BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF COMBINING METRO'S DRAFT INVENTORY MAPS OF REGIONALLY SIGNIFICANT RIPARIAN CORRIDORS AND WILDLIFE HABITAT FOR THE GOAL 5 ESEE ANALYSIS, AND APPROVING METRO'S LOCAL PLAN ANALYSIS	)))))	RESOLUTION NO 02-3218A Introduced by Councilor McLain

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, the Title 3, Section 5 of the UGMFP sets forth actions that the Metro Council anticipated that Metro would take in identifying, considering and protecting regionally significant fish and wildlife habitat conservation areas; and

WHEREAS, Metro is applying the state Goal 5 administrative rule as the framework for identifying regionally significant fish and wildlife habitat areas; and

WHEREAS, the Metro Council adopted a draft inventory and map of regionally significant riparian corridors in Resolution No. 02-3176 on August 8, 2002; and

WHEREAS, the Metro Council adopted a draft inventory and map of regionally significant wildlife habitat in Resolution No. 02-3177A on August 8, 2002; and

WHEREAS, the Goal 5 administrative rule allows local governments to conduct a single economic, social, environment and energy ("ESEE") analysis for more than one significant Goal 5 resource; and

WHEREAS, the Metro Council desires to combine the two draft inventory maps for the purpose of conducting the ESEE analysis for both riparian corridors and wildlife habitat resources within the regionally significant resource sites identified by the Metro Council in Resolution No. 01-3141; and

WHEREAS, Title 3, Section 5 of the Urban Growth Management Functional Plan states that Metro must undertake an analysis to "identify inadequate or inconsistent data and protection in existing Goal 5 data, reports and regulations on fish and wildlife habitat" and "shall complete Goal 5 ESEE analyses … only for those areas where inadequate or inconsistent data or protection have been identified."; and

WHEREAS, a draft analysis of "inadequate or inconsistent data and protection" ("Local Plan Analysis") among local governments within Metro's jurisdiction is attached as Exhibit B; and

BE IT RESOLVED:

1. The Metro Council adopts the draft map in Exhibit A, as the map of combined riparian corridor and wildlife habitat Goal 5 resources that shall be used for the purpose of identifying conflicting uses and impact areas in the ESEE analysis.

2. The Metro Council reserves the opportunity to minimally or substantially alter the draft map prior to adoption of a final map of regionally significant fish and wildlife habitat areas and Program to Achieve Goal 5, after public comment and review.

3. The Metro Council adopts the Local Plan Analysis in Exhibit B, as required by Title 3, Section 5 of the Urban Growth Management Functional Plan. The Metro Council concludes, based on the evidence in Exhibit B, that Goal 5 data and protection among local governments within Metro's jurisdiction is inconsistent, and that Metro conduct a regional ESEE analysis for all Goal 5 resource sites containing regionally significant riparian corridors and wildlife habitat is identified by the Metro Council in Resolution No. 02-3176 and No. 02-3177A.

4. The Metro Council's action in this resolution is not a final action designating regionally significant fish and wildlife habitat areas, final action on an ESEE analysis, or a final action to protect those areas through a Program to Achieve Goal 5.

ADOPTED by the Metro Council this 8th day of August 2002.

Susan McLain Dep.
Carl Hosticka, Presiding Officer Presiding Officer

Approved as to Form:

Daniel B. Cooper, General Counsel

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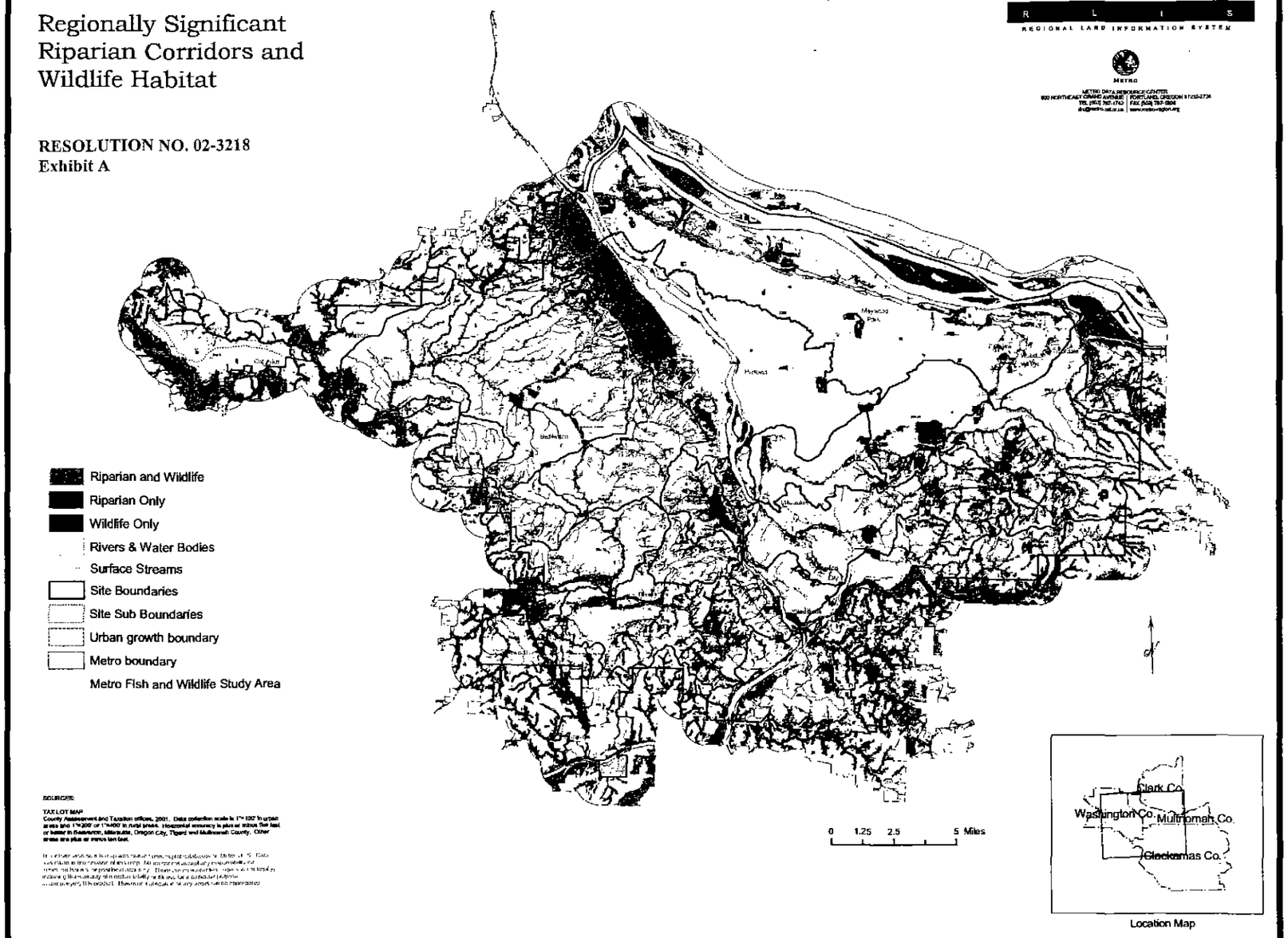
OMA/KDH/kvw (08/08/02)

Regionally Significant Riparian Corridors and Wildlife Habitat

RESOLUTION NO. 02-3218
Exhibit A



RESOLUTION NO. 02-3218 EXHIBIT B

DRAFT FOR COMMITTEE REVIEW

LOCAL PLAN ANALYSIS

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Introduction

Fish and wildlife habitat is protected in the Metro region primarily through the application and implementation of State Land Use Planning Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces. Metro's Urban Growth Management Functional Plan contains the regional regulations relating to the future growth of the Metro region. The plan's requirements are divided into eleven titles based on various areas of growth management. Title 3 of the Functional Plan describes specific requirements for local governments to implement growth management policies addressing water quality, flood management, and fish and wildlife habitat conservation. In June of 1998, the Metro Council adopted revisions to Title 3, including a model ordinance and water quality and floodplain map identifying where Title 3 applies. Section 5 of Title 3 seeks to "conserve, protect, and enhance fish and wildlife habitat within the fish and wildlife habitat conservation areas to be identified on the water quality and flood management map by establishing standards and promoting coordination by Metro of regional urban watersheds."

Title 3, Section 5 relates to Statewide Planning Goal 5. Section 5(C) requires that Metro shall:

1) Establish criteria to define and identify regionally significant fish and wildlife habitat areas.
2) Adopt a map of regionally significant fish and wildlife areas after (a) examining existing Goal 5 data, reports and regulations from cities and counties, and (b) holding public hearings.
3) Identify inadequate or inconsistent data and protection in existing Goal 5 data, reports, and regulations on fish and wildlife habitat.
4) Complete Goal 5 economic, social, environmental, and energy (ESEE) analyses for mapped regionally significant fish and wildlife habitat areas only for those areas where inadequate or inconsistent data or protection has been identified.
5) Establish performance standards for protection of regionally significant fish and wildlife habitat that must be met by the plans implementing ordinances of cities and counties.

For this local plan analysis, we are focusing on steps 2(a) and 3: examining existing Goal 5 data, reports and regulations from cities and counties and identifying inconsistencies and inadequacies in data and protection of fish and wildlife habitat in the Metro region.

The purpose of this document is to provide the Metro Council the information necessary to make a decision to move on to step 4, completing an ESEE analysis for regionally significant fish and wildlife habitat.

Most of the local jurisdictions in the Metro region have adopted Goal 5 programs that have been acknowledged by the Department of Land Conservation and Development as being in compliance with the state rule. Some of these programs were developed prior to the Goal 5 rule revisions in 1996, while a few have been done more recently. Goal 5 is a process goal – the state does not prescribe a specific outcome as it does in other land use planning goals. The rule requires local jurisdictions to balance the need to protect natural resources against other state goals such as housing (Goal 10) and transportation (Goal 12) while providing ample opportunity for citizen involvement (Goal 1). Thus, the state rule allows local jurisdictions' Goal 5 programs to be in compliance with state law while being inconsistent with each other. However, as described above, Metro's code requires an analysis of the consistency of local natural resource protection prior to conducting a regional ESEE analysis and a regional protection program.

This report includes the following sections:

1) A description of the methodology used to gather data and evaluate local Goal 5 programs;
2) A summary of the regulatory context for this analysis;
3) A brief discussion of other related studies from the Metro region;
4) An analysis of the *inconsistencies in resource protection* in local Goal 5 programs;
5) An evaluation of the *inadequacy of resource protection* compared to what the science indicates as necessary to retain functional habitat; and
6) A *conclusion* in which inconsistencies and inadequacies in data and protection are summarized.

Methodology

The task of reviewing existing Goal 5 data, reports, and regulations for the purpose of identifying inconsistencies and inadequacies in data and protection is daunting in light of the fact that there are 27 jurisdictions in the Metro region. Metro began collecting data and information for this project early in 1999, when Metro staff interviewed local planners on-site in each jurisdiction. The result of this data gathering exercise was a Local Goal 5 Analysis Matrix that summarized local inventories, ESEE analyses, and programs, completed in March 1999. This matrix was then updated in August 2000 for those jurisdictions identified with work in progress for various elements. Both versions of the matrix were faxed to local planners for an accuracy check and review. In November 2000, Metro hired a planning intern to focus specifically on gathering the most updated material on local Goal 5 planning work. Additional information was gathered through a questionnaire sent to all local governments in early 2001.

Development of this local plan analysis included:

- On-site visits to interview local planners;
- An email questionnaire sent to all local governments;
- Follow up phone calls for additional information;
- Review of local comprehensive plans, development and zoning code, inventories, and ESEE analyses;
- Review of maps, overlay zones, and other GIS data layers relating to fish and wildlife habitat protection;
- Examination of the best available science on the protection of fish and wildlife habitat;
- Consideration of the recent listing of salmonids, and review of the Final Rule for Threatened Salmon and Steelhead;
- Review of other studies related to assessing local protection of fish and wildlife habitat in the region; and
- Local government opportunity to review a preliminary version of this document.

Regulatory context

In this section we include a short description of Metro's role as a regional government and State Planning Goal 5.

Metro's role as a regional government

Metro's primary planning and land use authority originates in Oregon Revised Statutes chapter 268. First, the rule requires Metro to define a planning procedure that identifies and designates areas and activities having significant impact upon the development of the metropolitan area, including, but not limited to, impacts on air quality, water quality, and transportation. Then, Metro has the responsibility of preparing and adopting functional plans for those areas and activities identified as having a significant impact on the development of the metropolitan area. Functional plans are limited purpose plans, intended to be narrower in focus than city or county comprehensive plans. Finally, Metro has the authority to recommend or require cities and counties to make changes in any comprehensive plan to assure that the plan and any actions taken pursuant to it conform to the district's adopted functional plans (ORS 268.390).

Statewide Planning Goal 5

Goal 5 requires local jurisdictions to adopt plans to protect natural resources and conserve scenic and historic areas and open spaces by "inventorying Goal 5 resources and developing land use programs to conserve and protect Goal 5 resources" (OAR 660-023-0000). Pursuant to Goal 5 and Oregon Administrative Rule chapter 660, division 23, local governments must (1) inventory the location, quality, and quantity of Goal 5 resources, (2) determine the significance of resource sites, (3) analyze the economic, social, environmental, and energy consequences of the conflicting uses with the Goal 5 resource sites, and (4) develop a program to achieve Goal 5 objectives (OAR 660-023-0030; OAR 660-023-0040). Oregon Administrative Rule chapter 660, division 23 replaces Oregon Administrative Rule chapter 660, division 16. The revised rule is similar to the former version; however, a "safe harbor" option has been added. The safe harbor option provides flexibility in the Goal 5 process for jurisdictions to decide between completing a traditional ESEE analysis or streamlining their Goal 5 program by applying protective measures set forth in the Goal 5 rule.

Metro has the authority pursuant to Oregon Administrative Rule chapter 660, division 23, to identify "regional resources." Regional resource is defined as "a site containing a significant Goal 5 resource, including but not limited to a riparian corridor, wetland, or open space, which is identified as a regional resource on a map adopted by Metro ordinance." Metro's Goal 5 work addresses the following Goal 5 resources: riparian corridors, associated wetlands, and wildlife habitat.

