature a Moderately Limit ALP
7 designation), the following additional program activities are proposed:

- 8 ▪ identification of target areas for restoration and enhancement projects; and
- 9 ▪ identification of target areas for future acquisition opportunities (willing seller).

10
11 The combined effect of these efforts will contribute to the improvement of basin environmental
12 health by targeting concerns in key urban fringe areas.
13

14 ***Beyond Metro Study Area***

15 The proposed Basin program also includes measures to enhance the county's existing rural Goal
16 5 program beyond the basin study area. In this area, the County has identified significant Goal 5
17 resource areas on the Rural/Natural Resources Map Element of its Comprehensive Plan. The
18 following program directions will apply to rural lands in this area:

- 19 ▪ continued application of regulatory requirements of the Rural/Natural Resources
20 element of the Washington County Comprehensive Plan, including Significant Natural
21 Resources overlays and related standards;
- 22 ▪ support of CWS Enhanced CREP (Conservation Reserve Enhancement Program)
23 efforts;
- 24 ▪ continued state oversight of standards applicable under the Oregon Forest Practices Act;
- 25 ▪ continued state oversight of standards applicable under regulations administered by the
26 Oregon Department of Agriculture; and
- 27 ▪ the implementation of the county's Best Management Practices for Roadway operations
28 and associated Integrated Vegetation Management Program for ESA compliance
29 (described in chapter 3 of this report).

30 31 **C. Enhancement of Existing Rural Goal 5 Program**

32 Washington County regulates development activity in all rural areas within its jurisdiction and
33 has had a Goal 5 program in place for areas outside the Urban Growth Boundary since 1986.
34 Currently, for lands outside the UGB pursuant to Community Development Code (CDC)
35 Section 421 (Floodplain and Drainage Hazard Areas) and CDC Section 422 (Significant Natural
36 Resources), Washington County regulates the area within 125 feet of a stream. In order to
37 develop within this area, applicants must submit the following:

- 38 ▪ Peak volume/velocity hydrology report for designated drainage hazard areas; and
- 39 ▪ Habitat report for significant natural resource areas.

40
41 The standards of Section 422 allow for resource encroachment with a finding that the
42 development "will not seriously interfere with preservation" of habitat. These standards, while
43 not as rigorous as the Clean Water Services' Vegetated Corridor standards, do provide water
44 resource and habitat benefits to rural stream corridors. Section 421 outlines standards that
45 generally regulate development within 125 feet of a stream where they are applicable. However,
46 these standards only regulate from a flood or drainage hazard perspective, and thus do not apply
47 to all rural stream corridors.

1
2 ***Other Program Opportunities***

3 In the working landscapes of rural Washington County, agricultural and forestry practices near
4 streams can, and often do, have a much greater impact on water resources than rural residential
5 development activities. Proper management of streamside vegetation and channel morphology
6 can lead to significant improvements in both water and biological quality of streams (Johnson
7 and Ryba, 1992). Working with the Department of Forestry on a process for review and input
8 into forestry practices could help reduce problems caused by streamside logging activities.
9 Working in partnership with the agricultural community to fund and implement streamside
10 management agreements that support improvements such as livestock fencing and revegetation
11 could also help improve stream health. Cooperative agreements and funding for improvement of
12 stream health in farm and forestry areas would likely have a very positive impact on resource
13 quality and quantity.

14
15 Clean Water Services is currently engaged in program efforts to work cooperatively with willing
16 rural land owners on critical water quality issues such as livestock in streams and the clear-
17 cutting of headwaters. There are additional positive, incentive-based efforts being made by the
18 Soil and Water Conservation Districts and non-profit organizations to encourage more water
19 and wildlife friendly land management practices.

20
21 Recognizing the limitations imposed by state-assumed regulation of farm and forest practices
22 and in lieu of adopting new regulatory standards, it is recommended that the county, consider a
23 process to identify the following:

- 24 ▪ opportunities to work with the state departments of Agriculture and Forestry to reduce
25 impacts to potentially sensitive habitat areas located on agricultural and forest lands; and
- 26 ▪ other program elements that will serve to protect riparian and wildlife resources
27 indirectly.

28
29 ***Minimum Stream Buffer Areas***

30 It is well documented that vegetated stream buffers offer a variety of ecosystem benefits
31 including: stream bank stability, erosion management, pollutant filtering, microclimate
32 moderation, fish and wildlife habitat, and storm water attenuation (Johnson and Ryba, 1992).
33 The ecosystem benefits of stream buffers occur both inside and outside the urban growth
34 boundary; data from Watersheds 2000 study of Tualatin Basin streams generally suggests overall
35 stream health rankings improve with increasing streamside buffer width and decreasing presence
36 of non-native vegetation (Figures 5-1 a-b). Ecological investigations of riparian corridors have
37 demonstrated they are a key landscape feature with substantial influence on environmental
38 vitality (Naiman et al., 1993). The issue of how best to protect riparian corridors in the rural area
39 should therefore be addressed as recommended above during Program implementation.

40
41 Additional program efforts that may be considered include:

- 42 ▪ Opting back into the Wildlife Habitat Conservation and Management Program
43 (supported by the Department of Agriculture and Department of Forestry). In addition
44 to the political concerns, there are economic considerations associated with increasing
45 regulatory buffers for rural residential owners. If the property owner chooses to dedicate
46 a conservation easement over certain portions of its property for water and wildlife
47 habitat, any existing regulation will diminish the value of the conservation easement. This

1 will negatively impact the property owner in terms of income and property tax benefits
2 of a conservation easement donation; the buffer regulation thus becomes a disincentive
3 to a long-term protection strategy.
4

5 Washington County has chosen to opt out of the Wildlife Habitat Conservation and
6 Management program that allows conservation easement areas on farm and forestry
7 parcels to still be taxed as farm and forestry use. This implementing legislation has since
8 been revised. The County may reconsider its position regarding the revised tax program
9 in order to remove the disincentive surrounding farm and forestry use land tax
10 conversion that results when a conservation easement is put in place. For rural
11 residential owners, the implementation and expansion of the Riparian Tax Credit
12 program could provide the incentive needed for enhanced near stream resource
13 management, without regulation.
14

- 15 ■ Coordination with Clean Water Services and the Department of Forestry to develop and
16 implement a memorandum of understanding designed to minimize pre-emptive clear
17 cutting of near stream areas on the urban fringe and in headwater areas.
18
- 19 ■ Continued implementation and enforcement of current floodplain balance cut and fill
20 and drainage hazard area regulations.
21
- 22 ■ Coordination with local partners to provide necessary funding to acquire and maintain
23 conservation easements on critical habitat lands.
24
- 25 ■ Support for the implementation of the Riparian Tax Credit program throughout the
26 County.
27
28

1 **CHAPTER 5 NON-REGULATORY PROGRAM OPTIONS**

2
3 **A. Overview**

4 The Tualatin Basin Goal 5 Program is built upon three pillars: **revenue** for capital
5 improvements, **regulations** to protect the health of riparian corridors (Clean Water Services’
6 Vegetated Corridors) and **voluntary efforts**; together these components will improve the
7 environmental health of the Basin. This chapter explains the voluntary aspects of the Basin
8 Program, which will be further developed during the program implementation phase. It notes
9 the potential effectiveness of these efforts, their costs, and the partners who will help
10 implement them. These efforts will educate Tualatin Basin commercial interests and residents
11 to a higher level of awareness of the environmental effects of their actions. The efforts will be
12 coordinated Basin-wide in order to make the most of each partners’ resources.

13
14 Partners will be chosen that have already established trusted local reputations in the field of
15 environmental enhancement and protection. Costs will be rated high if they include granting
16 funds; medium if they include dedicated staff; and low if they include materials only with
17 some staff time. (A summary is provided at the end of this chapter in Table 5-2.) Funding for
18 public awareness and educational purposes will come from a variety of sources including, but
19 not limited to, Metro’s forthcoming Nature in the Neighborhoods bond measure, Clean Water
20 Services educational programs and resources from local jurisdictions.

21
22 In order to understand these voluntary efforts, it is first important to understand the term
23 “**limit**” as it is used in various ways throughout the Basin program. The programmatic
24 requirement in **Strictly Limit (SL)** areas is for protection and conservation of resources.
25 These areas are predominantly consistent with the limits of Clean Water Services Water
26 Quality Sensitive Areas and associated Vegetated Corridors (generally 50’ buffers along
27 streams and 125’ buffers along the Tualatin River). With few exceptions, development is not
28 allowed in SL areas. For the most part, the non-regulatory program measures described in this
29 chapter are not targeted at SL areas, which are the focus of the proposed program’s regulatory
30 component.

31
32 The **Moderately Limit (ML)** designation generally applies to Class I and II Riparian
33 Resource areas beyond the Vegetated Corridor boundaries. In areas identified as ML,
34 conservation and restoration is encouraged, and the revenue tools the Basin has at its disposal
35 will be directed to help make such conservation and restoration happen. The **Lightly Limit**
36 (**LL**) designation applies to the remainder of the Tualatin Basin. The term does NOT mean
37 that new regulations are in place in these areas. It does mean that the Basin Partners
38 recognize that the health of our environment should not rest solely on streamside property
39 owners. Thus education and incentives will be offered to everyone.

40
41 With these definitions in mind, voluntary efforts are divided into two categories:
42 development-related and non-development related. These are described below.
43

1 **B. Development-Related Options**

2 Development-related efforts for riparian areas with ML designations include targeting
3 revenue to extend **restoration and enhancement** projects into these areas. The agents will be
4 governmental or private, and the properties could be public or private. Such restoration grants
5 will come with provisos that mandate future protection. They will go to developers in return
6 for habitat restoration in concert with habitat-friendly development. Such grants will
7 encourage innovative practices and increase the effectiveness of regulations. Tree planting
8 and preservation will be especially encouraged. Grants will also go to public works agencies
9 to help build and maintain better wildlife crossings and culverts.