Studies relating to assessment of fish and wildlife protection

While Goal 5 is the rule under which to address fish and wildlife habitat protection within the framework of Oregon's land use planning laws, several studies have indicated that protection of natural resources through the Goal 5 process is not always predictable nor adequate. On the other hand, some groups, such as the National Association of Homebuilders, assert that current regulations are sufficient to protect endangered species. The results of this local plan analysis are intended to provide the Metro Council with sufficient information to identify inconsistencies and inadequacies of local Goal 5 programs in the protection provided for fish and wildlife

habitat. Here we discuss other studies that are related to the assessment of fish and wildlife protection in the Metro region.

The National Association of Homebuilders in their *Saving Salmon and Growth* (2000) report discuss many of the local, state and federal regulations currently in place that protect the environment. The report states that: "From a land development perspective, a credible argument can be made that one of the major goals of NMFS' 4(d) Final Rule – environmental protection for salmon habitat – is being met thanks to a plethora of local, state and federal regulations that were already in place prior to implementation of the 4(d) Final Rule." This statement appears to be based on the number of existing regulations, rather than a comprehensive analysis of how the rules are implemented. As stated above, the purpose of this local plan analysis is to assess the consistency and adequacy of local plans in the protection of fish and wildlife habitat, not the existence of a protection program.

In 1994, Metro co-sponsored a study, *To Save or To Pave*, with the Portland Audubon Society and 1000 Friends of Oregon to analyze and evaluate the effectiveness of five Goal 5 programs in the Metro region (Ketcham et al. 1994): Beaverton, Gladstone, Gresham, Milwaukie, Portland, and Washington County. In the study the authors conducted an evaluation of the jurisdictions' Goal 5 programs. Included is consideration of the data and inventories, the ESEE analyses, the programs used to protect natural resources, and the monitoring and enforcement of the regulations.

Some of the major findings of *To Save or To Pave* were included in Metro's Regional Framework Plan (Metro 1998):

- Over three-fourths of local decisions examined allowed degradation of natural and scenic resources.
- Goal 5's rules were site specific and did not protect resources on an ecosystem or landscape level.
- Local governments employed a variety of regulatory and non-regulatory techniques with no overall consistency in an area.
- Goal 5 does not require standardized inventories or methods of data collection. As a result, important areas were omitted from consideration for protection, and inventories did not contain enough information to guide local planning decisions.
- Enforcement of local Goal 5 programs is difficult, inadequate and too reliant on citizen efforts.
- Upland forests are the least protected resource and are vulnerable to destruction.

Implementation of a strategy to address the above findings is called for in Title 3 of Metro's Urban Growth Management Functional Plan (adopted 1998).

Ozawa et al. (2000) analyzed the connection between protective regulations for natural resources and the amount of vegetation in the stream corridors of two cities in the Metro region, Hillsboro and Oregon City in a recent study: *An exploratory investigation of regulatory strategies to protect stream buffers in Oregon.* The authors used aerial photographs and GIS to assess the percentage of vegetative cover within a range of buffer widths in both cities. The study found

that near stream tree cover was higher in Hillsboro but that the percentage of cover dropped as buffer width increased. Oregon City, on the other hand, had a higher level of vegetative cover farther from the stream, likely due to the topography of the area. The study emphasized the importance of monitoring the implementation of protective regulations in order to assess the effectiveness of specific land use tools. In addition the authors concluded that: "Data collection regarding regulatory strategies at the municipal level over even only a 20-year period was severely impeded by a lack of access to documents." The lack of transparent decision factors and availability of data and other documents is a common problem in evaluating the consistency and adequacy of local Goal 5 programs.

Finally, the Defenders of Wildlife recently commissioned a study to evaluate the effectiveness of Oregon's Land Use program in protecting fish and wildlife habitat (Wiley 2001). The study concluded in part that even when local comprehensive plans comply with the state planning goals, "...planners express doubt about the effectiveness of those efforts." A main reason for the inconsistent protection of natural resources through Goal 5 can be attributed to the fact that the rule dictates a process, rather than a specific outcome. Local jurisdictions have flexibility in determining which resources to protect (if any) and how to protect them. The rule provides jurisdictions with an opportunity to allow the development of natural resources based on the economic, social, environmental or energy consequences of protecting the resource. Thus, the very nature of Goal 5 allows for inconsistent protection programs to be developed that still comply with state law. One of the main conclusions of the study is that in order for Goal 5 to be effective in protecting natural resources, the state must assert "...the importance of habitat protection and restoration...and make an explicit connection to the land use program through legislative or administrative action."

Thus, while there are many regulations in place that are intended to protect fish and wildlife habitat, several studies of local programs demonstrate inconsistent and insufficient protection of fish and wildlife habitat. This is in large part due to the flexibility inherent in the Goal 5 rule.

Inconsistencies in resource protection

Introduction

The Metro region lies within the Willamette Valley ecoregion, as defined by the U.S. Environmental Protection Agency. The EPA defined ecoregions, which are used in the Oregon State of the Environment Report (2000), are based on similarity of several environmental variables like geology, vegetation, and average precipitation. While there are several different watersheds within the Metro region with different geological characteristics, all of the ecosystems within the region are more similar than different, especially in comparison with other ecoregions such as the Columbia Plateau. Thus, it becomes important to consider data collection and resource protection within a similar context.

In this section we analyze local Goal 5 programs to evaluate the level of consistency (or inconsistency) in data and protection. For this task we examined local jurisdictions' Goal 5 inventories and the economic, social, environmental, and energy (ESEE) analysis for

inconsistencies in data, and local programs for inconsistencies in resource protection. Consistency in data collection and protection among local jurisdictions in the Metro region is important in order to achieve the vision described in the Regional Urban Growth Goals and Objectives (RUGGOs). Objective 15: *Natural Areas, Parks, Fish and Wildlife Habitat* calls for an open space system capable of sustaining or enhancing native wildlife and plant populations, and recognizes the need for a regionwide system of linked significant wildlife habitats.

Many Goal 5 resources cross jurisdictional boundaries, such as a stream or river. A stream may be deemed significant in one jurisdiction, but insignificant in the other. Insignificant resources are not protected under Goal 5. This could result in inconsistent protection of the resource. Resource protection programs also may vary based on the level of encroachment allowed, buffer widths, and mitigation requirements, for example. While inconsistent protection may be problematic from an ecological perspective, it often results from the tradeoffs inherent in the Goal 5 process.

The Goal 5 rule allows local programs, acknowledged as being in compliance with State rules, to be inconsistent with each other, resulting in varying levels of resource protection across jurisdictional boundaries. The flexibility allowed local jurisdictions in maneuvering through the Goal 5 process provides several opportunities to make different choices that result in varying resource protection decisions.

Baseline protection

As stated by the National Association of Homebuilders, there are many existing local, state, and federal regulations that currently protect natural resources at some level. Here we provide a brief description of current regulations that provide fish and wildlife habitat with some protection. Most local jurisdictions have an acknowledged Goal 5 program that provides some fish and wildlife habitat protection. Metro's Title 3 provides a baseline of protection for water quality and flood management purposes, while other state and federal laws also provide some protection for streams and wetlands. However, wildlife habitat that is not associated with riparian corridors or wetlands (upland habitat) is the least protected resource.

Riparian corridors

Prior to 1998, Metro did not place any requirements on local jurisdictions related to natural resource protection. In 1998, Metro amended Title 3 of the Functional Plan to protect water quality, manage floodplains, and prevent erosion. Title 3 provides specific regional standards, rather than dictating a process like the Goal 5 Rule. All local jurisdictions are required to be in compliance with the requirements of Title 3[1], which provides a baseline of protection for streams, wetlands, and floodplains. While the Title 3 regulations provide a consistent level of protection for water quality, they were not developed with the goal of providing habitat protection. Title 3 requires a 50-foot vegetated corridor (on each side of a stream) on primary streams (streams draining 100+ acres) and wetlands, and a 15-foot vegetated corridor on

[1] As of 8/29/2001 the following jurisdictions were not yet in compliance with the following sections of Title 3. *Flood management:* Durham, Fairview, Gladstone, Lake Oswego, Milwaukie, Tigard, Clackamas County, and Multnomah County. *Water quality:* Durham, Fairview, Gladstone, Gresham, Lake Oswego, Milwaukie, Portland, Rivergrove, Tigard, West Linn, Clackamas County, Multnomah County. *Erosion and sediment control:* Durham, Fairview, Sherwood, Tigard, Clackamas County, Multnomah County.

secondary streams (streams draining 50-100 acres). The width of the vegetated area extends up to 200 feet for primary streams in steeply sloped areas and 50 feet for secondary streams. This does provide some benefit to fish and wildlife, but does not meet the recommendations found in scientific studies of riparian and upland habitat (further discussed below under *Inadequacies in resource protection*). Floodplain development must be mitigated through balance cut-and-fill requirements.

In Washington County, streams receive additional protection through the Clean Water Services (CWS) (formerly United Sewerage Agency) Design and Construction Standards. CWS serves as the regional water quality authority in Washington County and oversees storm and surface water management and sanitary sewer systems. CWS's water management responsibilities arise from State Department of Environmental Quality (DEQ) rules and federal Clean Water Act orders. CWS standards cover 10 jurisdictions: Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, King City, Sherwood, Tigard, Tualatin, and Washington County. The Design and Construction Standards meet, and in some cases exceed, Metro's Title 3 requirements for floodplain and water quality protection.

Wetlands

Wetlands are provided with protection from a number of agencies. Metro's Title 3 requires a 50-foot buffer surrounding wetlands. However, a wetland can be filled if a permit is obtained from the Oregon Division of State Lands (DSL), which administers Oregon's removal/fill law, and mitigation occurs. DSL also determines wetland boundaries. Any delineated wetland meeting the definition of "waters of the state" requires a permit for removal of more than 50 cubic yards of material. DSL also enforces mitigation requirements. DSL, however, must determine land use compatibility, which means that a DSL permit does not trump Title 3 regulations. Federal requirements, identified in the Clean Water Act of 1977, also provide for the protection of wetlands. Despite these regulations, wetlands are still being lost to development and agriculture. An internal study conducted for DSL found that 70 percent of wetland losses involved the unauthorized use of wetlands.[2] All regional, state, and federal regulations allow for the fill of wetlands as long as mitigation occurs; however, fish and wildlife are not always able to inhabit the new wetlands. A recent study by the National Academy of Sciences found that the goal of no net loss of wetlands is not being met by wetland mitigation programs, and furthermore "[e]ven when artificial wetlands are well-built, they rarely come close to replacing natural ones..."[3]

Floodplains

Intended to reduce flood damage and loss to human life and property, Metro's Title 3 requires that any development within the 100-year floodplain identified by the Federal Emergency Management Agency (FEMA) remove an equal amount of soil to that of the fill needed for development. A floodplain management plan is also required in order for communities to participate in low-cost flood insurance provided by the federal government. Title 3 does not include any provisions for retaining floodplain that may provide important fish and wildlife habitat.

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[2] Cited in *The Oregonian*, "Efforts to save NW wetlands mired in failure," August 25, 2001, p. A1.

[3] National Academy of Sciences, *Compensating for Wetland Losses Under the Clean Water Act*, National Academy Press, 2001.

Upland wildlife habitat

Upland areas are most likely to receive protection through acquisition for parks or open spaces by either governments or private groups. An example of a regional effort to protect open spaces is the 1995 bond measure approved by the voters to allow Metro to purchase over 7,000 acres in the region.

Inventory

In this section, we discuss the Goal 5 inventory requirements and describe the inventories of several jurisdictions. Table 1 provides an outline of the current status of all jurisdictions' Goal 5 inventories.

Goal 5 Requirements

The Goal 5 process begins with the inventory of Goal 5 resource sites, providing information to locate and evaluate resources and to develop programs to protect such resources (OAR 660-023-0030(1)). The standard inventory process involves four steps. However, depending on the type of Goal 5 resource, not every step must be applied in the inventory stage.

The inventory stage begins with the collection of all "existing and available" information about potential Goal 5 resource sites (OAR 660-023-0030(2)). After a local government gathers all of the existing information concerning potential resource sites, the local government then must determine the adequacy of the information (OAR 660-023-0030(3)). Information about a resource site is deemed adequate when it includes a determination of location, quality, and quantity of the resource (*Id).* Location information shall include a description or map of the resource area for each site (OAR 660-023-0030(3)(a)). Although this information must be sufficient to determine whether a resource exists on a particular site, the precise location of the resource need not be determined at this stage in the inventory process.[4] Quality information shall indicate a resource site's value relative to other known examples of the same resource (OAR 660-023-0030(3)(b)). Although regional comparison of resources is preferred, quality comparisons may be made for resource sites within the jurisdiction, if no other local examples exist (*Id).* Concerning quantity, Goal 5 requires local governments to estimate the relative abundance or scarcity of the resource (OAR 660-023-0030(c)).

Once the adequacy of the information is determined, the local government must then determine whether the site is significant (OAR 660-023-0030(4)). The significance determination is based on the following: (1) the location, quality, and quantity of the resource; (2) special significance criteria; and (3) additional criteria adopted by the local government (OAR 660-023-0030(4)(a), (b), & (c)). After the significance determination, a local government must list the significant sites on its inventory and identify them as such on a map adopted by ordinance (OAR 660-023-0080(1)(b)). Once included in the inventory, the sites must proceed through the remaining Goal 5 process (*Id).*

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[4] Prior to amendment, OAR 660-016-0000(2) required a determination of site specific resource location, which included a description or map of the resource site's boundaries and the impact area, if different. For non-site specific resources, determination was to be as specific as possible. *Id.* However, OAR 660-023-0030(3)(a) does not distinguish between site specific and non-site specific resources. Rather, the new rule requires information about location to include a description or map of the resource and to be sufficient enough to conclude whether a resource exists on a particular site. *Id.*

Local governments may also choose to utilize the State "safe harbor" approach rather than conducting an inventory using the standard methodology described above (OAR 660-23-020). A safe harbor approach may be used for riparian corridors and wildlife habitat. Using the safe harbor approach, a local government may determine the boundaries of significant riparian corridors within its jurisdiction using a standard setback distance from all fish-bearing lakes and streams (OAR 660-23-090(5)). This setback distance is determined as follows:

(a) for streams with average annual stream flow greater than 1,000 cubic feet per second (cfs), the riparian corridor boundary is 75 feet upland from the top of each bank

(b) for lakes and fish-bearing streams with average annual stream flow less than 1,000 cfs, the riparian corridor boundary is 50 feet upland from the top of each bank

For wetlands, local jurisdictions are required to follow state determined standards to inventory and determine significant wetlands (OAR 660-23-100(2)). Jurisdictions must conduct a local wetland inventory (LWI) for areas inside urban growth boundaries using specific standards and procedures and are required to adopt the LWI as part of the comprehensive plan. Criteria for determining significance must be followed, which are adopted by the Division of State Lands (DSL). After this set inventory and significance determination process is completed, local governments may either follow the standard Goal 5 process to adopt a program for protection or adopt the state's safe harbor for wetland protection.

Local governments may use the safe harbor approach for some resources and the standard inventory approach for other resources. For example, Wilsonville used the safe harbor to determine protection along the Willamette River and the standard ESEE approach for other riparian resources.

Comparison of local jurisdictions' inventories

Following is a brief analysis of local jurisdictions' inventories. Included is a summary of the status of all the inventories conducted for Goal 5 by local jurisdictions in the region and an analysis of the criteria for determining inconsistencies in the inventories. To determine the level of consistency, we consider:

- the date inventories were conducted,
- the definition of a resource,
- the methodology used for data collection,
- the format of data,
- the variability in the inventory approaches,
- the methods of significance determination, and
- the comparability of data from one jurisdiction to another.

Date of local inventories

The dates of local inventory efforts and the resources inventoried differ widely across jurisdictions. Table 1, below, provides information about the status of all jurisdictions' inventory efforts in the Metro region.

Table 1. Goal 5 inventories by resource and jurisdiction.

Jurisdiction	Resource/Date			
	River/Stream/ Riparian Area	Wetlands		Upland/Open Space/Trees[1]
		Goal 5	*Local Wetlands Inventory*	
Beaverton	1985 2000 (safe harbor)	1985 2000 (safe harbor)	yes	1985 2000 (safe harbor)
Cornelius	*	*		*
Durham	1994 (in Comp. Plan)	1994		*
Fairview	1994	1994		1994
Forest Grove	1997	1983	yes	1977
Gladstone	1979 1983	1979 1983		1979 1983 1991 (Open Space Inv.)
Gresham	1988	1988	In progress	1988
Happy Valley	1991 (reconnaissance level survey) 1996	1991 (reconnaissance level survey) 1996	yes	1996 1998 (Urban Forest Plan)
Hillsboro	1991 2001	2001	yes - 2001	1991 2001
Johnson City	*	1980 (Comp Plan)		*
King City	*	1990		*
Lake Oswego	1975 1991 1995 1996	1975 1991 1995 1996	yes	1975 1991 1995 1996
Maywood Park	No Goal 5 resources	No Goal 5 resources		No Goal 5 resources
Milwaukie	1987 (adopted in 1989)	1987(adopted in 1989)		1987(adopted in 1989)
Oregon City	1993 1999	1993 1999	yes	*
Portland	1987-1997 In progress	1987-1997 In progress		1987-1997 In progress
Rivergrove	1989	1989		*
Sherwood	1979 1990	1979 1990 1992	yes	1979 1990
Tigard	1983 1994	1983 1994	yes	1983
Troutdale	1994 (Beaver Creek) (not adopted)	1989 (not adopted)		*
Tualatin	1995/1997	1995/1997	yes	1995/1997
West Linn	In progress	1988 In progress	In progress	In progress
Wilsonville	1992-94 1997-98 2000	1992-94 1997-98 2000	yes	1992-94 2000
Wood Village	*	* (no floodplains)		*
Clackamas County	1992 1996	1996		1996 (sensitive bird sites)
Multnomah County	1977 1994 (Streams in rural West Hills); 1995 (Streams east of the Sandy River); 2001 (Streams in rural area west of Sandy River)	1977 1989 (Sauvie Island and Multnomah Channel area)		1977 1994 (Wildlife habitat in rural West Hills)
Washington County	1983	1983		1983

Source: Metro 2001.

[1]While the Goal 5 rule does not refer to upland or trees as a resource category, Metro is using the heading Upland/Open space/Trees as a catch-all term that encompasses protection for areas not associated with streams or wetlands.

*No inventory conducted.

For many jurisdictions, the inventory process is ongoing. Lake Oswego and Wilsonville, for example, have completed several inventories for wetland, riparian, and open space areas over the past twenty years. However, other jurisdictions have not updated inventories completed ten and twenty years ago. For example, Johnson City has not updated their inventory since 1980; Gresham has not updated their inventory since 1988. Some jurisdictions have updated an inventory for a single resource. For example, Gladstone updated its Open Space inventory in 1991, yet its other Goal 5 resources have not been reviewed for 18 years (Riparian Areas and Wetlands, 1983). A few of the smaller jurisdictions within the Metro region, such as Cornelius and Wood Village, have never completed an inventory. Financial resources typically dictate the number of resources inventoried and the thoroughness of the data collected.

Resource definition

The old Goal 5 rule (prior to 1996), under which most jurisdictions developed their Goal 5 programs (only eight jurisdictions have completed a Goal 5 program under the new rule), provides no specific guidance on how Goal 5 resources should be defined. Each jurisdiction has a slightly, if not completely, different way of defining resource categories, such as "open space" and "fish and wildlife areas and habitats." Table 2, below, includes definitions from three jurisdictions that refer to forested areas as a resource, yet are very different in how inclusive the definition is. Oregon City includes forested land in its definition of "wildlife habitat," while Lake Oswego specifically identifies tree groves as a resource type.

Table 2. Comparison of resource definitions that include trees.

Jurisdiction	Resource definition
Lake Oswego	*Tree groves:* the boundary of a tree grove shall be measured at the outer edge of a contiguous tree canopy based on aerial photos and/or visual field observations.
Milwaukie	*Habitat areas:* The NR Overlay Zone will be assigned to nonriparian and nonwetland natural resource sites containing habitat values such as wooded areas, naturally vegetated areas, areas with rare or endangered flora and fauna, or similar areas...
Oregon City	*"Wildlife habitat"* means (1) forested land; (2) riparian area; or (3) any other areas designated as wildlife habitat in the city's comprehensive plan.

Source: Metro 2001.

The revised Goal 5 Rule includes specific definitions for some resources. However, there is still a great amount of flexibility allowed jurisdictions in the specific application of the definitions. For example, in OAR 660-23-090(1) a riparian corridor is defined as "a Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian corridor boundary." While this appears to be specific, the riparian corridor boundary is defined as "an imaginary line that is a ***certain distance*** upland from the top bank..." (emphasis added). The "certain distance" language allows for local jurisdictions to determine any distance for which there is adequate justification.

Data collection methodologies

The Goal 5 Rule allows jurisdictions to inventory a single resource category in an inventory, or to inventory several Goal 5 resources. All but five jurisdictions have inventoried streams and riparian corridors, while 10 jurisdictions have not yet inventoried upland wildlife habitat. Table 3 below provides a description of the data collection process for four jurisdictions.

Table 3. Description of four jurisdictions' data collection process.

Inventory step	Gresham	Milwaukie	Happy Valley	Lake Oswego
Site selection	Completed an inventory for fish and wildlife areas and habitats, wetlands, and ecologically and scientifically significant areas in 1988. The inventory was in two parts: (1) Natural Resources Inventory and (2) Open Spaces Inventory. A total of 89 sites were selected using USFWS National Wetland Inventory maps, aerial photographs, and site visits.	Completed an inventory for wetland, riparian, and upland areas in 1987. A total of 26 sites were selected based on USFWS National Wetland Inventory, aerial photographs, and field visits. The inventory included areas with unique and diverse natural and vegetative features, areas important for wildlife habitat, and areas with soil and/or wetness constraints, which may contribute to erosion control, aquifer recharge, or other natural values.	Completed a Local Wetland Inventory in 1996 using Oregon Freshwater Assessment Methodology (OFWAM) for 26 wetland and waterway sites within the jurisdiction. The majority of wetland sites were determined using the routine on-site method described in the manual. However, where access was denied, the jurisdiction relied on aerial photographs, topographic maps, and other information.	Completed an inventory for wetland, riparian, and natural areas in 1991. A total of 226 natural resource sites were selected, including 93 wetland and water areas, 34 upland tree groves, and 98 individual tree sites. Wetland and water resources were categorized into four categories: emergent wetlands, forested wetlands, ponds, and stream corridors. Tree groves were categorized as follows: coniferous sites, deciduous sites, and mixed coniferous/deciduous sites. In 1996, the inventory was expanded to include 36 additional stream reaches and upland forests.
Data collection	After one site visit, a standard inventory form, narrative, and Wildlife Habitat Assessment rating form were completed. Field notes included descriptions of location of the site, weather, physical parameters, vegetation, wildlife species (observed and known to be present), human uses, and potential for management.	A narrative description of topography, vegetation, wildlife, habitat function, human use, and management potential as well as a standard inventory form were completed for each site. The Wildlife Habitat Assessment rating form was used to determine the wildlife habitat value of the natural resource sites.	OFWAM describes wetland functions to include: wildlife habitat, fish habitat, water quality, hydrologic control, education, and recreation. Furthermore, wetland conditions include: enhancement potential, aesthetic quality, and sensitivity to impact. These functions and conditions formed the basis for the quality assessment.	Biologists surveyed each site and completed a site summary, which included a general description of the site, the associated natural resource values, impacts of disturbance, and a Habitat Assessment Score. The Habitat Assessment Score evaluated the food, water, cover, disturbance, linkage, and unique features of the site.

Source: Metro 2001.

Site selection methods were similar for all four jurisdictions, likely due to the specific references in the Goal 5 Rule to data sources appropriate for inventories. However, Happy Valley only inventoried wetlands, while the other three jurisdictions inventoried all types of fish and wildlife habitat. Three of the four jurisdictions used some form of the Wildlife Habitat Assessment (WHA) rating form to assess the wildlife value of specific sites. However, the WHA rating form has been altered by most of the jurisdictions that have put it to use, thus rendering the scores incomparable with each other. The person conducting the assessments also affects the comparability of the WHA scores; planners assessing wildlife habitat value in one site visit may not arrive at the same score as trained biologists conducting fieldwork. Happy Valley used the Oregon Freshwater Assessment Methodology to evaluate wetlands, rather than the WHA.

Lack of data and comparability of data impairs the monitoring and assessment of the progress of natural resource plans. As the table above demonstrates, data is collected using different procedures and at different times throughout the region.

Data format

The format of the inventory data layers varies by jurisdiction. Some jurisdictions have their inventories described in paper documents that have never been transferred to maps. Other jurisdictions have natural resource sites identified by hand on paper maps, while a few jurisdictions with inventories that have been completed recently have inventory data on a geographic information system (GIS). Most current state of the art planning efforts use GIS technology to map and plan for natural resource protection. However, not all jurisdictions in the Metro region have access to GIS technology or the planning resources to develop GIS data layers. This makes it difficult to compare inventories and data. (See further discussion of the inconsistencies in mapping in the *Program* section below.)

Significance determination

The Goal 5 rule provides for flexibility in the significance determination process. The rule only requires the consideration of information on location, quality, and quantity of the resources. Jurisdictions are free to adopt any number of additional significance criteria to be used in the significance determination process. This flexibility in the application of the rule allows for differences in the significance determinations of local jurisdictions. Some jurisdictions use a different set of criteria for determining significance for each resource category. For example, Tualatin considered the following criteria in determining wetland significance: fish and wildlife habitat value; hydrologic control; location in close proximity to a water listed by DEQ as water quality limited; and the presence of a rare, locally unique, or state or federally listed species. For riparian areas, Tualatin considered additional factors, including educational, scientific, and recreational factors, to name just a few. Happy Valley found a wetland significant if it was: (1) a wetland associated with a perennial water course; (2) a wetland providing three or more functions and conditions assessed by OFWAM; (3) a wetland contiguous with wetlands determined to be significant by Clackamas County; or (4) a wetland providing diverse wildlife habitat, as determined by OFWAM.

Jurisdictions may develop unique criteria to determine the significance of the same resource. For example, both Forest Grove and Lake Oswego identified tree groves as significant natural resources, yet they used very different criteria to do so (see Table 4 below). Forest Grove outlines specific criteria in the zoning ordinance for determining significant trees and tree groves, while Lake Oswego uses one set of criteria for all natural resources.

Table 4. Comparison of significance factors for tree groves in Forest Grove and Lake Oswego.

Forest Grove		Lake Oswego
Trees	**Tree Groves**	**Criteria for all natural resources**
a. distinctive size, shape or location b. special botanical significance c. exceptional beauty d. significant due to a functional or aesthetic relationship to a natural resource e. significant based on association with historic figures, properties or general growth and development of the city **Resource is significant if it meets one or more of the above criteria**	a. relatively mature and evenly aged b. purity of species composition, or a rare or unusual nature, or an exceptional example of a type of forest such as riparian or woodland c. in healthy growing condition d. crucial functional and/or aesthetic relationship to a natural resource e. historic significance **Resource is significant if it meets criteria a-c and either d or e above**	*Natural Resource Values:* 1. unusual or threatened species 2. native plant communities 3. wildlife Habitat Rating (must receive a score of 35+) 4. water quality function *Social Values:* 5. educational potential (educational value, feasibility of access, proximity to schools) 6. scenic (attractive vegetation, high visibility, screening value) 7. recreational (passive recreational opportunities, public accessibility, environmental sensitivity) **Resource is significant if it meets one or more of the above criteria**

Source: Metro 2001.

Other jurisdictions have adopted few, if any, additional criteria to aid in the significance determination process. Fairview simply states in its comprehensive plan that "seventy-one natural resource sites were inventoried, evaluated, and determined to be of significance." Finally, for some jurisdictions, such as Milwaukie and Gresham, it is unclear how the significance determinations were made due to a lack in documentation or clear descriptions.

Key observations

Below are several major items that illustrate the inconsistencies in Goal 5 inventories in the Metro region:

Date of inventory

- Several jurisdictions have never completed an inventory for one or more resources: riparian area (*Cornelius, Johnson City, King City, Wood Village*); wetlands (*Cornelius, Wood Village*); wildlife habitat (*Cornelius, Durham, Johnson City, King City, Oregon City, Rivergrove, Troutdale, Wood Village*).
- Two jurisdictions have never completed a Goal 5 inventory for any resource *(Cornelius, Wood Village)*, and Troutdale has completed but never has adopted inventories for riparian areas and wetlands.
- Only nine jurisdictions have completely updated their inventories since they were first acknowledged. *(Gladstone, Happy Valley, Lake Oswego, Portland, Sherwood, Tualatin, Wilsonville, Multnomah County, Washington County [not adopted])*
- Eight jurisdictions have completed inventories for some resources under the new Goal 5 rule (revised in 1996). *(Beaverton, Happy Valley, Oregon City, Portland, Tigard, Tualatin, Wilsonville, Multnomah County)*

Resource definition

- The old Goal 5 rule, under which most jurisdictions developed their Goal 5 programs (only eight jurisdictions have completed a Goal 5 program under the new rule), provides no specific guidance on how Goal 5 resources should be defined. Thus, jurisdictions have inconsistent definitions of resources. For instance, "wildlife habitat" as defined by one jurisdiction may include forested and riparian areas, while another jurisdiction provides a separate definition for tree groves. This leads to inconsistent data collection and may also lead to inconsistent protection.