10
11 Effective restoration work will require a trained and experienced staff with monitoring
12 capability. Maintenance and monitoring of restoration sites over time will be needed for
13 effective long-term restoration. Possible partners will be Clean Water Services, the Tualatin
14 River Watershed Council, Wetlands Conservancy and Cities.

15
16 Cost of restoration varies based on type and quality of habitat. Current Metro projects range
17 from \$1,800-3,500 per acre; removal of one small dam, for example, would cost
18 approximately \$80,000. The cost of restoration grants/activities will be medium to high. For
19 example, \$100,000 will fund:

- 20 • ten small restoration grants for residential or business owners, OR
- 21 • two habitat friendly development/redevelopment grants, OR
- 22 • one grant for a wildlife crossing/culvert replacement project

23
24 Clean Water Services reports that costs for tree planting are highly variable depending on the
25 condition of the site, the availability of plant stock and water to irrigate, whether contract
26 laborers, staff or volunteers do the work, etc. However, a rule of thumb might be drawn from
27 their recently adopted rates for mitigation of vegetated corridors. An excerpt from the R&O is
28 provided below:
29

30 **Table 5-1: Vegetated Corridor Payment**

Square Footage to be Mitigated	Cost Per Square Foot
1 – 5,000 sq. ft.	\$8.66
5,001 – 10,000 sq. ft.	\$4.33
10,001 – 20,000 sq. ft.	\$2.22
20,001 – 40,000 sq. ft.	\$1.11
Over 40,000 sq. ft.	\$0.55

31
32 The Basin partners will also work to allow much more **flexibility in development**
33 **approaches** on these lands, including options for decreased density, for clustering
34 development and/or reducing setbacks, and for making on-site density transfers. Most
35 importantly, Washington County will work to create a **model Low-Impact Development**
36 **(LID) ordinance** which local governments can adopt to streamline regulations to encourage
37 environmentally friendly “green” building practices. The county and the Basin Partners will
38 also work together to remove barriers in existing codes that represent barriers to the

1 implementation of LID practices. An example will be removing the obligation to construct a
2 storm water piping system where a developer alternatively opts to build a storm water
3 management system that utilizes vegetated swales and other biofiltration techniques to slow
4 the flow of runoff and increase site permeability. Educational efforts will not be sufficient to
5 implement Low-Impact Development to its greatest practical extent; removing regulatory
6 barriers to LID is key. Clean Water Services has agreed to support this effort and, in fact,
7 CWS is currently funding a study to improve hydrologic modeling that could encourage the
8 more effective use of LID techniques.
9

10 What about **upland habitat** (significant stands of trees)? Such natural resources treasures are
11 not covered by the SL/Vegetated Corridor regulations. However, they are mapped as areas for
12 possible future acquisition. This approach stresses that in ML areas, revenue sources
13 (including possible use of park district SDC's) are most important. Some of the inventoried
14 upland habitat areas are already protected as parks and open space. In addition, local tree
15 ordinances (where applicable) and local Goal 5 programs that exceed the Basin's proposed
16 program will continue to apply.
17

18 Beyond the ML resource lands, in areas with a LL designation, the proposed Basin Approach
19 provides that a program of education and incentives will guide **all** development throughout
20 our urban areas. Besides offering guidelines for LID and green design approaches, this will
21 include a **technical assistance** program. Technical Assistance entails dedicating staff to give
22 direct help to property owners, businesses and developers, one-on-one or in groups with
23 workshops, seminars, etc. Such staff will be particularly useful during preliminary
24 development stages by helping applicants understand the range of flexible site design
25 measures and how they can be implemented to effectively conserve the most valuable
26 resource areas on site. In many cases an applicant will be able to receive "credit" toward
27 stormwater management requirements through the appropriate use of vegetation on site.
28 Technical assistance staff will also develop and distribute habitat restoration/protection/
29 enhancement literature, including habitat-friendly development and green business practice
30 manuals, web sites, etc. They will help make native plants more widely valued and available.
31

32 An example of a program effort that will reduce costs and that will benefit private property
33 owners is supplying free or low-cost native plants and trees for planting during habitat
34 restoration/reforestation, protection and enhancement. The nature of much of this technical
35 assistance work is a natural extension of Clean Water Services' development review process for
36 Water Quality Sensitive Areas. Accordingly, it seems logical that technical assistance will be
37 provided through the addition of personnel at CWS (as described in Chapter 3 of this report).
38 This technical assistance staff would be available to help city and county staffs assist property
39 owners, including help in compliance with the Vegetated Corridor regulations. They could help
40 private landowners develop a Habitat Protection Plan for their individual properties. The success
41 of this option will depend on the level of partner commitment and the longevity of the program.
42 It will be helpful in supporting many of the other options, such as the stewardship and grants
43 programs. It will increase the effectiveness of the regulatory program. Partners might be a
44 consortium of local governments and agencies, including the Wetlands Conservancy. This
45 option will be staff intensive; the staff will have to be technically proficient, and a high staff-to-
46 client ratio will be desirable. Thus the cost will be medium.

1
2 **C. Non-Development-Related Options**

3 With regard to non-development related voluntary efforts, some will apply on a case-by-case
4 basis to **private property owners**. These will include **education and outreach**,
5 **stewardship recognition** and exploring local implementation of available **tax incentive**
6 programs.
7

8 **Education and outreach** for property owners to help them properly manage the habitat land
9 they own could include brochures, newsletters, web sites, even a telephone hot line to help
10 owners maintain and enhance natural resource lands on their property. Developers will be
11 further enlightened as to the economic benefits of sustainable site design and low-impact
12 development (LID). Education will also include helping schools develop and implement
13 curricula. This will have to be a long-term effort, as a long-term commitment is required to
14 change behaviors and practices. Over time, a well-crafted education program can reach a
15 large number of people and have a significant social effect (examples: campaigns against
16 litter and for recycling).
17

18 Possible partners include organizations that provide habitat-oriented classes, such as
19 naturescaping and natural gardening. Clean Water Services, the Tualatin River Watershed
20 Council, the Tualatin Basin Public Awareness Committee (TB PAC), the Audubon Society of
21 Portland and the Tualatin Riverkeepers (TRK) are prime examples. Working together with
22 many natural resource partners will provide a consistent message and economy of scale
23 throughout the Basin. Costs will be low to medium.
24

25 TB PAC is presently drawing up a proposal for Naturescaping classes that will be a paradigm
26 for this option. CWS reports that its most recent venture at bringing naturescaping to the
27 Tualatin Basin priced out at \$900 per class, which assumes free meeting rooms, reproduction
28 of materials, and snacks to be provided by a host jurisdiction. A good target attendance is
29 thirty-five persons per class. Metro's existing environmental education program in the Parks
30 & Greenspaces Department costs \$245,000 per year.
31

32 **Stewardship recognition** will involve voluntary agreements set up with property owners or
33 even entire neighborhoods that agree to restore, protect, and maintain their habitat according
34 to best management practices. Stewards will be private landowners, or developers or
35 businesses acting in a habitat-friendly manner. They will be recognized publicly for their
36 achievements, culminating in annual awards and special ceremonies.
37

38 This option relies on willing participants. It will be more effective with long-term
39 monitoring, and when coupled with grants and technical assistance to encourage more
40 successful projects. Possible partners might be Clean Water Services, the Tualatin River
41 Watershed Council, the Tualatin Basin PAC, the Audubon Society of Portland and the
42 Tualatin Riverkeepers. Cost will be low to medium.
43

44 **Tax incentive programs** already exist under Oregon state law: the Riparian Lands Tax
45 Incentive Program and the Wildlife Habitat Conservation Management Program. These

1 programs reduce property taxes or provide a credit to streamside property owners who sign
2 management agreements or easements that result in preservation of enhancement of healthy
3 riparian areas. Thus far there is a limited landowner enrollment in these programs, which may
4 be due to the lack of enabling local ordinances. This issue needs more study. We will make
5 options available for property owners to sign up for programs that reduce their property taxes
6 or provide credit to streamside property owners. These do require ongoing management with
7 the Oregon Department of Fish and Wildlife, and landowners can opt out of the program
8 simply by paying the withheld taxes.
9

10 As counties are the agents of these state programs, a possible partner will be Washington
11 County. The cost will be low to medium. Costs include lost property taxes, administrative
12 costs, potential restoration costs, approval of habitat management plans. A related option
13 might be for fee reductions on the part of Clean Water Services and the other jurisdictions in
14 Washington County in return for a property owner providing certain benefits to the stream
15 system. Note that Clean Water services already is engaging in effective property owner
16 partnerships (i.e. the Enhanced CREP program) to support riparian corridor conservation in
17 agricultural areas outside the UGB.
18

19 Other non-development related voluntary efforts will be applied **Basin-wide**. These will
20 include similar education and outreach as described above. Public works agencies are already
21 gearing up to educate staff in environmental **best management practices**. Washington
22 County has recently appointed a Senior Environmental Resource Specialist, heading up their
23 recently formed Environmental Services section, whose job is making sure road maintenance
24 activities protect the environment. Her first goal is to make sure all road workers are trained
25 in the county's Best Management Practices (BMPs) for Routine Road Maintenance that were
26 adopted by the Board of County Commissioners in September 2004. She is developing a
27 training program and field manual to increase workers' awareness of the impact of their
28 activities. She also plans to implement a monitoring program to ensure the BMPs are
29 effective. A fish passage barrier assessment is one of her longer-term goals. She intends to
30 identify opportunities to partner with other agencies and find funding to remove fish barriers
31 associated with the county's roadway system. Being a more proactive voice for the
32 transportation industry in setting state environmental policy is also on her list of things to do.
33 The county's BMPs are available online: www.co.washington.or.us/limit10.
34

35 Basin-wide voluntary efforts will also mean extensive partnering with the environmental
36 community, promoting and supporting their **volunteer activities**, focused on restoration of
37 significant habitat areas. Substantial restoration work is already being conducted in the Basin
38 with volunteer efforts; the program will augment them with new financial resources,
39 volunteer training, etc. For example, more "Watershed Wagons" will be purchased and
40 outfitted with naturescaping tools.
41