Data collection methodology

- Jurisdictions may inventory a single resource category in an inventory, or may choose to inventory several Goal 5 resources. All but five jurisdictions have inventoried streams/riparian corridors in the region, while 10 jurisdictions have not yet inventoried upland wildlife habitat.
- Lack of data and comparability of data severely impairs the ability of public agencies to monitor and assess the progress of natural resource plans. When data is collected using different definitions, procedures, and at different times, as is the case with local Goal 5 planning programs, it frustrates efforts to study the efficacy of local plans in protecting fish and wildlife habitat.

Data format

- Data on natural resource inventories is found in notebooks, hand-drawn on paper maps, and on electronic GIS systems. This lack of consistency in data format adds to the difficulty in comparing data across the region.

Comparability of data from one jurisdiction to another

- No evidence of data sharing or coordination with adjacent cities and counties – with the possible exception of current work in Washington County by Clean Water Services for the Watersheds 2000 project, in which jurisdictions may use data collected using a consistent methodology and at the same time.
- Inventories are not comparable based on the time data was collected and the varying methodologies employed.

Methods of significance determination

- Jurisdictions may develop unique criteria to determine the significance of the same resource. The approaches may or may not result in similar outcomes, but exemplify the inconsistent treatment of natural resources between jurisdictions in the region.
- For some jurisdictions, the criteria for determining significance are stated explicitly in planning documents. Other jurisdictions, especially those that completed Goal 5 several years ago, may simply state that they determined certain sites to be significant. This makes it difficult to compare the factors used by various jurisdictions in determining which resources are significant.
- The flexibility in the application of the Goal 5 Rule creates inconsistencies among the significance determinations of local jurisdictions.

Variability in inventory approaches

- Six jurisdictions have utilized the State safe harbor option for inventorying and significance determination for one or more riparian resources. *(Beaverton, Happy Valley, Tigard, Tualatin, Wilsonville, Clackamas County)* Beaverton is the only jurisdiction in the Metro region to have implemented the State safe harbor for wildlife habitat; however DLCD has not yet acknowledged the city's Goal 5 program.
- The safe harbor for riparian corridors applies to only a portion of the stream network (fish-bearing streams and those over a certain size), thereby excluding many of the smaller non-fish bearing tributary streams important for maintaining water quality, fish habitat, and watershed health.

Local Goal 5 inventories in the Metro region have been conducted at varying times, with different definitions of a resource, disparate methodologies, and a variety of approaches to the significance determination. However, most of the jurisdictions have Goal 5 programs that the State has acknowledged as being in compliance with Goal 5. This exemplifies the results of the flexibility inherent in the Goal 5 rule and the lack of a specific objective described by the State.

Many of the inconsistencies among local Goal 5 inventories can be attributed to the fact that some jurisdictions have recently updated their inventories while others are over a decade old. The older the inventory, the more likely the work has become outdated, original documents difficult to find, and data in a format incompatible with the latest planning efforts and technologies. The best available scientific information has advanced dramatically since the time the first Goal 5 inventories were conducted. Data collected at varying times is also not comparable for monitoring and assessment purposes. Consistent data helps in a number of ways. Consistent data is the building block for monitoring programs. The benefits of monitoring include measuring the degree to which development actions comply with local code provisions, measuring the degree to which plans are effective in meeting their stated purposes, and providing the basis for necessary plan revisions. In an era of salmon listings under the ESA, water quality impaired streams, and loss of biodiversity, it is important that local Goal 5 planning efforts move toward consistent data collection, assessment, and management decisions.

ESEE Analysis

In this section, we discuss the Goal 5 requirements for the economic, social, environmental, and energy (ESEE) analysis, the safe harbor option being implemented by a few jurisdictions, and compare several jurisdictions' approaches to the ESEE analysis.

Goal 5 Requirements

Following the inventory and determination of significant resources, local governments must develop programs to achieve compliance with Goal 5, based on an analysis of the ESEE consequences that could result from a decision to allow, limit, or prohibit a conflicting use (OAR 660-023-0040(1)). The ESEE analysis involves four steps: (1) identification of conflicting uses, (2) determination of impact area, (3) analysis of ESEE consequences, and (4) development of a program to achieve Goal 5 (*Id).*

First, local governments must identify conflicting uses that exist, or could occur, with regard to significant Goal 5 resource sites. A conflicting use is an adjacent land use that may negatively impact the resource site, determined by considering land uses allowed outright and conditionally within the zones applied to the resource site and impact area (OAR 600-023-040(2)). If no conflict will occur with the resource site, then the acknowledged policies and land use regulations are deemed sufficient to protect the resource site (OAR 660-023-040(2)(a)). A determination of no conflicting uses may be based upon applicable zoning and not ownership of the site (*Id).*

Second, unlike the previous version of the rule, Oregon Administrative Rule chapter 660, division 16, the new rule requires a determination of the impact area, representing the extent to which land use activities could negatively impact the resource (OAR 660-023-0040(3))[5]. The impact area identifies the geographic limits within which to conduct the ESEE analysis for significant resource sites.

Third, the ESEE analysis describes the interaction between the resource and the conflicting use(s) based upon a decision to either fully protect the resource, fully allow conflicting uses, or limit the conflicting uses. Jurisdictions that choose to limit conflicting uses are to do that in such a way that "protects the resource to the desired extent" (OAR 660-23-040(5)). This discretionary language leads to widely disparate treatments of Goal 5 resources.

The old rule provided that both the impacts of the conflicting use on the resource site and the protection of the resource site on the conflicting use must be considered. The new rule adds that the local government may address each of the conflicting uses, or it may address a group of similar conflicting uses (OAR 660-023-0040(4)). Furthermore, the local government may use a "matrix of commonly occurring conflicting uses," or it may conduct a single analysis for two or more resource sites that are within the same area or subject to similar zoning requirements. Both rules require local jurisdictions to consider any applicable statewide planning goals.

The standards identified by the state for completing the ESEE analysis are procedural rather than substantive. Findings must show that the steps of the ESEE analysis are met, but OAR 660-23-040 states that: "[t]he ESEE analysis need not be lengthy or complex, but should enable reviewers to gain a clear understanding of the conflicts and consequences to be expected."

Safe Harbor Option

Less than half of the jurisdictions in the Metro region have completed an ESEE analysis. The new rule (Goal 5 was revised in 1996) created a "safe harbor" option, providing greater flexibility in the Goal 5 process for jurisdictions to choose between completing an ESEE analysis or applying safe harbor standards (OAR 660-23-020(2)). The safe harbor standards for significant riparian corridors are described previously in the inventory discussion. Jurisdictions choosing to implement such standards do, however, limit their ability to set standards to protect resources more broadly than the safe harbor provisions require.

[5] The identification of the impact area occurred in the Inventory stage in the earlier version of the Goal 5 rule. This change results in a major difference between Goal 5 programs developed prior to 1996.

Six of the twenty-seven jurisdictions within the Metro region have applied some form of the safe harbor methodology.[6] The cities of Happy Valley and Tigard only used the safe harbor methodology for the protection of significant resources. Happy Valley completed an ESEE analysis in 1995; however, the city did not submit the analysis for DLCD acknowledgement. Rather, it opted the safe harbor standards for wetlands and riparian corridors within its jurisdiction. Tigard did not complete an ESEE analysis; rather it implemented the safe harbor methodology for the Tualatin River, major streams, and associated wetlands.

Other jurisdictions chose to implement a combination of both safe harbor and ESEE methodologies. For example, Tualatin protected resources (two riparian areas and several wetlands) that met a certain level of significance with safe harbor standards. However, they completed an ESEE analysis for the remaining resource sites where: (1) development issues were significant and unresolved; (2) full protection of the resource would not be justified; and (3) limiting or fully allowing the conflicting uses would be a likely decision.

Comparison of local jurisdictions' ESEE analyses

Following is an examination of local jurisdictions' ESEE analyses. Included is a summary of the status of all the ESEE analyses conducted by local jurisdictions in the region, followed by analyses of each criteria for assessing inconsistencies. We used the following criteria to analyze local jurisdictions' ESEE analyses:

- status of the ESEE analysis,
- method of conducting the ESEE analysis,
- conflicting use determination,
- impact area determination,
- factors used for analyzing ESEE impacts, and
- decision to allow, limit, or prohibit conflicting uses.

Status of analysis

Whether or not a jurisdiction has completed an ESEE analysis tends to vary widely across jurisdictions within the Metro region, due to differences in jurisdictional size, dispersion of natural resources, and availability of financial resources. For example, Maywood Park has no Goal 5 resources; therefore, the jurisdiction has not completed an ESEE analysis. Smaller jurisdictions, such as Forest Grove, King City, and Troutdale, which may not have as many planning and financial resources as the larger jurisdictions, have not completed ESEE analyses. Table 5, below, provides a summary of the status of local jurisdictions' ESEE analyses.

[6] Jurisdictions that have incorporated the safe harbor methodology into their Goal 5 programs are Beaverton, Happy Valley, Tigard, Tualatin, Wilsonville, and Clackamas County.

Table 5. Summary of the status of local jurisdictions' ESEE analyses.

Status of analysis	Number of jurisdictions*
Adopted ESEE analysis that is acknowledged by DLCD	13 *(Beaverton**, Fairview, Gresham, Johnson City, Lake Oswego, Milwaukie, Portland, Rivergrove, Tualatin, West Linn, Wilsonville, Multnomah County, Washington County)*
Adopted ESEE analysis not yet acknowledged by DLCD	2 *(Oregon City, Clackamas County)*
Adopted safe harbor (for one or more resources)	6 *(Beaverton**, Happy Valley, Tigard, Tualatin, Wilsonville, Clackamas County)*
No adopted ESEE analysis	9 *(Cornelius, Durham, Forest Grove, Gladstone, Happy Valley, Hillsboro, King City, Sherwood, Tigard, Wood Village)*

*Does not include Maywood Park as they have no Goal 5 resources.
**Beaverton has recently updated their Goal 5 work under the new OAR and is using the safe harbor where possible. However, the city's new program has not yet been acknowledged by DLCD.
Source: Metro 2001.

Of the twenty-seven jurisdictions within the Metro region, nineteen jurisdictions have initiated ESEE analyses. Only thirteen cities have adopted and acknowledged ESEE analyses. The cities of Troutdale and Wood Village never completed their work. Troutdale could not complete their ESEE analysis because the inventories were not detailed enough in their determinations of quality and quantity of the resources for the jurisdiction to proceed. Furthermore, the city ran out of funding and has been unable to complete the analysis. Hillsboro and Happy Valley, on the other hand, have completed their ESEE analyses but have not adopted them. Happy Valley adopted the safe harbor methodology instead of their completed ESEE analysis.

Oregon City and Clackamas County have completed and adopted ESEE analyses, but have not received acknowledgement from DLCD for compliance with Goal 5. Oregon City submitted their ESEE analysis for acknowledgement in 1993; however, DLCD remanded the work task, finding their inventories inadequate. Therefore, the jurisdiction is currently revising their inventories before revising the ESEE analysis. Clackamas County, however, adopted their ESEE analysis in 1996 and is still waiting for DLCD acknowledgement.

Method of analysis

The methods for completing the ESEE analysis vary greatly among jurisdictions, as shown in Table 6. Beaverton's basic and brief ESEE worksheets, comprised of a single-page of ESEE consequences rated high, medium, or low for each site, provides an example of a less detailed approach. In addition, Beaverton included a narrative ESEE for certain resource categories. Other jurisdictions have used similar worksheets, including Fairview, Johnson City, Milwaukie, and Rivergrove.

Table 6. Summary of ESEE methodologies.

Methodology	Number of jurisdictions
Standard DLCD worksheet methodology	5 *(Beaverton, Fairview, Gresham, Happy Valley*, Johnson City, Rivergrove)*
Site-by-site or resource-by-resource approach	5 *(Tualatin, West Linn, Wilsonville**, Multnomah County, Washington County)*
Two-tiered approach to analysis: generic and site-specific	5 *(Lake Oswego, Milwaukie, Portland, Troutdale*, Wilsonville**)*
Watershed by watershed approach	1 *(Clackamas County**)*

Source: Metro 2001.
*Indicates jurisdictions where the ESEE analysis was not adopted.
**Indicates jurisdictions where the ESEE analysis has not yet been acknowledged by DLCD.

Tualatin's method provides for a more detailed comparison of ESEE consequences. They conducted ten basic ESEE consequences analyses for numerous sites within the jurisdiction. Each ESEE identified the basic characteristics of the parcels affected, and then summarized the significant functions and values associated with each parcel. The ESEE consequences were completed in a narrative fashion, as opposed to the checklist method employed by Beaverton, providing more opportunities for the jurisdiction to explain decision making.

The most detailed approaches used a two-tiered analysis method, comparing first the generic ESEE consequences for resource protection and development and then comparing the more site-specific consequences. For example, after making general assumptions about ESEE consequences, Lake Oswego identified the generic analyses that applied to each site. They then identified "priority properties" within each sub-site, where either serious adverse economic consequences would occur with full resource protection or where the full development of the property would have serious environmental consequences, and analyzed specific ESEE consequences for these properties. In the Columbia South Shore Plan, Portland performed a site-specific analysis by developing a matrix to compare each site's conflicting use, the ESEE consequences unique to the site, and the conclusion and conflict resolution. The multi-layered approach is an effective method of analysis because it enables a jurisdiction to be detailed and extensive in their analysis without being repetitive.

Without specific requirements for analysis methodologies, ESEE analyses are determined to be sufficient when they contain the jurisdictions' reasons for making certain land-use decisions.[7] The brevity of the checklist method of analysis provides only a limited opportunity for jurisdictions to provide explanations of their reasoning and programmatic decisions based on the analysis, thereby impairing the transparency and accountability in the natural resource protection and planning process. On the other hand, the more detailed, two-tiered analysis method provides ample opportunity for jurisdictions to rely on the analysis to explain their decisions.

Conflicting use determination

Jurisdictions took a variety of approaches to analyzing the uses that conflict with protecting natural resources. Table 7 provides a sampling of the methods used by local jurisdictions to determine uses that conflict with the protection of identified significant resources. Approaches ranged from very general to site specific identification of conflicting uses.

[7] *Columbia Steel Castings Co. v. City of* Portland, 314 Or 424, 432.

Table 7. Sample of methods used by local jurisdictions to determine conflicting uses.

Jurisdiction	Method of determining conflicting uses
Gresham	Used the DLCD worksheets under the old Goal 5 Rule, identified conflicting uses specific to each site.
Lake Oswego	Followed a two-tiered approach for determining conflicting uses. 1. General conflicting uses were identified in six broad categories, based on the use allowed by underlying zoning districts, existing environmental regulations, and ownership patterns: fully protected; developed properties; vacant residential; vacant commercial/industrial; public and semi-public; and excavation and vegetation removal. 2. For site-specific ESEE analyses, additional criteria such as approved plans, low density housing, public facilities and active parks were used to identify other conflicting uses. A conflicting use matrix, consisting of the six generic categories, was developed to identify the applicable conflicting uses.
Portland	Identified conflicting uses based on broad zoning categories, including residential, commercial, industrial, recreational or agricultural uses. Discussion is general and qualitative rather than quantitative.
Tigard	The city identified two areas of conflict: 1) loss of the resource through conversion of the area to a developed residential, commercial or industrial use; and 2) creation of adjacent activities that would degrade resource areas.
Tualatin	Identified conflicting uses by examining underlying zoning districts, existing environmental regulations, and ownership patterns. Zoning districts included residential, commercial, industrial, and public/semi-public. Included summaries of conflicts for each stream reach. Did not use a conflicting use matrix.
Wilsonville	The city used the underlying code to identify conflicting uses. A general analysis of the impacts development has on natural resource areas is provided, as well as specific impacts of the following uses: residential, commercial, industrial and institutional/public facility. Additionally, specific conflicting uses are identified in each site-specific ESEE analysis.

Source: Metro 2001.

Impact area

The old Goal 5 rule allowed local governments to define an impact area in the inventory stage, while the new Goal 5 rule defines "impact area" as the area in which allowed uses could adversely affect the identified significant resources (OAR 660-23-040(3)). Since most jurisdictions have completed Goal 5 prior to the 1996 amendments, few have identified an impact area under the new provisions.

Fairview, under the old Goal 5 rule, stated that "the Fairview impact area could reasonably be the entire City." Thus, Fairview did not identify a specific impact area outside of the resource area as it would serve "no useful purpose." Lake Oswego, also under the old Goal 5 rule, uses the impact area to refer to "the area where development siting standards are recommended to mitigate adverse impacts." The city's definition of the impact area varies based on the resource, but basically refers to the buffer around the resource (e.g., 30-foot impact area on each side of a Class 1 stream).

Tualatin and Wilsonville have completed an ESEE analysis under the new Goal 5 rule. In Tualatin, the impact area varies based on the resource. The impact area for wetlands includes the wetland plus a 25-foot buffer surrounding the wetland. Some upland resource lands within 50 feet of certain wetlands plus any adjacent steeply sloped areas are also included in the impact

area. Open space areas do not include any additional land as an impact area, and for forested resource sites the impact area extends to the edge of the canopy. In Wilsonville, the city chose to implement a 25-foot impact area "because it was protective of the resource, provided a reasonable review of development, and allowed a buffer area for the storm sewer system." The impact area is in addition to the resource area.

Thus, impact areas vary throughout the region due to the flexibility allowed local jurisdictions in the new rule provisions and the number of jurisdictions following the old rule, which provided a choice in the identification of an impact area.

Factors used for analyzing ESEE impacts

The flexibility of the Goal 5 rule allows local jurisdictions to analyze the ESEE impacts based on any factors deemed appropriate at the local level. Table 8 provides examples of the factors chosen by several jurisdictions in the region. Economic and environmental consequences tend to receive the most attention during the ESEE analysis phase of Goal 5. Some of the same factors were identified in different categories, for example Portland included recreation as an economic and social factor, while the other jurisdictions include recreation only in the social category. The table and further discussion below illustrate the varying factors used for analyzing ESEE impacts.

Table 8. Comparison of factors used in local jurisdictions' ESEE analyses.

Jurisdiction	Economic	Social	Environmental	Energy
Gresham	• development potential • current economic uses	• accessibility • education • recreation	• wildlife habitat • unique environmental characteristics • size and diversity of habitat	• transportation
Lake Oswego	• impacts on adjacent farmers • development potential • property values • public services • mitigation • transportation • utilities • public cost	• recreation • scenic • education • traffic • urban design • amenity values • utilities • noise and light pollution	• fish and wildlife habitat • impervious surfaces • vegetation • food and water resources • connectivity • level of physical and biological disturbance • water quality (erosion, sedimentation, pollution) • flood minimization	• solar access • wind and shade • transportation (efficiency)
Portland	• property values and development potential • *employment* • tax base • tourism and convention related impacts • infrastructure and flood control • water quality • recreation	• recreation/educational opportunities • historical, heritage, and cultural values • visual variety/impact • urban design and image of the city • screening and buffering of incompatible uses • health, safety and welfare	• water quality and quantity • fish and wildlife habitat • air quality • *protected resources*	• heating and cooling of structures • transportation • infrastructure
Tigard	• development potential	• historic or cultural nature of a site • educational significance • proximity to schools • buffer between development • community beauty	• visual buffer • wildlife habitat • ecological value	• destruction of resources may require residents to drive elsewhere to enjoy such amenities

Tualatin	• property values • development potential • parks and maintenance	• aesthetic/scenic • recreation • shade/shelter/ habitat • community development • hazards	• fish habitat • wildlife habitat • vegetation • erosion • water quality • flood control	• heating and cooling costs • transportation (efficiency)
Wilsonville	• potential future jobs • economic use of property • property values (maintained by protecting the resource) • development potential • impact on stormwater drainage system and flood control • tax base • impact on transportation of allowing dense development	• future employment opportunities • recreational and educational values • visual relief • flood control • water quality • future housing options	• high quality resources • water quality and bank stabilization • flood control • integrity of wildlife habitat • habitat fragmentation • vegetation	• heating and cooling energy consumption • infrastructure development • transportation

Source: Metro 2001.

Economic

All of the jurisdictions included in the table above considered development potential as a factor in the ESEE analysis. Most jurisdictions focused extensively on the relationship between property value and distance to the natural resource as well as property owner rights and development potential. Lake Oswego (mitigation, property values, public cost, public services), Portland (tourism and convention related impacts, infrastructure and flood control, recreation), and Wilsonville (property values, impact on stormwater and flood control) factored in the positive economic impacts of protecting resources. Wilsonville included a section on "The Economic Values of Riparian Buffers and Open Space" that describes some of the positive economic benefits provided by protecting significant natural resources. Tualatin included a literature review and discussion of the economic relationship between property value and open space as an appendix to its Goal 5 document. Lake Oswego is the only jurisdiction that considered the cost of mitigation as an economic factor in its analysis.

Social

Jurisdictions chose a variety of social impacts as factors in their analyses. Aesthetic, recreational, and educational concerns were common social factors for most jurisdictions. Wilsonville discussed the impact on future employment and housing opportunities. Lake Oswego and Portland included a discussion of urban design factors, such as transportation planning. The impacts of hazards such as flooding were included in the social category by several jurisdictions, including Portland, Tualatin, and Wilsonville. Lake Oswego, Portland, Tigard, and Wilsonville considered the role natural resources play in buffering land uses as a social impact.

Environmental

All jurisdictions considered wildlife habitat as a factor in their environmental impact analysis. Several jurisdictions considered the integrity and connectivity of wildlife habitat as a factor. Water quality and flood control were identified as environmental factors by Lake Oswego, Portland, Tualatin, and Wilsonville. Jurisdictions' approaches to the environmental analysis

varied from an in-depth consideration of ecological systems to a strict assessment of the inventory and significance determination.

Portland detailed the inter-relatedness of ecological systems and listed characteristics of good overall fish and wildlife habitat, in addition to listing the general land use activities that degrade natural resources. Lake Oswego and Wilsonville also documented the importance of the inter-relatedness of streams, wetlands, and upland forests. Tualatin and Gresham were less detailed in describing specific connections between the conflicting uses and natural resources.For example, Gresham states that "residential development . . . could result in [the wetland's] destruction and negative consequences for wildlife and vegetation which it supports," but does not specifically describe the functions and values that will be lost and how that impacts wildlife.

Energy

Energy consequences received the least attention in the ESEE process across all jurisdictions. Solar and wind impacts and maintaining efficiency in travel patterns were common considerations in the energy consequences analysis. Portland includes a relatively detailed consideration of energy alternatives. Tualatin included a general discussion of energy alternatives as an appendix. Gresham's analysis of energy consequences stated that there were no significant energy consequences across all sites.

Decision to allow, limit, or prohibit conflicting uses

After considering the ESEE consequences of resource protection versus development, local jurisdictions must decide the appropriate level of protection to give each significant resource site. This decision is to fully allow, completely prohibit, or limit conflicting uses in such a way that the resource is protected to the "desired extent." Most jurisdictions choose to limit conflicting uses to some extent, rather than allow complete destruction of resources or completely prohibiting all development opportunities. The "limit" decision appears to result in an approach that most successfully "balances" the four ESEE factors in accordance with the Goal 5 rule. However, this does not necessarily lead to consistent protection of important fish and wildlife habitat from jurisdiction to jurisdiction.

Jurisdictions may choose to prohibit development on part of a site and limit development on the remainder. Portland implements such an approach by prohibiting conflicting uses in areas with high resource significance and limiting conflicting uses in other places. However, even decisions to prohibit conflicting uses may result in some level of development, especially if the geography or ownership of a property leaves no practicable alternatives. Wilsonville chose to prohibit conflicting uses on certain sites such as wetlands, but chose to limit conflicting uses in wildlife habitat areas not associated with riparian habitat. Few jurisdictions chose to allow conflicting uses fully on resource sites that have been designated as significant. However, in some cases the economic consequences are so great that the jurisdiction allows development.

The method by which a jurisdiction chooses to implement a "limit" decision is as important as the decision to allow, limit or prohibit conflicting uses. This is discussed further in the *Program decisions* section below.

Key observations

Below are several items that illustrate inconsistencies among local jurisdictions' ESEE analyses:

Status of the ESEE analysis

- Only 13 jurisdictions have an adopted ESEE analysis that has been acknowledged by DLCD (*Beaverton, Fairview, Gresham, Johnson City, Lake Oswego, Milwaukie, Portland, Rivergrove, Tualatin, West Linn, Wilsonville, Multnomah County, Washington County),* while two jurisdictions have completed ESEE analyses and await acknowledgement *(Oregon City, Clackamas County).*
- Six jurisdictions have adopted the State safe harbor for one or more resources (*Beaverton, Happy Valley, Tigard, Tualatin, Wilsonville, Clackamas County).*
- Nine jurisdictions do not have an adopted ESEE analysis *(Cornelius, Durham, Forest Grove, Gladstone, Happy Valley, Hillsboro, King City, Sherwood, Tigard, Wood Village).*

Method of conducting the ESEE analysis

- Five jurisdictions utilized the standard DLCD worksheet methodology under the old Goal 5 rule (*Beaverton, Fairview, Gresham, Happy Valley [not adopted], Johnson City, Rivergrove).*
- Five jurisdictions took a site-by-site or resource-by-resource approach (*Tualatin, West Linn, Wilsonville, Multnomah County, Washington County).*
- Five jurisdictions used a two-tiered approach to the ESEE analysis: generic and site-specific (*Lake Oswego, Milwaukie, Portland, Troutdale, Wilsonville).*
- One jurisdiction took a watershed approach to analyze the impacts in the ESEE analysis *(Clackamas County).*

Conflicting use determination

- Most jurisdictions identify conflicting uses by examining the underlying zoning districts, such as residential, commercial and industrial uses. Some have developed a matrix of conflicting uses, while others simply consider conflicting uses at the site level. A few jurisdictions identified general development as a conflicting use, and described the impacts of development on natural resources.

Impact area determination

- The old Goal 5 rule allowed local governments to define an impact area in the inventory stage, while the new Goal 5 rule defines "impact area" as the area in which allowed uses could adversely affect the identified significant resources. Since most jurisdictions have completed Goal 5 prior to the 1996 amendments, few have identified an impact area under the new provisions.

Factors used for analyzing ESEE impacts

- The flexibility of the Goal 5 rule allows local jurisdictions to analyze the ESEE impacts based on any factors deemed appropriate at the local level. Economic and environmental impacts tend to receive the most attention during the ESEE analysis phase of Goal 5.
- A few jurisdictions have included an analysis of the economic benefits of protecting natural resources to ensure a complete consideration of all positive and negative

effects when determining the economic impacts. However, such analysis is not consistent throughout the region.

Decisions to allow, limit, or prohibit conflicting uses

- Most jurisdictions choose to limit conflicting uses on a majority of sites. However, the inconsistencies are found in the extent and method with which conflicting uses are limited, which is discussed in the following section.

Many jurisdictions have not completed an ESEE analysis, and others still await DLCD acknowledgement. Only half of the jurisdictions in the Metro region have adopted and acknowledged ESEE analyses. The Goal 5 Rule does not provide much guidance to local governments on an ESEE methodology, thus it is not surprising that approaches vary substantially. Recently conducted ESEE analyses are much more complex than earlier ones that used the DLCD worksheet approach. The state's standard of review has evolved over the years. While the substance of the analyses may vary, the new rule, while more specific than the old rule, only requires local governments to provide a clear analysis of the conflicts and consequences to be expected, rather than describing a set methodology. This allows for variation among acknowledged ESEE analyses. With such inconsistent methods of evaluating ESEE consequences there is little way to ensure that significant natural resources and conflicting uses receive consistent treatment throughout the region.

Program decisions

In this section, we outline the Goal 5 requirements for the program decision and then compare local jurisdictions' Goal 5 programs. The purpose of comparing local protection programs is to assess the inconsistencies in data and protection as described in Title 3, Section 5(C). Local jurisdictions have chosen whether to allow, limit, or prohibit conflicting uses as described in the Goal 5 rule. Here we also assess how well resources that received a "limit" or "prohibit" decision are actually protected. This allows a determination to be made of the consistency of natural resource protection across jurisdictional boundaries. For example, two jurisdictions may both make a "limit" conflicting uses decision, but the level at which a use is limited may vary between jurisdictions.