42 This option will be more successful on public than private land. Partners will include SOLV,
43 various Friends groups, the Tualatin River Watershed Council, the Audubon Society of
44 Portland, Tualatin Riverkeepers and the Tualatin Basin PAC. More "Friends" groups will be
45 encouraged and supported to form. The cost will be low to medium. One example is SOLV's

1 “Team Up for Watershed Health” program. Metro’s existing volunteer coordination program
2 (Greenspaces) costs \$136,000 per year.
3

4 **For more than 15 years, Clean Water Services has made a priority of public education**
5 **and has developed and shared numerous and diverse, award-winning public**
6 **information, awareness and outreach programs, including:**

- 7 • Facility Tours open to the public at the Durham Facility and available on request
8 throughout the year to students, visiting dignitaries, etc. Tours are advertised in local
9 newspapers and invitations are mailed to facility neighbors, community groups and
10 elected officials.
- 11 • Facility Brochures describe the Durham and Rock Creek Facilities, the wastewater
12 treatment process, and technical details.
- 13 • Tualatin River Rangers Classroom Presentations teach children the wastewater treatment
14 process and how they can protect water resources; employees present classes to up to
15 5,000 fourth graders annually and the program is marketed to other facilities throughout
16 the U. S.
- 17 • Videos/DVDs have been produced by the District on several topics, with the most recent
18 being the award-winning Tualatin: *A Watershed Restored and Wild by Design: Restoring*
19 *Urban Steams & Wetlands*.
- 20 • Exhibitor at Community Events including Washington County Fair, Tualatin Crawfish
21 Festival, Earth Day at the Nature Park, Public Works Fair, Tigard Balloon Festival,
22 Tualatin Riverkeepers Discovery Day, Hillsboro Fourth of July Parade, Beaverton
23 Summerfest and more creates an opportunity for staff to share information with thousands
24 of residents, informing them of about the facilities and how to protecting water resources.
- 25 • Regional Coalition for Clean Rivers and Streams is one of many partnerships by which
26 Clean Water Services has leveraged public education resources to develop and distribute
27 information more effectively. A charter member of the Coalition (Portland, Gresham,
28 Clackamas County, Clean Water Services, Metro, City of Vancouver, Clark County, and
29 other metropolitan governments), Clean Water Services’ contribution to a \$60,000 transit
30 and print advertising campaign in 2004 was \$17,000. The 2004 Campaign was “*Is Your*
31 *Lawn Chemical Free?*”
- 32 • *Go Native* Campaign provides a link to the District’s web site and native plant line to
33 request a free Gardening with Native Plants poster. In one year, there were nearly 7500
34 requests for the posters.
- 35 • Stream and River Clean Up and Restoration Events on the Tualatin River and its
36 tributaries regularly benefit from District financial support and technical expertise. In
37 2004, 2,180 volunteers planted 8,290 native trees and shrubs at District stream and
38 wetland sites; 90,000 pounds of invasive plants were removed, and volunteers clocked
39 6,540 hours on planting restoration.
- 40 • Community Based Restoration Projects receive funding, technical assistance, plants and
41 other support. Last year, the Division coordinated six Home Owners Association
42 volunteer projects, two school enhancement projects, two church/Eagle Scout projects,
43 and eight stream enhancements at over 20 sites.

- 1 • Tualatin Basin Public Awareness Committee (TB PAC) is comprised of partner cities and
2 stakeholder groups to do public education and outreach as a combined effort. In the past
3 ten years, they have installed more than 800 signs on stream crossings, developed
4 brochures and informational materials, sponsored a movie theater ad campaign, festivals,
5 and a bilingual project to promote water quality awareness. In the past year they gave
6 monetary support for Tualatin River Discovery Day, watershed education performances
7 and *Naturescaping for Clean Rivers* classes.
- 8 • *Watershed Wagon* is a 14-foot enclosed trailer equipped with tools and equipment for
9 stream restorations that has helped staff and volunteers focus on projects rather than
10 gathering equipment and supplies. Since March 2001 it has aided community groups in
11 over 88 stream restoration projects.
- 12 • Community Best Management Practices Cooperative Funding program established in
13 1996 by the District's Public Affairs and Watershed Management programs provides
14 technical and organizational support for community water quality projects. In 2004, key
15 support included \$1,500 for the Children's Clean Water Festival; \$1,000 for the Tualatin
16 Riverkeepers annual Discovery Day, \$2,500 for Jackson Bottom Wetlands Preserve
17 *Tweet of Dreams* fund-raiser; \$100 to the River Network; \$1,100 for the Audubon
18 Society annual dinner; funding to sustain a native plant nursery at Fernhill Wetlands, and
19 support for stream enhancement projects by providing drop boxes for debris and invasive
20 nonnative plants removed by volunteers.
- 21 • *Fats, Oils and Grease Campaign: Gravy, cooking oil, shortening, and sauces, oh my!*
22 The battle of the bulge isn't just at our waistline; it's in our sewers causing clogs and
23 messy overflows. To combat the fatty enemies, the *Freeze the Grease, Save the Drain!*
24 campaign was jointly developed in November 2004 by the City of Portland Bureau of
25 Environmental Services, Clackamas County Water Environment Services, City of
26 Gresham and Clean Water Services. Radio and newspaper ads ran over a three-week
27 period that encouraged residents to call and request a free kit which included a pan
28 scraper, can lid, and a step-by-step informational bookmark in Spanish and English. More
29 than 1,500 callers have responded to date, ready to take part in the fat-free sewer regime.

30
31 Other District ongoing public education activities include:

- 32 • Information Brochures and Booklets
- 33 • "Clean Water Starts at Home" Website
- 34 • Billing Inserts, Bookmarks, Door hangers
- 35 • Leaf Pick Up Program
- 36 • Household Hazardous Waste Disposal Events
- 37 • Eco-Logical Business Certification
- 38 • Clean Water Action Day
- 39 • "Dump No Waste, Drains to Stream" storm drain stenciling
- 40 • Customer Awareness and Satisfaction Survey
- 41 • Stream Friends Support
- 42 • Tualatin Watershed Enhancement Coalition
- 43 • Streamside Owner Direct Mail
- 44 • Mercury Awareness Campaign

1
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7

Under the Basin’s proposed Goal 5 program and with the on-going guidance of the Tualatin Basin Natural Resources Coordinating Committee, such efforts will gather force and continue. All these voluntary paths, taken together, will help achieve the goal of improving the environmental health of the Tualatin Basin.

Table 5-2: Summary of Non-Regulatory Measures

Option	Cost	Partners
1) Acquisition	High	Governments at the local, regional, state or federal level; nonprofit agencies such as the Wetlands Conservancy
2) Education	Low to medium	District, TRWC, TB PAC, Audubon Portland, TRK
3) Recognition	Low to medium	District, TRWC, TB PAC, Audubon Portland, TRK
4) Restoration grants	Medium to high	District, TRWC, TRK, Wetlands Conservancy
5) Reduction in property taxes	Low to medium	Washington County
6) Technical assistance	Medium	Consortium of local governments and agencies such as the Wetlands Conservancy
7) Volunteer support	Low to medium	SOLV, Friends groups, TRWC, Audubon Portland, TRK, TB PAC.

8
9

1 **CHAPTER 6 PROGRAM RESPONSE TO ENVIRONMENTAL HEALTH**

2
3 **A. Introduction**

4 The Intergovernmental Agreement (IGA) between the Tualatin Basin Natural Resources
5 Coordinating Committee (TBNRCC) and Metro describes the goals the Basin must strive to
6 achieve. The overriding goal of the Basin Approach is taken from Metro’s Streamside CPR
7 Program Outline “Vision Statement,” which states:

8
9 *The overall goal is to conserve, protect and restore a continuous ecologically viable stream-side corridor*
10 *system, from the stream’s headwaters to their confluence with other streams and rivers, and with their*
11 *floodplains in a manner that is integrated with the surrounding urban landscape. This system will be*
12 *achieved through conservation, protection and appropriate restoration of stream-side corridors through*
13 *time.*

14
15 In order to achieve this goal (and to provide further definition), the IGA also identifies
16 improvement of the environmental health of each of the eleven regional sites and the entire
17 Tualatin Basin as a primary objective. This chapter describes how the following program
18 components function to achieve this goal relative to the current condition of the Basin.

19
20 **B. Summary of Key Elements of Proposed Program Components**

21 As described in Chapter 3, the overarching structure of the proposed program consists of four
22 major components: revenue, regulations, voluntary or non-regulatory, and monitoring. The
23 following key elements of program components are described in more detail elsewhere in this
24 report.

25
26 Revenue Component:

- 27 1. \$95 Million in Healthy Streams Plan recommended capital improvements (ranging from
28 \$3.5-\$6.5 million per year over the next twenty years) will be focused in areas of highest
29 resource quality. Typical projects will include:
- 30 ■ community tree planting
 - 31 ■ riparian corridor restoration and enhancements
 - 32 ■ culvert replacements
 - 33 ■ stormwater outfall retrofits
 - 34 ■ flow restoration;
- 35 2. Regional Bond Measure providing funding for site acquisition and preservation; and
36 3. Other potential funding alternatives (including grants, local bond measures, opportunities for
37 park SDCs, etc.) – may be utilized for education, restoration and enhancement or
38 acquisition.

39
40 Regulatory Component:

- 41 1. Existing Clean Water Services Design & Construction Standards:
- 42 ■ development related activity restrictions in Water Quality Sensitive Areas (wetlands,
43 springs, streams, and the Tualatin River) and their associated Vegetated Corridor
44 areas. (Vegetated Corridors average approximately 50 feet and range up to 200 feet
45 depending on resource type and size, drainage area, slope, and site conditions.)
 - 46 ■ required enhancement of degraded or marginal condition vegetated corridors;

2. Existing local Goal 5 program requirements;
3. Existing local tree protection standards; and
4. Other existing standards which result in local habitat protection (including but not limited to: local, state and federal wetland regulations, floodplain regulations, ESA, Clean Water Act, etc.).