Goal 5 Requirements

After identifying conflicting uses and considering the ESEE consequences on the resource and conflicting uses, local jurisdictions must decide whether to prohibit, limit, or allow conflicting uses for significant resource sites (OAR 660-023-0040(5)). If the local government finds a significant resource site of more importance, as compared to the importance of the conflicting use, local governments may chose to prohibit the conflicting use (OAR 660-023-0040(5)(a)). If the local government finds both the resource site and conflicting use important, the conflicting use may be allowed in a limited way so as to provide limited protection to the resource site (OAR 660-023-0040(b)). Finally, if the local government finds the conflicting use of more importance relative to the resource site, then the conflicting use may be allowed fully without regard to the possible impacts on the resource site (OAR 660-023-0040(c)).

The final step in the Goal 5 process requires local governments to develop a program to achieve the desired level of resource protection, based on the decision of whether to prohibit, limit, or allow conflicting uses. Pursuant to OAR 660-016-0010 (amended by 660-023-0040(5)), if limiting conflicting uses, the local governments must be specific with what uses are allowed, prohibited, and conditioned upon other factors. The governments must be specific enough that the affected property owner can determine what can and cannot be done on his/her property.

Comparison of local jurisdictions' Goal 5 programs

Following is an examination of local jurisdictions' Goal 5 programs. Included is a summary of the data available on protection programs, followed by analyses of each criterion for assessment. Factors used to assess the consistency or inconsistency of local programs include:

- the data available on protection programs,
- the program decision to allow, limit, or prohibit conflicting uses,
- the variation in the application of the "limit" and "prohibit" decision,
- the review process,
- the mitigation and restoration requirements, and
- the monitoring and enforcement process.

Data available on protection programs

The availability of data is an important factor in assessing the consistency of resource protection throughout the Metro region. Local jurisdictions have varying capabilities in terms of mapping natural resources as well as the areas identified for protection. Depending on available resources, some jurisdictions have their Goal 5 inventories and/or protection overlay zones

mapped on a geographic information system (GIS). Several of the smaller jurisdictions do not have GIS capability, while other jurisdictions have only recently begun transferring data that once resided on paper maps into an electronic format. Overlay zones for natural resource protection programs that were developed years ago are often not converted to GIS until the program itself is updated.

In 1994, Metro hired a consultant, Pacific Meridian Resources, to digitize the natural resource protection areas for all of the jurisdictions within the Metro planning area. However, the zoning maps used to develop this electronic information are several years out of date, thus the information is not current. Table 9, below, shows the current availability of local Goal 5 protected areas in an electronic format at Metro.

Table 9. Availability of local Goal 5 protected areas on GIS.

Jurisdiction	Pacific Meridian Data (1996)	New data provided since 1996
Beaverton	X	X (LWI)
Cornelius	X	
Durham	X	X
Fairview	X	
Forest Grove	X	X
Gladstone*	X	
Gresham	X	
Happy Valley	X	
Hillsboro	X	X
Johnson City	X	
King City	X	
Lake Oswego	X	
Maywood Park	X	
Milwaukie	X	X
Oregon City	X	
Portland	X	X
Rivergrove	X	
Sherwood	X	
Tigard	X	
Troutdale	X	
Tualatin	X	
West Linn	X	
Wilsonville	X	X
Wood Village	X	
Clackamas Co	X	X
Multnomah Co	X	
Washington Co	X	X

Source: Metro 2001.
*Uses Clackamas Co.
Note: This represents the best available information at Metro.

The variation in local jurisdictions' approaches to mapping protected areas makes it difficult to analyze levels of protection from one jurisdiction to the next. The overlay zones, however, do not necessarily indicate the level of protection, rather they depict a general area within which development will be held to some standard described in the local code.

Program decisions (allow, limit, prohibit conflicting uses)

Program decisions differ across jurisdictions. Table 10 provides an example of the variation that can be found in local jurisdictions' program decision.

Table 10. Examples of local jurisdictions' Goal 5 program decisions.

Jurisdiction	Program Decision		
	Allow	Limit	Prohibit
Fairview		X	
Gresham	X	X	
Lake Oswego		X	X
Milwaukie		X	
Portland		X	X
Tualatin	X	X	X
Wilsonville		X	X
Clackamas County		X	X
Washington County	X	X	X

Source: Metro 2001.

A study conducted by the Audubon Society and 1000 Friends of Oregon, *To Save or To Pave*, contained detailed information on program decisions for each jurisdiction studied. Information included the decision for each inventoried significant resource site. For example, in Washington County 529 sites were inventoried. One hundred and one (19 percent) of the sites (all open space) had no conflicts and were considered protected from future development. Decisions to prohibit conflicting uses were made for 192 (36 percent) of the sites, and the remaining 235 (45 percent) of the sites received limited protection. No decisions were made to completely allow conflicting uses on resource sites.[8] This example is typical of program decisions made by local jurisdictions in the region – most decisions are to limit conflicting uses.

Allow conflicting uses decision

The Goal 5 Rule states that:

> A local government may decide that the conflicting use be allowed fully, notwithstanding the possible impacts on the resource site. The ESEE analysis must demonstrate that the conflicting use is of sufficient importance relative to the resource site, and must indicate why measures to protect the resource to some extent should not be provided... (OAR 660-23-040 (5)(c)

Few jurisdictions choose to allow conflicting uses fully on identified significant resources. Gresham chose to allow complete development of some sites when the economic consequences outweighed the other impacts. Tualatin allows development fully on several resource sites, based on the results of the ESEE analysis considering the tradeoffs of protecting the resources. The "Other Natural Areas" designation refers to those areas that were either not significant or significant but not protected.[9] These areas "may be eligible for development incentives for voluntary dedication such as landscape credits, density shift/lot size reductions and Parks SDC credits and may be considered for local acquisition programs."

[8] However, in 1997 Washington County did choose, based on their ESEE analysis, to allow transit-oriented development in significant upland habitat areas in the vicinity of the Sunset Transit Center.

[9] These sites are identified in the Parks and Recreation Master Plan Recreation Resources Map and are not subject to NRPO or Goal 5 regulations.

Limit conflicting uses decision

The Goal 5 rules states that:

> A local government may decide that both the resource site and the conflicting uses area important compared to each other, and, based on the ESEE analysis , the conflicting uses should be allowed in a limited way that protects the resource to the desired extent. (OAR 660-23-040 (5)(b)

Local jurisdictions tend to favor the option to limit development on resource lands, typically on those lands that received a less significant environmental value than the fully protected resources. Jurisdictions typically choose to limit development near streams by providing buffers of variable widths. In some cases development within the buffer is allowed with compensatory mitigation for the intrusion. Within upland wildlife habitat sites development is typically limited by describing a percentage of the area that must be protected.

Fairview stated that "it is the City's intent to allow development to occur and protect its resources." In Fairview's case, significant resource areas receive limited protection from development.[10] Wilsonville, on the other hand, limits development within wildlife habitat areas to only five percent. This represents a conservative limit. Tualatin permits up to thirty-percent modification of wetlands within the Wetland Conservation NRPO. Clackamas County limits lot coverage to no more than thirty percent on slopes greater than twenty percent. Lake Oswego permits development of up to fifty-percent of the resource area in all lands designated Resource Conservation (RC) Zone, but only permits development if impacts are (1) avoided, (2) minimized, and (3) a mitigation plan developed.

While choosing to limit conflicting uses allows local governments the flexibility to provide for economic growth and development while protecting natural resources, it results in an array of protection levels, as described above. As a result, resources receive varying protection based on the jurisdiction in which they are located.

Prohibit conflicting uses decision

The Goal 5 rules states that:

> A local government may decide that a significant resource site is of such importance compared to the conflicting uses, and the ESEE consequences of allowing the conflicting uses are so detrimental to the resource, that the conflicting uses should be prohibited. (OAR 660-23-040 (5)(a)

Although many jurisdictions have designated full resource protection for some sites, this does not mean that every resource site receiving full resource protection is granted the same level of protection across jurisdictions. For example, Tualatin prohibits development within Greenway, Wetland Preservation, and Open Space Preservation Natural Resource Protection Overlay (NRPO); however, these areas are not entirely "no touch" zones. Rather, Tualatin's Zoning Code permits public streets and facilities to be built within the most significant resource areas, as long as city projects are designed to minimize intrusion into riparian areas. Lake Oswego and Portland, on the other hand, apply a more stringent standard for development within the most

[10] Proposed alterations, not listed as allowed in the zoning code, may be permitted as long as they meet the following criteria: development must (1) not be able to be located in somewhere other than the riparian buffer zone; (2) have more than 25 percent of the property within the overlay zone; (3) cause the minimum amount of degradation or loss of natural features; (4) be allowed by the underlying zoning districts; and (5) be consistent with regional land use and development standards.

significant resource areas, prohibiting road and utility building on such sites unless "no other practicable alternative" or "rare and unusual circumstances" exist. If no practicable alternative exists, then the jurisdictions require minimization and mitigation of project impacts. Wilsonville prohibits all development within riparian corridors and wetlands.

Variation in the application of "prohibit" and "limit" decisions

As described above, a prohibit or limit decision can mean different levels of protection in different jurisdictions, as allowed by the Goal 5 Rule. Table 11, on the following pages, shows the range of riparian protection implemented by jurisdictions in the region. (*Please also refer to the appendix, which includes information on all Goal 5 programs in the Metro region.*) Some of the riparian buffers indicate a prohibition on development, with few exceptions, while others indicate an area within which certain development or performance standards apply.

For example, Lake Oswego's most significant riparian and wetland resources ("Class 1") receive a 30-foot buffer. The less significant resources ("Class 2") receive a 25-foot buffer. Within Tualatin, buffer widths for the Tualatin River extend 40 feet inland from the top of the riverbank. Some creek greenways receive a 50-foot wide buffer; however, the buffer does not have to be centered on the creek. Further, Tualatin also has greenways with state safe harbor corriders (i.e., Saum Creek) where the protected area includes the creek bottom and a 50-foot buffer on each side. Tualatin permits the 50 feet of buffer to be off center as long as there is a minimum of 15 feet of buffer on either side of the creek. Offering greater protection for riparian areas, Clackamas County has designated 100 to 150 feet of buffer for river conservation areas. Streams in Clackamas County receive buffers ranging from 100 feet for large streams to 50 feet for small streams.

While most jurisdictions provide protection to streams and wetlands, fewer have considered wildlife habitat. Eighteen jurisdictions in the region include some sort of tree protection in their code (Beaverton, Forest Grove, Gladstone, Gresham, Happy Valley, King City, Lake Oswego, Maywood Park, Milwaukie, Portland, Rivergrove, Sherwood, Tigard, West Linn, Wilsonville, Clackamas County, Multnomah County, and Washington County). However, few jurisdictions refer specifically to wildlife habitat not associated with stream corridors. Lake Oswego, Milwaukie, Portland, Wilsonville, Clackamas County, Multnomah County, and Washington County have specifically mentioned wildlife habitat not associated with riparian corridors in local code. Lake Oswego requires protection of significant tree groves, but allows for up to 50 percent of the trees on a site to be removed for development purposes.

Table 11. Comparison of riparian and wetland buffer widths for selected jurisdictions.

Jurisdiction	Riparian buffer width	Wetland buffer width
Beaverton*	50 ft (on fish bearing streams)	
Cornelius*		
Durham*		
Fairview	Fairview Creek, No Name Creek, Columbia Slough: 35 ft Fairview Lake: 35 ft Osburn Creek: 26 ft	Undeveloped buffer width to be determined in consultation with DSL and ODFW at time of development
Forest Grove*		
Gladstone	Greenway District does not include a setback distance	
Gresham	Includes a 25 ft transition area from the edge of the natural resource	Includes a 25 ft transition area from the edge of the natural resource
Happy Valley	Main-stem of Mount Scott Creek: 50 ft	30 ft from outer boundary of significant wetland
Hillsboro*	*Slope <25%*: Intermittent flow draining 10-50 acres: 15 ft Intermittent flow draining 50-100 acres: 25 ft Rivers, streams and springs with year round flow: 50 ft Streams with intermittent flow draining >100 acres: 50 ft *Slopes ≥25%*: Streams with intermittent flow draining 10-50 acres:30 ft Streams with intermittent flow draining 50-100 acres:50 ft Rivers, streams, and springs with year round flow, variable flow; streams with intermittent flow draining more than 100 acres, variable width: the vegetated corridor varies from 15-200 ft.	Slope <25%: Existing or created wetlands less than 0.5 acre: 25 ft Existing or created wetlands greater than 0.5 acre; natural lakes and ponds: 50 ft Slope ≥25%: Existing or created wetlands, natural lakes and ponds: the vegetated corridor varies from 15-200 ft.
Johnson City	ONE GOAL 5 RESOURCE, CITY BUILT-OUT	
King City*		
Lake Oswego	Class 1 streams: 30 ft Class 2 streams: 25 ft	Class 1 wetlands: 30 ft Class 2 wetlands: 25 ft
Maywood Park	NO GOAL 5 RESOURCES	
Milwaukie	Willamette River, Johnson Creek: 25 ft from high water line Other water bodies: 100-yr floodplain	Delineated at time of development application
Oregon City	50 ft from boundary of streams except: slope <10%: 25 ft slope 10-15%: 35 ft slope >25%: 75 ft slope >35%: 100 ft	50 ft from boundary of wetland
Portland	*These are development standards, not specific buffer widths:* 50 ft from top of bank in Columbia Corridor or on lots zoned R10, R20, or RF within an EP zone; 30 ft from centerline within an EC zone	*These are development standards, not specific buffer widths:* 50 ft from boundary of wetland
Rivergrove	Tualatin River: 25 ft	25 ft from boundary of wetland
Sherwood*		60 ft from boundary of wetland, may be reduced to 20 ft if no adverse impacts
Tigard*	Tualatin River: 75 ft Major streams (Fanno Creek, Ash Creek, Ball Creek): 50 ft Major streams in developed subdivisions: 25 ft Minor streams: 25 ft	Wetlands associated with Tualatin River: 75 ft Wetlands associated with major streams: 50 ft Isolated wetlands: 25 ft

Troutdale	Primary water feature, <25% slope: 50 ft Primary water feature, ≥25% slope for less than 150 ft: distance from starting point of measurement to top of ravine, plus 50 ft Primary water feature, ≥25% slope for 150ft+: 200 ft Secondary water feature, <25% slope: 15 ft Secondary water feature, ≥25% slope: 50 ft	50 ft from boundary of wetland Wetland with ≥25% slope for less than 150 ft: distance from starting point of measurement to top of ravine, plus 50 ft Wetland with ≥25% slope for 150ft+: 200 ft
Tualatin*	North bank and most of south bank of Tualatin River: 40 ft South bank of Tualatin River near I-5 right of way: 75 ft Hedges Creek: 25 ft Nyberg Creek: 15 ft	50 ft from boundary of wetlands within the stream riparian area on Hedges Creek and Saum Creek 50 ft from certain wetlands – i.e. Cummins Creek and Kolk Pond 25 ft from boundary of other wetlands
West Linn	Willamette River: 35 ft Tualatin River: vegetation must be retained within 100-yr floodplain and below high water line; development standards within 150 ft of river Slope <10%: 30 ft Man-made drainage ditch: 25 ft Slope 10-25%: 50 ft or to the point where slope tapers off to less than 10% (minimum of 30 ft) Slope>25%: point where slope tapers to less than 10% for more than 50 ft (min. 30 ft), or 150 ft	For wetlands: Slope <10%: 30 ft Slope 10-25%: 50 ft or to the point where slope tapers off to less than 10% (minimum of 30 ft) Slope>25%: point where slope tapers to less than 10% for more than 50 ft (min. 30 ft), or 150 ft
Wilsonville	Significant Resource Overlay Zone (WC Section 4.139) Setback ranges from a minimum of 50 ft to over 200 ft per side in places with steep sided ravines and a defined channel (e.g., Beckman Creek)	Wetland protection standards include a minimum 50 ft setback consistent with Title 3
Wood Village	Primary water feature (Arata Creek), <25% slope: 50 ft Primary water feature, ≥25% slope for less than 150 ft: distance from starting point of measurement to top of ravine, plus 50 ft Primary water feature, ≥25% slope for 150ft+: 200 ft Secondary water feature (No-name Creek), <25% slope: 15 ft Secondary water feature, ≥25% slope: 50 ft	50 ft from boundary of wetland Wetland with ≥25% slope for less than 150 ft: distance from starting point of measurement to top of ravine, plus 50 ft Wetland with ≥25% slope for 150ft+: 200 ft
Clackamas County	Principal River Conservation Area: 100-150 ft Stream Conservation Area Large stream: 100 ft Medium stream: 70 ft Small stream: 50 ft	Minimum of 25 ft
Multnomah County	The *Stream Conservation Area* extends 300 ft up-slope from protected streams. Development prohibited without a site and mitigation plan.	50 ft from boundary of wetland
Washington County*	Riparian buffer defined as no less than 25 ft	Master plan and site analysis required

Source: Metro 2001.

*These jurisdictions are located within Clean Water Service's (CWS) district, and therefore implement CWS water quality and floodplain protection standards. CWS standards comply with Metro's Title 3 Water Quality and Floodplain Protection standards. These standards were not intended to provide fish and wildlife habitat protection.

Review process

While Metro does not intend to critique local review processes and does not play a role in local review processes, the review process is often the method through which natural resource protection programs are implemented and thus merits consideration. Local natural resource programs often require some level of proposed project review to ensure compliance with the applicable zoning code provisions. Portland's Code provides a clear statement of purpose, timing, and procedure for the environmental review of development proposals on resource sites. Tualatin states that the city may, "through the subdivision, conditional use, architectural review, or other development approval process, attach appropriate conditions to approval of a development permit." The architectural review plan approval process requires all building, except for single family dwellings, to go through an architectural review; however, the review process is not specifically limited to environmental considerations of development on resource sites. Table 12 provides examples of several local jurisdictions' review processes for development occurring in or near natural resource areas.

Table 12. Examples of local jurisdictions' review processes.

Jurisdiction	Review process
Fairview	Review by Fairview Planning Commission and appropriate state and federal agencies. For example, wetland development is reviewed through DSL and US Army Corp. of Engineers permitting process.
Forest Grove	Requires an Environmental Report for approval of development in an Environmental Review zone. 9.804.
Gresham	City requires a Public Need and Alternative Site/Methods test for development within Natural Resource zones.
Lake Oswego	Environmental Review Process to assure adherence to standards and requirements of EP and EC zoning. 48.17.100. Review also required for development within the Greenway Management Overlay. 48.16.
Milwaukie	Includes an application process and design standards for developments on resource sites.
Portland	Development review is required for all development in Environmental Zones that does not meet development standards.
Tualatin	Architectural Review Plan Approval required (except for single-family dwellings). 73.040. Subdivisions, conditional uses and other development review processes must consider natural resource protection programs.
Wilsonville	Development Review Board process. 4.139.10.
Clackamas County	Requires review of proposed development pursuant to permit submittal for projects in River and Stream Conservation Areas (704.08), Willamette River Greenway (705), and Conservation Wetland District (CWD) (709.07).
Washington County	Requires a preapplication conference with planning staff for development within the county's Natural Resource zone.

Source: Metro 2001.

As Table 12 shows, there is a diverse array of approaches to the review process for purposes of protecting natural resources. Additionally, the almost all types of review processes are discretionary (with or without natural resources), with the potential result of inconsistent protection of resources even within one jurisdiction.

Mitigation and restoration requirements

Although mitigation is commonly considered in some natural resource programs, the attention to mitigation varies depending on the jurisdiction as shown in Table 13. For example, Tualatin does not require mitigation, whereas Lake Oswego and Clackamas County require mitigation for all development projects on protected resource sites. Tualatin expects developments to pursue appropriate state and federal permitting, and when development occurs in a wetland, the city seeks to have restoration, maintenance or improvement work occur on the same property or nearby. Clackamas County defines its compensatory mitigation requirement in the Conservation Wetland District as "any of the three (3) actions used to replace wetland functions and values resulting from permitted impacts to wetlands including restoration of former wetlands, creation of new wetlands, [or] enhancement of existing wetlands." Fairview proposed to enhance "valuable fisheries and wildlife habitat," yet the code requires only that vegetation that is removed be replaced with approved riparian species.

Wilsonville requires a Mitigation Plan for all significant wildlife habitats with limited conflicting uses. The Plans assess the anticipated adverse impacts to the resource site and then present a proposed mitigation action designed to replace the lost or impacted resource functions. Mitigation plans must contain monitoring and maintenance plans for at least five years following the mitigation actions. Wetland mitigation is conducted as part of the permitting process from Oregon Department of State Lands and the US Army Corp of Engineers.

Portland may require mitigation when projects go through the Environmental Review process. Environmental review is required for all development in an environmental zone that *does not* meet the development standards and for violations of the standards. There are three different paths: Type I, II, or III procedures, which depend on the activity proposed or location within the environmental zone. In addition to application requirements under Section 33.730 of City Code, environmental review applications also require a site plan. A mitigation site plan is required whenever the proposed development will result in unavoidable significant detrimental impact on the identified resources and functional values. A remediation site plan is required whenever significant detrimental impacts occur in violation of city code and no permit was applied for.

Portland's Columbia South Shore Plan goes beyond the Code by requiring that mitigation activities be monitored for at least five years following initial success. Furthermore, the Columbia South Shore Plan requires that (1) if the mitigation area abuts the protected resource, the mitigation area must be 110 percent the size of the altered resource area, or (2) if the mitigation area is within the protected resource area the mitigation area must be at least 330 percent of the size of the altered resource area and 110 percent of the values of the altered resource area. This mitigation structure proposes not only to mitigate (i.e., "no net loss" of a resource), but also to enhance existing environmental quantity and quality. Resource enhancement projects go beyond protection efforts and seek to improve the environmental quality of a site by improving bank stabilization, restoration planting, etc.

Table 13. Examples of jurisdictions' mitigation and restoration requirements.

Jurisdiction	Mitigation/restoration requirements
Clean Water Services*	Requires enhancement of the first 50 feet (distance varies based on the type of stream) of a vegetated corridor, unless it is determined to be in "good" condition. CWS 3.06.2.c(4)

Fairview	Requires replacement of vegetation that is removed to be replaced with appropriate riparian vegetation. 19.106.030(B)
Forest Grove	Requires mitigation for the removal of significant trees and tree groves. 9.949. Requires slope stabilization and revegetation for development in Environmental Review zones. 9.113
Gladstone	States that the natural vegetative fringe along the river shall be enhanced and protected to the maximum extent practicable. 17.28.050
Gresham	Requires a mitigation plan for development within significant wetland areas. 5.0423(F) Requires a mitigation plan for development on a site with significant trees. 9.1033(B)
Happy Valley	Requires mitigation when impacts to any identified Significant Natural Resource or its buffer areas occurs. 5.119. Allows for natural resource enhancement in the code, but does not require it in addition to mitigation. 5.120
Johnson City	None.
Lake Oswego	Defines mitigation as a way of repairing or compensating for adverse impacts to the functions and values of a natural resource caused by a development. Mitigation may consist of resource area creation, restoration, or enhancement. Policy of avoidance, minimize, and then mitigate. Mitigation ratios are established according to type of mitigation and value of resource. Maintenance and monitoring is required. 48.17.600-610.
Maywood Park	None.
Milwaukie	Requires a mitigation plan if development has the potential for reducing the natural resource value of the site in question to the point of no longer qualifying as a natural resource site. 322.10
Oregon City	Requires mitigation for development of public facilities such as roads. 17.49.080f(2)
Portland	Mitigation plans. 33.430.360. Mitigation required to compensate for degradation/loss of site's functional values (also addresses monitoring). In addition, may provide guidelines for mitigation for resource areas not identified in the plan but protected by state or federal agencies.
Rivergrove	None.
Troutdale	Requires mitigation to ensure that impacts to the functions and values of the vegetation corridor and the integrity of the slope will be mitigated or restored to the extent practicable. 4.315 (3)
Tualatin	Only mentions retaining or improving wetland functions or values through mitigation and/or enhancement. 72.040(2)(iii). Does include minimization as important component of development.
West Linn	Code states that vegetative improvements to areas within the Tualatin Protection Area may be required if the site is in an unhealthy or disturbed state as prerequisite of development. 29.080(D). Requires a mitigation plan for development that occurs in a Wetland and Riparian Area zone. 30.100(F), 30.110
Wilsonville	Mitigation and Enhancement standards depend on the resource condition. 4.139.07. A chart of mitigation ratios is provided based on resource condition (Table 1.1). Mitigation ratios range from [area developed x 1.5] for resources in degraded condition to [area developed x 6] for resources in good condition.
Wood Village	Requires a mitigation plan for development applications seeking an alteration, addition, rehabilitation or replacement of existing structures within a water quality resource area. 430.200(H(7-8)).
Clackamas County	Adverse impacts to river and stream conservation areas associated with road and public utilities development and development within the Wetland Conservation District must be mitigated.
Multnomah County	Requires a mitigation plan for development in natural resource areas, includes an annual monitoring plan for five years. Plan must insure an 80% survival rate of any required plantings.

Source: Metro 2001.

*Jurisdictions in Washington County (Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, King City, Sherwood, Tigard, Tualatin, and Washington County) all implement Clean Water Services' standards for mitigation and restoration.

Monitoring and enforcement requirements

While not required by the Goal 5 Rule, monitoring and enforcement are key components of a successful program. Only a few jurisdictions include monitoring and enforcement provisions in their codes (see Table 14). This lack of enforcement can frequently be attributed to a lack of funding. The few jurisdictions that do mention some form of enforcement appear to rely exclusively on the permitting process and citizen complaints to ensure compliance with code provisions. For example, Portland generally relies on complaints to monitor compliance, and violations are enforced through a development or redevelopment plan submitted to the city for a building permit.

Table 14. Examples of jurisdictions' monitoring and enforcement requirements.

Jurisdiction	Monitoring/enforcement
Lake Oswego	Requires monitoring and enforcement of mitigation activities.
Portland	Monitoring is a complaint driven process. Enforcement through permitting process.
Wilsonville	Yes. Monitoring section (in context of approved encroachment). 4.136.06(F). Enforcement through permitting and possible litigation.
Multnomah County	Monitoring of mitigation projects is required on an annual basis for five years.

Source: Metro 2001.

Key observations

Below are several items that illustrate variation among local Goal 5 programs:

Data available on protection programs

- Local jurisdictions have varying capabilities in terms of mapping natural resources as well as the areas identified for protection.
- Currently, Metro has Goal 5 protection information in GIS format from only 12 jurisdictions. *(Beaverton, Hillsboro, Lake Oswego, Milwaukie, Portland, Tigard, Tualatin, West Linn, Wilsonville, Clackamas County, Multnomah County, and Washington County)*

Program decision to allow, limit, or prohibit conflicting uses

- Most jurisdictions choose to limit conflicting uses in natural resource areas. However, the extent to which the conflicting use is limited varies from one jurisdiction to the next. For example, Lake Oswego allows 50% of upland habitat areas to be developed, while Wilsonville only allows development on 5% of a wildlife habitat area.
- Many jurisdictions choose to prohibit conflicting uses in the natural resources areas found to be most significant. This does not mean that every resource site receiving full protection is granted the same level of protection across jurisdictional boundaries. Tualatin prohibits development within natural resource protection overlay zones, yet allows public streets and facilities to be built within those zones as long as city projects are designed to minimize intrusion into riparian areas. Portland and Lake

Oswego prohibit road and utility in those areas unless no other practicable alternative exists.

- No jurisdictions protect the floodplain solely for fish and wildlife habitat; the main reason for protecting the floodplain is to reduce risk to human life and property.

Variation in the application of the "limit" and "prohibit" decision

- Riparian buffer widths vary across the region for the same type of resource. Some of the riparian buffers indicate a prohibition on development, with few exceptions, while others indicate an area within which certain development or performance standards apply.
- Eighteen jurisdictions' code contains regulations referring to upland tree groves and open space, not associated with water resources. *(Beaverton, Forest Grove, Gladstone, Gresham, Happy Valley, King City, Lake Oswego, Maywood Park, Milwaukie, Portland, Rivergrove, Sherwood, Tigard, West Linn, Wilsonville, Clackamas County, Multnomah County, Washington County)*
- Seven jurisdictions have specifically mentioned wildlife habitat not associated with riparian corridors in local code. *(Lake Oswego, Milwaukie, Portland, Wilsonville, Clackamas County, Multnomah County, and Washington County)*

Review process

- Local jurisdictions typically require some type of review process for development that occurs on or adjacent to a protected resource site. However, jurisdictions vary in terms of review standards applied to development, and the processes appear to be discretionary.

Mitigation and restoration requirements

- All but two jurisdictions require some type of mitigation for intrusion into fish and wildlife habitat. *(Johnson City and Maywood Park do not have mitigation requirements in their code.)*
- 14 jurisdictions vary the amount or type of mitigation required based on the value or condition of the impacted resource. *(Clean Water Services[includes all jurisdictions], Lake Oswego, Portland, West Linn, Wilsonville)*
- Some jurisdictions refer to the importance of restoration *(Clean Water Services, Gladstone, Happy Valley, Portland, Wilsonville)*, but no jurisdiction requires restoration actions beyond mitigation requirements. (This may be due to the fact that Goal 5 does not call for restoration, only protection).