Non-Regulatory (Voluntary and Incentives) Component:

1. Educational programs;
2. Guidelines for low-impact-development & green design;
3. Flexible development standards;
4. Technical assistance programs;
5. Local, state, federal and non-profit grant programs; and
6. Potential implementation of tax incentive programs

Ongoing Monitoring and Administration Component:

1. Adaptive management process;
2. Regional data coordination;
3. Continued TBNRCC functions:
 - Project coordination
 - Funding coordination;
4. CWS monitoring activities for NPDES permit compliance and stream health; and
5. HSP commitments to re-sample Watersheds 2000 RSAT inventory

The following sections elaborate on the above program components to explain their contribution to improvement of the environmental health of the Tualatin River Basin.

C. Revenue Program Component

CWS Capital Improvement Program (outlined in the Healthy Streams Plan)

The estimated overall cost of implementing all the elements of the Healthy Streams Plan is \$95 million over the next twenty years. It is important to note that the community tree planting and the riparian corridor restoration and enhancement activities alone (representing less than 42% of the \$95 million total program costs), are estimated to produce a total net environmental benefit valued at over twice the entire cost of the program. The implementation of the Healthy Streams Plan will be funded predominately by Surface Water Management (SWM) fees. Culvert upgrades and repairs may qualify for system development charge (SDC) and/or transportation funds use. Capital improvements will directly benefit in-stream, riparian corridor or upland habitat throughout the urban portion of the basin.

The SWM fees currently collected together with funds on hand are expected to cover program costs for several years. However, it is anticipated that a future SWM fee increase may be necessary to complete the twenty-year Plan. The surface water management program is currently funded at a very modest level relative to similar jurisdictions throughout the region and the state. Clean Water Services conducted a public values survey in which over ninety percent of respondents were willing to support a modest fee increase of \$1 to \$2 per month. Based upon recent estimates, implementation of a \$1 per month per ESU (equivalent service unit) increase could generate more than \$63 Million over twenty years.

1 All of the capital improvements identified in the HSP are projects designed to enhance riparian
2 corridor conditions and/or improve stream health. These projects generate ongoing,
3 appreciating benefits to water quality and aquatic habitat. The community tree planting projects
4 will provide multiple benefits including water quality, in-stream and near stream habitat
5 improvements, and community education and awareness.
6

7 To identify projects, policies and programs that will achieve the goals and objectives identified in
8 this Goal 5 Program, the Partners relied upon the Healthy Streams watershed planning process.
9 The GIS-based modeling tool RESTORE (OSU, 2004)—a spatially explicit decision support
10 tool designed to assist watershed planners in restoration decision-making—was adapted to the
11 Tualatin Basin by Clean Water Services and Oregon State University to identify multi-objective
12 stream enhancement opportunities. The RESTORE model generated the locations of various
13 project elements (preservation, flow restoration, etc.) based on a set of rules that governed
14 which practices would be most effective under various site conditions. The model identified
15 project elements totaling approximately 675¹ miles over the 338 miles studied (see **Table 8-1a**).
16 (Note that many stream reaches have multiple project elements along the same mileage). From
17 that initial opportunity list, the District used the guiding principles established by the Healthy
18 Streams Project Advisory Committee to identify 45 miles of priority enhancement activities and
19 six flow restoration projects over ten years. Additional enhancement activities will be identified
20 as part of the five-year capital improvements programming process, as RESTORE is regularly
21 updated. In addition, yearly performance targets were established for community based tree
22 planting in each jurisdiction, with a goal of planting a total of a million trees over twenty years.
23 At that rate, approximately 20 percent of the 338 miles of stream will be improved within the
24 first ten years.
25
26

Table 8-1a: Potential Health Improvement Opportunities

Project Element	Approximate Number
Preservation (200' width / side of stream)	50 Miles
Flow Restoration	170 Miles
Re-vegetation (50' width / side of stream)	140 Miles
Large Wood Placement	230 Miles
Channel and Wetland Enhancements	40 Miles
In-Stream Pond Adjustments	5 Miles
Streamside Property Owner Education & Tree Planting	40 Miles
Total Project Element Miles	675 Miles

27
28 For the single objective projects of culvert upgrades/repair and stormwater outfall retrofit, Clean
29 Water Services completed prioritization based on location, stream conditions, contributing land
30 use, and other factors. There were 106 pre-1990 outfalls identified as part of the initial NPDES
31 Stormwater permitting process; the 68 draining commercial, industrial, multifamily residential,
32 and transportation areas were identified as a priority to retrofit. Yearly performance targets for
33 the jurisdictions will generate a total of three to nine retrofits per year, with all 68 being treated
34 by 2015. There were a total of 581 culverts identified as deficient for either conveyance, fish

¹ Represents total linear miles of stream corridor improvements.

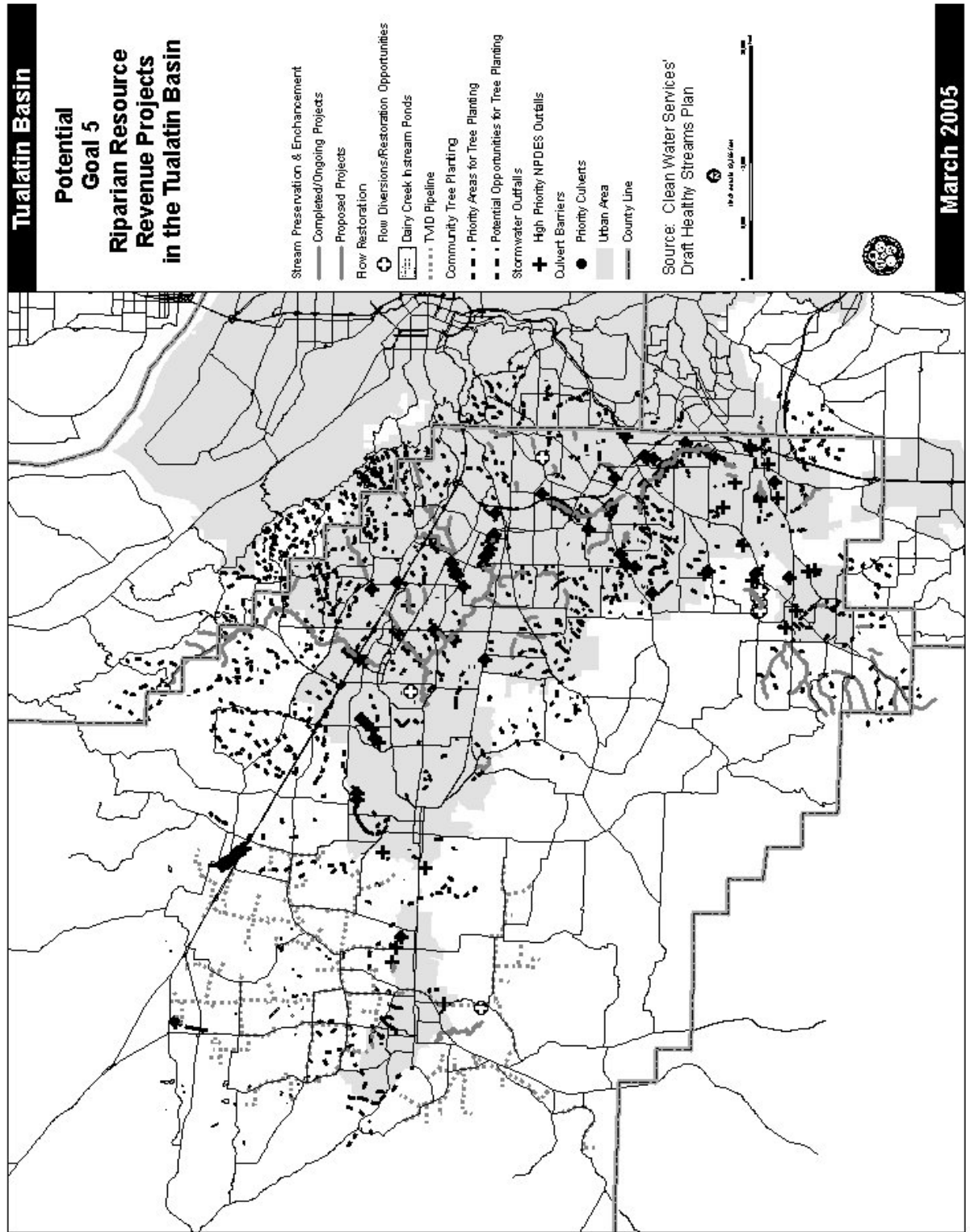
1 passage, or both; a total of 383 were identified as priorities to address. Yearly performance
2 targets for the jurisdictions will generate improvements of 20-24 culverts per year by 2015, with
3 the remaining being completed by 2025. **Table 8-1b** identifies the structural improvement
4 opportunities.

5
6 **Table 8-1b: Potential Structural Improvement Opportunities**

Project Element	Number of Facilities
Stormwater Pretreatment Retrofit	106 Facilities
Culvert Repair	581 Facilities
Total Project Facilities	687 Facilities

7
8 The scope of the projects identified for this program is very broad and covers all of the Regional
9 Sites in the basin (refer to **Figure 8-1**, below). The projects generally target some form of stream
10 corridor work for the majority of the riparian resource areas within the urban portion of the
11 basin. The RESTORE model will be adjusted and updated over time to respond to new
12 information on watershed conditions. This adaptive management approach allows the Partners
13 to meet the needs of the basin by adjusting the project priorities to address changes in
14 environmental conditions, while retaining the underlying goals and objectives of the planning
15 process.

Figure 8-1: Stream Corridor Projects (identified by RESTORE model)



1 **Healthy Streams Plan – Program Refinements**

2 A strong impetus for creating the Tualatin Basin Approach was to coordinate the Goal 5 effort
3 with Clean Water Services’ (CWS) Healthy Streams Plan (HSP). The HSP is an updated
4 watershed plan for the urban and urban fringe portions of the Tualatin Basin designed to meet
5 the goals and requirements of the federal Clean Water Act and the Endangered Species Act. A
6 major component of the HSP went into effect early in 2004, incorporating updated vegetated
7 corridor requirements into the CWS Design and Construction Standards. Further refinements to
8 Clean Water Services standards and practices related to stormwater management are currently
9 being reviewed as an element of an update of the District’s Stormwater Management Plan due to
10 DEQ in May 2006. A broad array of policy and program refinements have also been
11 incorporated in the draft HSP plan. These refinements are broken down into ten unique
12 categories as shown below in **Table 8-2**. There are an average of 6 unique refinements in each
13 of the categories and many of these have either direct or indirect benefits to environmental
14 health in the basin, while others will benefit the administration and monitoring efforts.

15
16 **Table 8-2: CWS Policy and Program Refinements**

Category / Description:	
1	Stormwater Regulations
2	Local Land Use and Building Codes
3	Sensitive Areas and Vegetated Corridors Regulations
4	Operations and Maintenance of the Storm System
5	Inspection and Code Enforcement
6	Incentives
7	Public Education and Awareness
8	Monitoring Effectiveness and Implementation Progress
9	SWM Funding
10	Capital Project Implementation

17
18 **Metro – Regional Bond Measure**

19 The Partners support Metro’s commitment to a regional bond measure designed to fund
20 acquisition or protection of key habitat areas throughout the region. The Partners have locations
21 for potential preservation identified as part of RESTORE and will refine the recommendations
22 as part of the bond measure preparation process. Following successful passage of this measure,
23 the Partners are prepared to assist in the acquisition process for important sites in the Tualatin
24 River Basin. In combination with established park and open space sites, wetland and wildlife
25 preserves, conservation easements, and other public and even privately held open space in the
26 Basin, important habitat will be preserved and many species will be protected.

27
28 **Other Funding Alternatives**

29 A variety of grant and funding assistance opportunities are available to support habitat and water
30 quality related improvements. In Oregon, these include (but are not limited to) the following:

- 31 ■ Federal Timber Safety Net Program – Title II
- 32 ■ DEQ – Non-point Source Pollution 319 grants
- 33 ■ The Nature Conservancy / PGE / Pacific Power – Salmon Habitat Fund
- 34 ■ Oregon Fish & Wildlife Office (U.S. FWS) – Greenspaces Program (w/ Metro)

1
2 **E. NON-REGULATORY (VOLUNTARY and INCENTIVE) COMPONENT**

3 ***Educational Programs***

4 The Partners have begun to identify a variety of educational tools that could be utilized to assist
5 property owners and developers in understanding habitat values, protecting ecological functions
6 and enhancing habitat. These tools may include publishing of newsletters or brochures,
7 development of web sites or establishing partnerships with non-profit organizations (such as the
8 National Arbor Day Foundation and Wetlands Conservancy), state and federal programs (such
9 as those administered by ODFW and NMFS) education service districts, schools, park districts,
10 libraries and community centers to provide classes on any of a number of key topics important
11 to improving environmental health in the basin. These topics could include:

- 12 ■ design and construction of Low Impact Development projects
- 13 ■ the importance and value of trees and native vegetation
- 14 ■ drainage-reducing effective impervious area
- 15 ■ watershed ecology / environmentally friendly landscaping practices
- 16 ■ enhancing degraded stream corridors
- 17 ■ homeowners guide to the environment

18
19 Education is a fundamental element of all aspects of life, but only to the degree that learned
20 skills are put into practice. Oregonians have a strong history of showing concern for the
21 environment and it would be reasonable to expect that many (if not most) residents in the
22 Tualatin Basin would be receptive to the education tools and programs if offered. In turn, it
23 would be reasonable to expect that they would put the resulting knowledge to effective use with
24 actions designed to improve environmental health.

25
26 ***Development of Low Impact Development & Green Design Guidelines***

27 Land use planning in Oregon requires urban areas to maximize densities in order to preserve
28 resource land and to provide for efficient use of infrastructure. Analyses conducted by Clean
29 Water Services indicate that (unless mitigated), at current planned densities, the percentages of
30 effective impervious area (EIA) within the UGB will be high enough to significantly alter basin
31 hydrology and degrade in-stream habitat. While an overall decrease in EIA cannot practically be
32 achieved, it can be mitigated, particularly through the application of environmentally sensitive
33 development approaches categorized as LID. With the proposed basin program, LID techniques
34 would be developed and encouraged in order to reduce the impacts of future development on
35 stream health. The threshold for achieving this would be based on a performance standard set
36 for each sub-watershed based on current and proposed future watershed conditions. New
37 development may be required to manage storm water quantity as well as quality on site; this
38 requirement would be established in Clean Water Services stormwater management program.
39 Ongoing coordination activities with CWS will assure local implementation of the techniques
40 incorporated in this program. The low-impact development standards discussed in Chapter 3
41 will assist in managing EIA throughout the basin. Use of LID/habitat sensitive approaches to
42 development will be encouraged and supported throughout the basin, which in turn will support
43 improvements to environmental health.

1 ***Best Management Practices***

2 In addition to the Washington County BMAPRO 2003 program described in Chapter 3, Clean
3 Water Services and the cities implement an extensive program of stormwater management
4 BMPs that include street sweeping, catch-basin and line cleaning, leaf pickup, stormwater facility
5 maintenance, public education and awareness, erosion control, and source control. These
6 program elements are part of the requirements of the NPDES Stormwater Permit under the
7 Clean Water Act. By minimizing impacts to Goal 5 resources, these practices contribute to
8 improving the environmental health of the Basin.

9
10 ***Technical Assistance***

11 For property owners wanting to improve local wildlife habitat or just reduce total environmental
12 impacts from buildings or other improvements on their land, partnerships with local non-profit
13 organizations could be established to provide an array of free or low-cost services. Examples of
14 potential services could include:

- 15 ■ landscaping and site design services;
- 16 ■ native plant sales (e.g. Tualatin Hills Park & Recreation District sales);
- 17 ■ team leadership for volunteer programs; and
- 18 ■ CWS Stream Makeover program – working with streamside property owners to plant trees
19 and improve their creeks.

20
21 Every property owner taking advantage of these services would be directly contributing to
22 improving both the environmental health for the sub-watershed in which they are located as well
23 as the overall basin.

24
25 ***Tax Incentives***

26 Existing state tax law supports two programs that could help to encourage landowners to
27 protect important riparian areas and wildlife habitat. These include the Riparian Lands Tax
28 Incentive Program and the Wildlife Habitat Conservation Management Program. These
29 programs could be accommodated and promoted by Washington County. Education activities
30 supported by the Healthy Streams Plan could be utilized to inform property owners of these
31 programs and to encourage them to take advantage of the tax incentives.

32
33 In order to qualify for the tax reduction, a property owner must demonstrate that they meet the
34 qualifications prescribed under the state program. Meeting those qualifications serves to
35 demonstrate that steps have been taken which will lead to improvement of environmental
36 conditions in the basin.

37
38 **F. ADMINISTRATION, MONITORING AND ADAPTIVE MANAGEMENT**

39 ***Administration***

40 Continuation of the Goal 5 Steering Committee: As a key program element, the Steering
41 Committee is proposing to continue to be involved in ongoing program management activities.
42 These activities include continued coordination among the basin partners for all basin level
43 environmental issues that may benefit from such involvement. The Steering Committee will
44 continue to effectively frame and seek guidance on these issues from the TBNRCC.

1 Continuation of the TBNRCC: The Program includes a recommendation for continuing
2 Tualatin Basin Natural Resources Coordinating Committee functions. A primary responsibility
3 of the TBNRCC would be to review and recommend priorities for the capital improvements
4 needed to improve environmental health in the basin. The TBNRCC would also be involved in
5 coordination of funding for multi-jurisdictional projects in the basin as well as making policy
6 decisions related to those projects.

7
8 Monitoring: In order to reasonably adapt to changing environmental conditions in the basin and
9 to ultimately demonstrate that conditions are improving, it is important to document changes to
10 site specific as well as overall basin-wide indicators over time.

11
12 Regional Data Coordination: As the coordinator for primary regional GIS data, Metro would be
13 expected to continue historic practices of acquiring, developing and distributing data for lands
14 that fall under the purview of the Regional Functional Plan. For Goal 5 resources and related
15 Functional Plan Compliance standards, it is reasonable to expect that Metro will monitor
16 vegetated land cover data as an important indicator in determining local environmental health.
17 The Basin Partners will be coordinating acquisition of this data with Metro as part of their
18 ongoing monitoring activities. As well, basin jurisdictions will continue to share local GIS data
19 with Metro and others throughout the region.

20
21 CWS Monitoring Activities: Monitoring of watershed conditions within urban areas of the basin
22 for water quality and stream health is an important element of the District's Integrated Water
23 Resources Management Program (IWRM). The District monitors various combinations of water
24 quality, flow, fish and macroinvertebrates, and physical stream channel conditions at numerous
25 sites throughout the basin. This data is utilized today to monitor effectiveness of the District's
26 programs and projects. It is expected that these monitoring activities will continue and that
27 resulting data will be shared with all of the Basin Partners to assist with tracking environmental
28 conditions both regionally and locally.

29
30 Future Stream Data Sampling: The District has indicated in the Healthy Streams Plan that re-
31 sampling of the Watersheds 2000 inventory data should occur at reasonably regular intervals
32 beginning in 2010. This data will be very valuable in determining the overall effectiveness of the
33 Basin Goal 5 Program.

34
35 Adaptive Management: As discussed in Chapter 7 of this report, adaptive management will be
36 incorporated into the program implementation process to determine where project funds can be
37 most effectively spent in order to attain the goals to improve environmental health. Monitoring
38 of environmental conditions will be utilized in an iterative process to test and adjust actions over
39 time. Decisions to adjust program actions will be based upon inputs from the monitoring
40 process which reveal changes in local or basin-wide conditions that may warrant adjustments. It
41 is this ongoing monitoring and adjustment process that will assure that program funds and
42 efforts are targeted to areas where they will be most effectively utilized. As well, the adaptive
43 management process will help to assure that resources are targeted in a manner which yields the
44 highest possible gains in environmental improvement.

45

1 **G. Conclusion**

2 The difference between the Tualatin Basin's Goal 5 Program and current regulations and plans is
3 definable and clearly shows that this program will provide a significant improvement for the
4 environment over the status quo. Committing to over \$95 million in capital projects, policy and
5 program refinements tied directly to environmental improvements, preserving up to 7,000 acres
6 inside Vegetated Corridors, strictly limiting activities within water resource areas, developing low
7 impact development guidelines and removing barriers to their utilization as well as educating
8 property owners and developers in the utilization of these (and other) tools will greatly increase
9 the level of natural resource protection and conservation over the standards in place when this
10 process began. This program will result in measurable improvements to the environmental
11 health of the eleven regional sites in the basin as well as the basin as a whole.
12
13

1 **CHAPTER 7 PROGRAM IMPLEMENTATION, ADMINISTRATION &**
2 **MONITORING**

3
4 **A. Introduction**

5 As discussed in Chapter 1 and addressed in other parts of this report, the Basin Partners'
6 Intergovernmental Agreement (IGA) with Metro both enables and commits them to the
7 development of a Goal 5 Program designed to address the Metro inventory of regionally
8 significant fish & wildlife habitat and to demonstrate that this Program will achieve a primary
9 objective. This objective is to improve the environmental health in the eleven regional sites and
10 the entire basin. Additionally, Metro Code requires that performance measures be used to
11 evaluate the success and effectiveness of its functional plan to realize regional policies. As well,
12 the National Marine Fisheries Service 4(d) rule calls for monitoring and evaluation. Chapters 1
13 through 6 of this report describe the structure and function of the proposed program. This
14 chapter will describe how the Basin Partners propose to carry out this program in a manner
15 designed to achieve it's primary objective and to fulfill future requirements related to monitoring
16 and related activities designed to determine the effectiveness of the program's implementation.

17
18 The proposed program consists of four major components: revenue, regulation, a voluntary or
19 non-regulatory component, and monitoring. The sections below describe the overall program
20 implementation process, provide a general overview of the program administration process, and
21 describe the development of a continuous monitoring process and adaptive management
22 approach designed to assure program success.

23
24 **B. Program Implementation**

25
26 Following final TBNRCC adoption of the proposed program, the following four subsequent
27 steps are anticipated. First, Metro is expected to incorporate the Basin Program into the regional
28 fish & wildlife program. Second, Metro will send public notice of the intent to adopt this
29 regional program and carry-out a public review process. Third, the final regional program will be
30 adopted by the Metro Council, submitted to the state Department of Land Conservation and
31 Development (DLCDC) for state Goal 5 compliance review, and presented to the Land
32 Conservation and Development Commission for Acknowledgement. Finally, for the fourth step,
33 once Metro has adopted the Basin Program as an element of its Regional Functional Plan, the
34 Basin Partners have agreed to begin amending local comprehensive plans and land use
35 regulations and to complete implementation of the Basin Program within one year of Metro's
36 action (or as otherwise described in the Basin-Metro IGA). [In the event that the Regional
37 Program is remanded to Metro (LCDC Continuance Order) for amendment, the Basin Partners
38 will work with Metro to resolve any issues related to the Basin element of the Regional
39 Program.]

40
41 The general steps anticipated for implementation of the Basin Program include:

- 42
43 1. Development and adoption of local ordinances implementing the provisions of the
44 Basin Program as incorporated in the Metro Urban Growth Management Functional
45 Plan. This step includes provision of public notice(s) and holding public hearings and
46 other public involvement activities as appropriate.

2. Development of a model Low Impact-Development (LID) ordinance for the basin providing tools designed to reduce environmental impacts of new development and removing barriers to their utilization. This step includes local adoption of LID guidelines.
3. Coordination with Clean Water Services for activities necessary for implementation of the Healthy Streams Action Plan (including all related capital projects as needed), as well as for local actions needed to support the updated Stormwater Management Plan.
4. Coordination with Metro on development of a regional bond measure supporting protection of regionally significant fish & wildlife habitat.
5. Coordination with CWS, Metro and others as necessary to develop and support the voluntary and educational components of the Basin Program.
6. Coordination with CWS, Metro and others as necessary to develop and support the monitoring and adaptive management components of the Basin Program.

C. Program Administration

Administration of the proposed basin program will involve continued coordination and cooperation among Partners to ensure the program objectives are achieved. This includes the following:

a) Cooperation in implementing the Healthy Streams and Stormwater Management Plan update

The primary elements of future activities to implement the Healthy Streams Action Plan and Stormwater Management Plan will be carried out among the Basin Partners under the guidance of Clean Water Services. It is anticipated that CWS staff (in cooperation with the other Basin Partners), will carry out the activities and projects incorporated in these plans and will assist in assuring that the goals of improving environmental health in the basin can be met.

b) Continuation of the Tualatin Basin Steering Committee

As a key program element, the Tualatin Basin Steering Committee is proposing to continue to be involved in ongoing program management activities. Project activities will be tracked and managed by SWM Teams developed as part of the HSP adaptive management process. These activities of the committee include continued coordination among the basin partners for all basin level environmental issues that may benefit from such involvement. The steering committee will continue to effectively frame and seek guidance on these issues from the TBNRCC.

c) Continuation of the TBNRCC

The Program includes a recommendation for continuing Tualatin Basin Natural Resources Coordinating Committee functions. A primary responsibility of the TBNRCC would be to review and recommend priorities for the capital improvements needed to improve environmental health in the basin. The TBNRCC would also be involved in coordination of funding for multi-jurisdictional projects in the basin as well as making policy decisions related to those projects.

D. Program Monitoring and Adaptive Management

Program monitoring and adaptive management are key activities necessary to assure that the commitments incorporated in the Basin Approach can be attained. Activities anticipated under this program element include:

1
2 The monitoring process: In order to monitor the effectiveness of the Basin Approach, the
3 Partners are relying upon baseline conditions established and documented in 2000-2001 as
4 part of the Watersheds 2000 planning activities. In addition to ongoing long-term
5 monitoring activities for water quality and flow, it is anticipated that periodic monitoring of
6 biological communities and physical habitat conditions will also be needed in order to
7 provide adequate comparisons with baseline data and to determine the effectiveness of
8 program activities. Clean Water Services commitments to continued monitoring of
9 environmental conditions are incorporated in their Healthy Streams and Stormwater
10 Management plans.

11
12 Adaptive Management: Adaptive management is generally described as the integration of
13 design, management, and monitoring to systematically test assumptions in order learn and to
14 adjust actions based on that learning until a set goal is attained. For purposes of the Basin
15 Program, adaptive management will be incorporated into the program implementation
16 process to determine where project funds can be most effectively spent in order to attain the
17 goals to improve environmental health. The monitoring process described above will be
18 utilized in an iterative process to test and adjust actions over time. Decisions to adjust
19 program actions will be based upon inputs from the monitoring process which reveal
20 changes in local or basin-wide conditions that warrant program adjustments.
21

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BEFORE THE METRO COUNCIL

ESTABLISHING A REGIONAL HABITAT)
PROTECTION, RESTORATION AND)
GREENSPACES INITIATIVE CALLED)
NATURE IN NEIGHBORHOODS)
)
)
)

RESOLUTION NO. 05-3574

Introduced by Metro President David Bragdon
and Metro Councilor Carl Hosticka

WHEREAS, Oregonians have a long tradition of understanding the interdependent values of economic prosperity and environmental quality, both of which constitute important elements of the livability that distinguishes this state and the Portland metropolitan region; and

WHEREAS, residents of the Metro region value having nature near where they live, work, and play and have expressed the desire to keep nature in neighborhoods as a legacy to future generations; and

WHEREAS, the Metro Policy Advisory Committee (MPAC), composed of elected officials representing the region’s local governments, adopted a “Vision Statement” in 2000 to enunciate the region’s commitment to improve the ecological health and functionality of the region’s fish and wildlife habitat; and

WHEREAS, the Metro Council has expressed, as one of four central goals for the region, the aspiration that “The region’s wildlife and people thrive in a healthy urban ecosystem,” and identified this goal as a priority for near term action; and

WHEREAS, the Metro Council has expressed, as a regional objective, the aspiration that “Natural areas, park land and outdoor recreation infrastructure are available near housing and employment” and identified this objective as a priority for near term action; and

WHEREAS, fish and wildlife habitat depends on healthy functioning watersheds and follows the natural contours of the landscape, while political and organizational boundaries frequently split watersheds and divide the natural landscape; and

WHEREAS, residents enjoy trails, greenspaces, streams, and wildlife throughout the region regardless of which local political jurisdiction these resources happen to fall within; and

WHEREAS, protection and restoration of fish and wildlife habitat and the integration of greenspaces into the urban landscape is of a scope and magnitude beyond the reach of any single organization and will require the concerted effort and coordinated action of many individuals and organizations including local, regional, state, and federal agencies, watershed councils, soil and water conservation districts, friends groups, building trades firms and organizations, industry groups, environmental groups, businesspeople, and homeowners across the region; and

WHEREAS, Metro, as a regional government, is well positioned to lead regional initiatives involving collaborative action among individuals and organizations throughout the region and the Metro Council has identified, through its strategic planning process, that Metro should serve in this capacity; and

WHEREAS, a successful initiative to restore and protect fish and wildlife habitat and integrate greenspaces into the urban environment will require leadership, communication, conservation education, expert assistance, new partnerships, incentives, habitat-friendly development practices, development standards, restoration of degraded habitat, willing-seller acquisition of prime habitat, coordinated and targeted investment, and performance tracking and reporting; and

WHEREAS, Metro operates successful and effective fish and wildlife education programs through the Oregon Zoo, Solid Waste and Recycling Department, Regional Parks and Greenspaces Department, and Planning Department that could be re-directed towards a coordinated regional fish and wildlife initiative; and

WHEREAS, Metro operates habitat restoration initiatives through its Regional Parks and Greenspaces Department that have restored hundreds of acres of streams and upland habitat in the region and these efforts could be an important component to a coordinated regional fish and wildlife initiative; and

WHEREAS, Metro has amassed a considerable foundation of data and expertise in evaluating habitat values, including a region-wide inventory and map of habitat comprising over 80,000 acres that has been classified for its functional values, an investment that could be central to the implementation of a coordinated regional fish and wildlife initiative; and

WHEREAS, Metro's Parks and Greenspaces Department and Planning Department has demonstrated success in integrating trails, streams, and greenspaces into the urban environment and such expertise would be valuable as part of a regional fish and wildlife and greenspaces initiative; and

WHEREAS, Metro has unique skill and expertise in willing-seller acquisition programs, having completed the purchase of more than 8,000 acres of high quality parks and greenspaces property as part of a bond measure approved by the region's voters in 1995, and this skill and expertise will be essential to the willing-seller acquisition element of a regional fish and wildlife initiative; and

WHEREAS Oregon Zoo staff are nationally renowned for their work on species conservation, and

WHEREAS, the Oregon Zoo's "Great Northwest" exhibits emphasize ecosystems proximate to the metropolitan region; and

WHEREAS Metro has authority under State Land Use Goal 5 that provides an important means to create consistency across the landscape in the protection of fish and wildlife habitat; and

WHEREAS, Metro monitors and reports on key regional performance measures relating to habitat and quality of life in the region, a function that will be essential to the ongoing guidance and management for fish and wildlife protection and restoration; and

WHEREAS, Metro provides communications related to fish and wildlife habitat protection, restoration and greenspaces through its Public Affairs and Governmental Relations Department and these activities could be a central component of a regional initiative; and

WHEREAS, Metro's existing fish, wildlife and greenspaces related programs and activities would be more successful and effective if they were aligned behind a single, strategic initiative to restore and protect fish and wildlife habitat in the Metropolitan Portland Region; and

WHEREAS, A coordinated regional initiative that establishes consistent and shared habitat standards and goals, Metro can help other jurisdictions, organizations and individuals in the region with a role and stake in habitat protection, restoration and greenspaces become more strategic and effective; so therefore

BE IT RESOLVED that the Metro Council hereby directs the Chief Operating Officer to implement a coordinated regional fish and wildlife habitat protection, restoration and greenspaces initiative with the following provisions:

1. The regional fish and wildlife protection, restoration and greenspaces initiative will be named "Nature In Neighborhoods."
2. Nature in Neighborhoods shall have seven goals: 1) conserve and improve streamside, wetland and floodplain habitat and their connections in watersheds, 2) conserve large areas of contiguous habitat and avoid habitat fragmentation, 3) conserve and improve connections between corridors and upland habitat, 4) promote the use of development practices that are friendly to habitat, 5) restore degraded watershed sites to compensate for adverse ecological effects of land-use practices, and mitigate impacts for new development, 6) Preserve and improve special habitats of concern such as bottom land hardwood forests, wetlands and riverine islands, 7) increase opportunities for residents to experience and enjoy the region's natural surroundings.
3. Activities and programs at Metro's Regional Parks and Greenspaces Department, Planning Department, Solid Waste and Recycling Department, Oregon Zoo, and Public Affairs & Governmental Relations Departments that impact or could impact fish and wildlife habitat restoration or protection shall whenever possible support and coordinate with the Nature in Neighborhoods initiative.
4. Metro shall provide regional leadership to Nature in Neighborhoods by convening, coordinating, communicating, educating, assisting, providing incentives to, focusing and leveraging the talents, skills, resources, and concerted action of the many organizations and individuals who have a role to play and a stake in the outcome of Nature in Neighborhoods.

5. Nature in Neighborhoods shall include five elements: 1) habitat friendly development practices; 2) restoration initiatives; 3) willing seller acquisition; 4) development requirements for streamside habitat; and 5) monitoring and reporting, as outlined in Exhibit A.

ADOPTED by the Metro Council this _____ day of _____, 2005.

David Bragdon, Council President

Approved as to Form:

Daniel B. Cooper, Metro Attorney

EXHIBIT A TO RESOLUTION NO. 05-3574

Nature in Neighborhoods Initiative Description

Nature in Neighborhoods is a regional habitat protection, restoration and greenspaces initiative that inspires, strengthens, coordinates, and focuses the activities of individuals and organizations with a stake in the region's fish and wildlife habitat, natural beauty, clean air and water, and outdoor recreation. Metro plays a lead role in Nature in Neighborhoods, but recognizes that the protection and restoration of fish and wildlife habitat and the integration of greenspaces into the urban environment is a task of scope and magnitude beyond the reach of any one organization; it will take the coordinated and strategic action of many. Nature in Neighborhoods has five elements:

1. *Habitat-friendly development practices*—encouraging development in the future to be kinder to the environment than development in the past using innovative site design, new materials and engineering techniques.
2. *Restoration and stewardship*—building on Metro's successful track record of partnering with others to restore key wetland, streamside and upland sites and naturalist programs that educate the public on the value of natural areas.
3. *Acquisition* – Metro intends to place a bond measure before the voters in 2006 that would create a funding source to acquire critical fish and wildlife habitat in the urban area.
4. *Flexible development standards* – establishing a consistent regional standard for fish and wildlife habitat protection that provides additional support for improving water quality. In new urban areas, the Nature in Neighborhood Initiative promotes planning for growth to protect natural areas better than through past practices.
5. *Monitoring and reporting* – taking responsibility for measuring the progress made in the region on habitat area protection and restoration, reporting on the results and sharing the results with all of the Nature in Neighborhood partners for use in refining the initiative elements.

Metro will provide overall leadership and coordination to the initiative, providing a range of resources and expertise to partner organizations and the region's residents. The initiative will be supported by a Nature in Neighborhoods staff team dedicated solely to the initiative. Resources available in Metro's Planning Department, Regional Parks and Greenspaces Department, Oregon Zoo, Solid Waste and Recycling Department, and Public Affairs & Governmental Relations Departments will be coordinated in support of Nature in Neighborhoods.

Metro will work with its public, nonprofit, and private partners to implement a comprehensive communications strategy that supports and integrates the five initiative elements and elevates the level of awareness, understanding and commitment behind the initiative.

1. Habitat-friendly development practices

Using habitat-friendly development practices, or low impact development (LID), can help a community better protect its streams, fish and wildlife habitat, wetlands, and drinking water supplies as it grows. Several cities in the region are already encouraging the use of these practices, and some developers are making a point of reducing the impacts of the built environment by meeting environmental standards such as LEED¹. Much can be done to encourage habitat-friendly development practices in upland habitats and throughout the region by providing incentives, education, and technical assistance.

The use of these habitat-friendly practices can serve to increase the value of developments both at the outset and over time. Studies have shown that residential and commercial uses near open space and water features are more valuable and desirable. Additionally, innovative stormwater management practices that use natural processes to retain and detain stormwater runoff on-site may be less expensive to construct and maintain. The regional fish and wildlife habitat protection initiative will benefit people in addition to fish and wildlife. Protecting and restoring streamside habitat areas will have a direct positive impact on water quality. Increased management of stormwater runoff on-site through natural processes will also substantially improve water quality while allowing urban-style development to occur.

Metro will establish a Habitat-Friendly Development Practices Program to coordinate efforts to reduce the impacts of new development and collaborate with regional partners to increase public awareness of the value of habitat areas, including activities such as:

1. ***Expert assistance for developers and design awards program.*** Promote habitat-friendly development practices to the development community through a variety of technical assistance, education, and outreach activities. Examples include:
 - Award program to foster and recognize habitat-friendly development projects, including an annual award ceremony and certificates.
 - Sponsor seminars and conferences to promote habitat-friendly development practices.
 - Actively work with the development community to promote habitat-friendly development practices.
2. ***Remove barriers to habitat-friendly development.*** Provide technical assistance to cities and counties to implement fish and wildlife habitat program recommendations, including working with local jurisdictions to identify barriers in local codes that limit habitat-friendly development practices.
3. ***Financial incentives.*** Offer financial incentives for specific building projects that incorporate habitat-friendly development practices, especially those improving habitat conditions.²
4. ***Incorporate habitat priorities with regional transportation funding.*** Establish a priority for funding transportation projects based on their impacts to regionally significant fish and wildlife habitat.³

¹ Leadership in Energy and Environmental Design, a national program implemented by the U.S. Green Building Council. Portland is recognized as a leader nationwide, with over 40 certified projects.

² Metro currently provides funding to projects in Centers and for Transit-Oriented Development. Projects are encouraged to use habitat-friendly practices.

2. Restoration and stewardship

Restoration is a critical component of an effective Nature in Neighborhoods Initiative. Without active restoration efforts, ecological conditions are likely to deteriorate further, even if most habitat lands are protected through regulations. Stewardship programs publicly acknowledge landowners, businesses and other entities for conserving open space, protecting or restoring habitat areas, making financial contributions or carrying out good stewardship practices in general. These programs, while not widely applied in the Metro area, have much potential for encouraging conservation behavior when combined with other programs.

Metro will take a leadership role to enhance restoration efforts carried out by individuals, cities and counties, non-profits, government agencies, and businesses and increase habitat stewardship throughout the region by supporting the following activities:

1. **Support existing restoration efforts.** Offer technical and/or financial assistance to groups that are actively conducting restoration projects. Examples include assisting with administrative matters, mapping, and coordination.
2. **Identify regional restoration priorities.** Coordinate with existing non-profit and governmental agencies to establish restoration priorities for the region, especially in those watersheds where few restoration activities are occurring.
3. **Establish restoration pilot projects.** Expand successful pilot projects such as the eradication of Japanese Knotweed from the streamside along the Sandy River.
4. **Monitor restoration efforts.** Create a regional geographic information system database drawing on watershed action plans, Metro's regional habitat inventory and other sources of information to help identify watershed restoration priorities and track implementation of restoration and mitigation projects over time
5. **Enhance existing Metro programs.** Coordinate fish and wildlife education messages into ongoing Metro program areas.⁴
6. **Support habitat education.** Coordinate regional messages on fish and wildlife habitat, watershed function, and water quality to encourage people to think on a more broad and time-sensitive scale.
 - a. Increase awareness among schoolchildren, interested public, and property owners about practices that protect clean water and improve fish and wildlife habitat.
 - b. Provide small group "on the ground" environmental education to children and adults focusing on the importance of urban stream corridors for wildlife connectivity, the impact of invasive weeds on wildlife health, and what citizens can do to improve fish and wildlife habitat in their local and regional community.
 - c. Encourage the placement of signs in habitat areas as an important component of an educational program.
 - d. Develop a list of all education programs in the region and determine which are most effective.
 - e. Organize and prioritize a regional education campaign and provide a clearinghouse for education materials and referrals.

³ A criterion could be added to the MTIP funding priorities that focuses on habitat issues, such as culvert replacement or removal, wildlife crossing improvements, or implementation of Green Streets design standards.

⁴ Zoo exhibit on Metro urban fish and wildlife habitat ("Wild in the City) and enhancement of Solid Waste and Recycling programs to target homeowners and developers of residential properties.

7. ***Increase funding available for restoration.*** Seek interagency and non-profit support for increased federal and state grant funding directed at watershed-based restoration activities.⁵
8. ***Stewardship Program.*** Develop a Regional Fish and Wildlife Habitat Stewardship program that recognizes landowners for restoring and protecting habitat on their land.
 - a. Sponsor a yearly award ceremony, provide certificates, and encourage media coverage.
 - b. Develop signed voluntary stewardship agreements between a property owner and Metro or another sponsor for habitat protection.
9. ***Tax incentives for habitat protection and restoration.*** Encourage cities and counties to implement existing property tax incentive programs within the Metro region.⁶

3. Acquisition

The most effective long-term strategy for protecting fish and wildlife habitat is to purchase properties to remain in natural conditions in perpetuity. A major component of Metro's Nature in Neighborhoods Initiative is to initiate a bond measure for acquisition and restoration of regionally significant fish and wildlife habitat. Metro can also undertake other activities to raise dollars and leverage bond money to permanently protect habitat. Metro will undertake the following activities:

1. ***Bond Measure.*** Prepare for initiating and managing a bond measure program, including the following components:
 - a. Coordinate with non-profit groups, local governments, citizens and others to identify regional target areas including habitat in the Damascus and Pleasant Valley areas
 - b. Identify local share funds as part of the bond measure proposal
 - c. Create a challenge grant program for local governments and non-profit organizations to leverage the use of public bond measure funds in acquisition and restoration efforts
 - d. Create a short-term revolving fund to purchase land in targeted areas, implement conservation easements and use surplus funds (resale revenue) to create a funding source for land management purposes
2. ***Pursue grants for acquisition.*** Apply for grants that can lead to targeted acquisition for prime areas, such as opportunities in the Damascus and other new urban area planning.
3. ***Tie future density increases to revenue for habitat.*** Explore the potential of requiring any future upzoning throughout the region to require the purchase of a TDR or a density transfer fee to be used for habitat protection.

Cities and counties also have opportunities to explore methods of funding the purchase of fish and wildlife habitat. Some cities have already implemented programs to purchase or permanently preserve habitat, including:

1. ***Development fees.*** System Development Charge (SDC) programs to purchase floodplains and/or other special habitats.

⁵ Potential funding sources such as National Fish and Wildlife Foundation, USFWS Conservation and Restoration funds, EPA Smart Growth funds, etc.

⁶ Existing state tax incentive programs include the Wildlife Habitat Conservation Management Program (WHCMP) and the Riparian Lands Tax Incentive Program (RLTIP). Neither programs are currently implemented within the urban area, but cities and/or counties could authorize their use to encourage habitat protection and restoration.

2. **Floodplains.** Federal Emergency Management Agency (FEMA) grants to purchase floodplains, removing development in floodplains from future harm and potentially reducing flood risk throughout a watershed by restoring floodplain functions.

4. Flexible Development Standards for Streamside Habitat and New Urban Areas

The Metro Council proposes to protect streamside habitat (Class I and II Riparian) within the urban growth boundary and upland habitat (Class A and B) in future urban growth boundary expansion areas with flexible development standards. Of the 80,000 acres in Metro's regionally significant habitat inventory, about 41,000 are in Class I and II riparian habitats are designated as Habitat Conservation Areas and will receive extra protection. Streamside habitat areas are the most valuable, vulnerable, and in some cases most protected habitats in Metro's habitat inventory. The Nature in Neighborhoods initiative will minimize the impact on fish and wildlife habitat while allowing urban-style development to occur.

This program is intended to change the way development and redevelopment occurs near streams and wetlands, not to impact everyday actions on private property. The program would not prevent development on any property, but would require a change in the way development occurs within Habitat Conservation Areas. In some cases, a requirement for cities and counties to remove barriers to habitat-friendly development practices may, in fact, increase property values by allowing more innovation and potential reduction in stormwater impact fees.

Flexible development standards can provide property owners the ability to develop their properties while protecting some or all the habitat on a site. Some of these tools include:

- Building setback flexibility (e.g., zero or smaller setbacks).
- Clustering development on smaller lots while preserving the remaining habitat.
- Density bonus for protecting habitat.
- Transfer of development rights from one site to another more suited for higher density uses.

Metro Council will consider the regulatory component of the habitat protection program as an amendment of the Urban Growth Management Functional Plan. After acknowledgment by the State Land Conservation and Development Commission, cities and counties within the Metro region will be required to amend their comprehensive plans to be in compliance with the regional habitat protection program. Consistent with Metro's goal of providing regional consistency and local opportunity for flexibility when implementing regional policies, Metro will provide several options for a city or county to comply. Compliance with regional habitat protection requirements will also satisfy state requirements, reducing duplicative efforts.

Future Urban Growth Boundary Expansion Areas

Expectations for urban-style development are different in areas that are brought inside the urban growth boundary in the future. Metro Council supports protecting more habitat in these areas where it is easier to plan for a system of natural habitats integrated with the built environment. The Nature in Neighborhoods initiative will guide how to plan for growth in new urban areas that accounts for the most valuable streamside (Class I and II) and upland (Class A and B) habitats.

5. Monitoring and reporting

Metro will monitor and report to the region on key regional performance measures relating to the success of the region in protecting and restoring habitat areas. As part of the monitoring and reporting element, Metro will track progress in habitat acquisition and restoration efforts and will continue to map the streams, wetlands, floodplains, vegetation and habitats of concern to monitor habitat quality and quantity by watershed. By coordinating with other agencies and jurisdictions that track stream and upland health Metro will present a regional scorecard of progress in achieving performance objectives. These include:

1. Preserve and improve streamside, wetland, and floodplain habitat and connectivity
2. Preserve large areas of contiguous habitat and avoid fragmentation
3. Preserve and improve connectivity for wildlife between riparian corridors and upland wildlife habitat.
4. Preserve and improve special habitats of concern.
5. Promote the use of habitat-friendly development practices.
6. Restore degraded watershed sites to compensate for adverse ecological effects of land use practices and mitigate impacts for new development.

Primary Program Overview

Fiscal Year 2005-06

Primary Program

Name of Primary Program: Nature in Neighborhoods

Description

Nature in Neighborhoods is a regional habitat protection, restoration and greenspaces initiative that inspires, strengthens, coordinates, and focuses the activities of individuals and organizations with a role and stake in the region's fish and wildlife habitat, natural beauty, clean air and water, and outdoor recreational opportunities. Metro plays a lead role in Nature in Neighborhoods, but recognizes that the protection and restoration of fish and wildlife habitat and the integration of greenspaces into the urban environment is a task of scope and magnitude beyond the reach of any one organization; it will take the coordinated and strategic action of many. Nature in Neighborhoods has five elements:

1. *Habitat-friendly development practices*—encouraging development in the future to be kinder to the environment than development in the past using innovative site design, new materials and engineering techniques.
2. *Restoration and stewardship*—building on Metro's successful track record of partnering with others to restore key wetland, streamside and upland sites and naturalist programs that educate the public on the value of natural areas.
3. *Acquisition*—Metro intends to place a bond measure before the voters in 2006 that would create a funding source to acquire critical fish and wildlife habitat in the urban area.
4. *Flexible development standards*—establishing a consistent regional standard for fish and wildlife habitat protection that provides additional support for improving water quality. In new urban areas, the Nature in Neighborhood Program promotes planning for growth to protect natural areas better than through past practices.
5. *Monitoring and reporting*—taking responsibility for measuring the progress made in the region on habitat area protection and restoration, reporting on the results and sharing the results with all of the Nature in Neighborhood partners for use in refining the program elements.

Metro will provide overall leadership and coordination to the initiative, providing a range of resources and expertise to partner organizations and the region's residents. Metro's roles will include convening, coordinating, communicating, educating, assisting, providing incentives to, building capacity, focusing and leveraging the talents, skills, resources, and concerted action of Metro departments and partner organizations.

The initiative will be supported by a newly formed interdisciplinary Nature in Neighborhoods staff team. Staff total 3.75 FTE for a total cost of \$317,000. An additional \$225,000 is set aside for materials and services, bringing the total budget commitment for Nature in Neighborhoods to \$542,000. Nature in Neighborhoods is funded through the reallocation of existing Metro resources. Metro's Goal 5 Program is ended and resources are reallocated to Nature in Neighborhoods. An additional \$150,000 is a redirection of a Metro Regional Parks and Greenspaces Department habitat restoration program.

Additionally, resources available in Metro's Planning Department, Regional Parks and Greenspaces Department, Oregon Zoo, Solid Waste and Recycling Department, and Public Affairs & Governmental Relations Departments will be coordinated in support of Nature in Neighborhoods.

Metro will work with its public, nonprofit, and private partners to implement a comprehensive communications strategy that supports and integrates the five program elements and elevates the level of awareness, understanding and commitment behind the initiative. These resources are not allocated as part of this budget amendment, but will be part of the ongoing responsibilities of Metro's Public Affairs and Intergovernmental Relations Department.