Monitoring and enforcement process

- The few jurisdictions that do mention some form of enforcement appear to rely exclusively on the permitting process and citizen complaints to ensure compliance with code provisions.

Outside of the State safe harbor for riparian areas and wetlands, the Goal 5 Rule provides little guidance to local governments on methods of protection, except the requirement that a protection program include clear and objective standards. The Goal 5 protection programs of local jurisdictions within the Metro region are inconsistent with each other on a number of levels. Some programs offer exclusive protection for riparian and wetland areas, prohibiting

development unless exceptional circumstances apply, whereas other jurisdictions offer limited development within their most significant resource areas. Furthermore, protection levels for limited development range anywhere from five percent development to at least fifty percent development on significant natural resource land. Finally, there is no consistency between local jurisdictions' review processes, mitigation and enhancement procedures, or their monitoring and enforcement mechanisms.

Summary of inconsistencies in data and protection

Resources in the Metro region receive inconsistent treatment and protection across jurisdictions, considering the pervasive inconsistencies in Goal 5 inventory methodologies, data layer formats, ESEE analyses, and program decisions of local jurisdictions. While there are several different watersheds within the Metro region with different geological characteristics, the ecosystems within the region are more similar than different, especially in comparison with other ecoregions such as the Columbia Plateau. The inconsistent protection of fish and wildlife habitat across jurisdictional boundaries indicates the need for regional coordination if the vision described in the RUGGOs is to be achieved.

Inadequacies in resource protection

Title 3, Section 5 directs Metro to identify *inadequacies* in local resource protection prior to conducting an ESEE analysis. The Metro Council has not determined what is adequate or inadequate at this time. Accordingly, staff's assessment of the best available science, the listing of the salmon under the federal ESA, and examples of local program implementation are used to address this topic. The Metro Council will ultimately determine the definition of adequacy.

In this section we discuss the ecological needs of fish and wildlife and compare the protection provided by local Goal 5 programs. Additionally, the inconsistencies discussed previously may result in inadequate protection for a natural resource such as a riparian corridor as it moves from one jurisdiction to another. For example, a riparian corridor may receive 50 feet of protection in one jurisdiction and the protection may change to 100 feet as the stream flows to another jurisdiction. Since all water flows downstream, the protection efforts of one upstream jurisdiction impacts the ability of downstream jurisdictions to maintain important functions for fish and wildlife habitat.

Most of the local jurisdictions in the Metro region that have completed Goal 5 programs have been acknowledged by DLCD as being in compliance with State rules. However, this does not mean that the programs are adequate for protecting fish and wildlife habitat. The State reviews local plans on a case-by-case basis, considering the process required by the Goal 5 Rule, not a specific objective for the protection of habitat. The State does not consider the connectivity of habitat within the region as a factor in evaluating local plans for compliance with Goal 5. Thus, local plans may be in compliance with state rules and yet inconsistent with each other and inadequate in protecting fish and wildlife habitat.

The importance of protecting habitat for fish and wildlife has been elevated in recent years due to the National Marine Fisheries Service (NMFS) listing of 14 salmonid species as threatened in 2000. In the *Purpose, Vision, Goal, Principles and Context* statement adopted by the Metro Council in October 2000, and adopted unanimously by the Metropolitan Policy Advisory Committee, Principle 4 states that:

> 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.

Thus, the Metro Council has determined that a regional fish and wildlife protection program should serve a dual purpose of meeting state Goal 5 requirements and address the federal ESA. The NMFS published the Final 4(d) Rule providing guidance on what it means to "take" a threatened species and identifying the activities that lead to harming the fish. While the NMFS has not yet provided specific information on the amount of habitat that must be protected, they

have published certain recommendations in the Municipal, Residential, Commercial, and Industrial (MRCI) limit that provides guidelines for best management practices in riparian areas.

Ecological needs and resource protection through Goal 5

In this section we discuss recommendations for resource protection from the scientific literature to assess the adequacy of current regulations. Next, we compare the aforementioned recommendations with local resource protection programs.

Scientific recommendations for resource protection

Metro conducted a literature review of the best available science to provide the foundation for an ecologically sound regional Goal 5 program. The process used to conduct the literature review was:

- a literature search of major scientific journals and the internet, as well as consulting other literature reviews conducted within the Metro region and the Pacific Northwest,
- consultation with experts on specific issues such as species lists, habitat classification systems, and impacts of urbanization,
- review by Metro's Goal 5 Technical Advisory Committee, and
- peer review by the Oregon State Independent Multidisciplinary Science Team (created by the Governor of Oregon to review the Oregon Plan for Salmon).

The literature review supports a holistic view of watershed function that emphasizes the interconnectedness of the system, including the relationship of riparian corridors with upland habitats and connectivity. Part of the literature review included recommendations for riparian buffer widths to protect aquatic and terrestrial riparian habitat, as well as guidelines for protecting upland habitat for wildlife.

Riparian Corridors

While studies recommend a variety of minimum buffer widths for the riparian area, all recommend some level of protection for this important resource for fish and wildlife. If riparian buffers of sufficient width are maintained along streams in the urban area, they can provide good quality habitat within an altered landscape (Knutson and Naef 1997). Table 15 below summarizes the range of riparian area widths recommended in the scientific literature to protect fish and wildlife habitat.

Table 15. Range of recommended minimum buffer widths to maintain riparian functions.

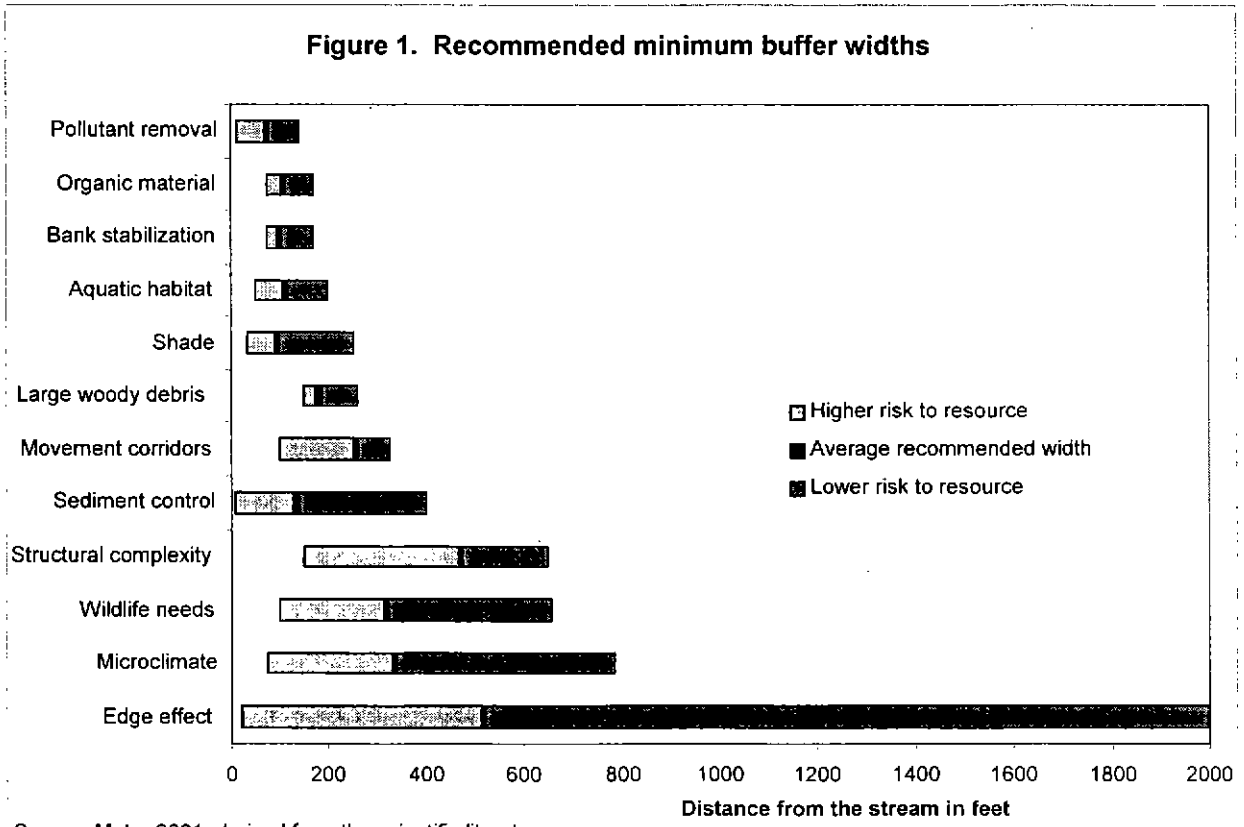
Function	References	Range of widths
Microclimate and shade	Johnson and Ryba 1992; FEMAT 1993; Osborne and Kovacic 1993; Castelle et al. 1994; Chen et al. 1995; Spence et al. 1996; Brosofske et al. 1997; Knutson and Naef 1997; Pollock and Kennard 1998; May 2000	*Shade:* 33 to 250 ft *Microclimate:* 75 to 787 ft
Streamflow moderation and water storage	FEMAT 1993; Knutson and Naef 1997; Pollock and Kennard 1998; Wenger 1999; May 2000	All riparian associated wetlands and floodplains should be protected. Riparian and upland vegetation should be protected to moderate streamflow and store water.
Bank stabilization, sediment, and	Erman et al. 1977; Moring 1982; Clinnick et al. 1985; Johnson and Ryba 1992; FEMAT 1993; Castelle et	*Bank stabilization:* ½ site potential tree height to 170 ft

pollution control	al. 1994; Cederholm 1994; Spence et al. 1996; Wenger 1999; May 2000	*Sediment control:* 10 ft (sand) to 400 ft (clay) *Pollutant removal:* 13 to 141 ft Vegetated steep slopes adjacent to all streams provide bank stabilization, sediment and pollution control.
Large wood and channel dynamics	McDade et al. 1990; FEMAT 1993; Spence et al. 1996; Wenger 1999; May 2000	*Large woody debris:* one site potential tree height; 150 to 262 ft The scientific literature indicates that frequently flooded areas should be maintained to allow for the channel migration zone.
Organic material sources	Erman et al. 1977; FEMAT 1993; Spence et al. 1996; Pollock and Kennard 1998	½ site potential tree height to 170 ft
Riparian wildlife habitat and connectivity	Erman et al. 1977; Tassone 1981; Hickman and Raleigh 1982; Raleigh 1982; Small 1982; Allen 1983; Raleigh et al. 1984; Harris 1985; Raleigh et al. 1986; Wilcove et al. 1986; Gregory et al. 1987; Jones et al. 1988; Groffman et al. 1990; Rudolph and Dickson 1990; Castelle et al. 1992; FEMAT 1993; Keller et al. 1993; NRCS 1995; Hodges and Krementz 1996; Knutson and Naef 1997; Environment Canada 1998; May 2000; Hennings 2001	*Aquatic habitat:* 50 to 200 ft *Edge effect:* 20 ft (noise) to 2,000 ft (minimize predation) *Terrestrial LWD and structural complexity:* 1 site potential tree height outside a buffer to 650 ft *Movement corridors:* 328 ft *Specific wildlife needs:* 100 ft (e.g. frogs & salamanders) to 656 ft (Rufous-sided towhee breeding populations)

Source: Metro 2001.

Figure 1 below graphically depicts the range of recommended minimum widths described in Table 15 above. The chart shows the average recommended width for each function, with all widths below the average characterized as a high risk for maintaining the function provided by the area, and widths above the average as being of relatively lower risk for maintaining functionality.

Figure 1. Recommended minimum buffer widths



Source: Metro 2001, derived from the scientific literature.

Wildlife habitat

Although wildlife frequently use riparian corridors, the Goal 5 rule includes a separate section on wildlife habitat. Scientific recommendations for protecting wildlife habitat not related to riparian corridors are typically ambiguous due to the fact that the upland areas are less studied, particularly in urban environments. The lack of specificity in the science may explain the general dearth of upland habitat protection programs at the local level in this region. However, there are general planning guidelines to use in the development of conservation and protection plans for upland wildlife habitat.

The guidelines for protecting upland wildlife habitat identified in the scientific literature are:

- Bigger patches of habitat are better than small
- Connectivity and proximity of habitat patches is important (more patches are better than fewer)
- Interior habitat should be maximized
- Protect habitat for unique and sensitive species
- Connectivity to water resources is important

Comparison with local resource protection programs

As discussed in the *Inconsistencies* section, it is often difficult to determine what specific protection will be applied to resources by local governments when implementing Goal 5 programs. This not only leads to inconsistent protection around the region, but also may result in inadequate protection of natural resources. The most consistent protection is Metro's Title 3 regulations for protecting water quality and floodplain function. In addition, several jurisdictions in the region have adopted the State's Safe Harbor provisions under Goal 5, which provide protection specific to fish-bearing streams based on stream size. Local jurisdictions' riparian corridor protection programs that do vary from either Title 3 or the State Safe Harbor range from 30 feet on a class I stream (Lake Oswego) to as much as 150 feet on a principal river (Clackamas County). *(See Inconsistencies – program decisions for more detail on local jurisdictions' programs.)*

Figure 2 compares the minimum widths recommended in the scientific literature (discussed above) to the riparian corridor protection provided by Metro's Title 3 regulations and the State Safe Harbor. As the figure illustrates, even the maximum protection provided by Title 3 on steep slopes (200 ft) meets the average recommended width for only seven of the twelve functions included on the chart. However, the 200-foot vegetated corridor provides some protection for all twelve functions. Furthermore, the State Safe Harbor, when applied to larger fish-bearing streams (75 ft), only meets the average recommended minimum width for one function, pollutant removal. The 75-foot buffer does not even meet the minimum recommendations for four functions, including one of the most important for listed salmon – large woody debris[11]. The 50-foot buffer provided by the State Safe Harbor on smaller fish-bearing streams and by Metro's

[11] Obviously, large woody debris does reach the stream at distances of less than 75 feet, providing some level of function to instream habitat. However, several studies have shown that larger buffer widths are necessary to provide adequate levels of large woody debris to both instream and riparian (terrestrial) habitats. Thus, any distance that is less than one site potential tree height (average in Metro region determined to be 150 ft) allows for a very high risk to the resource.

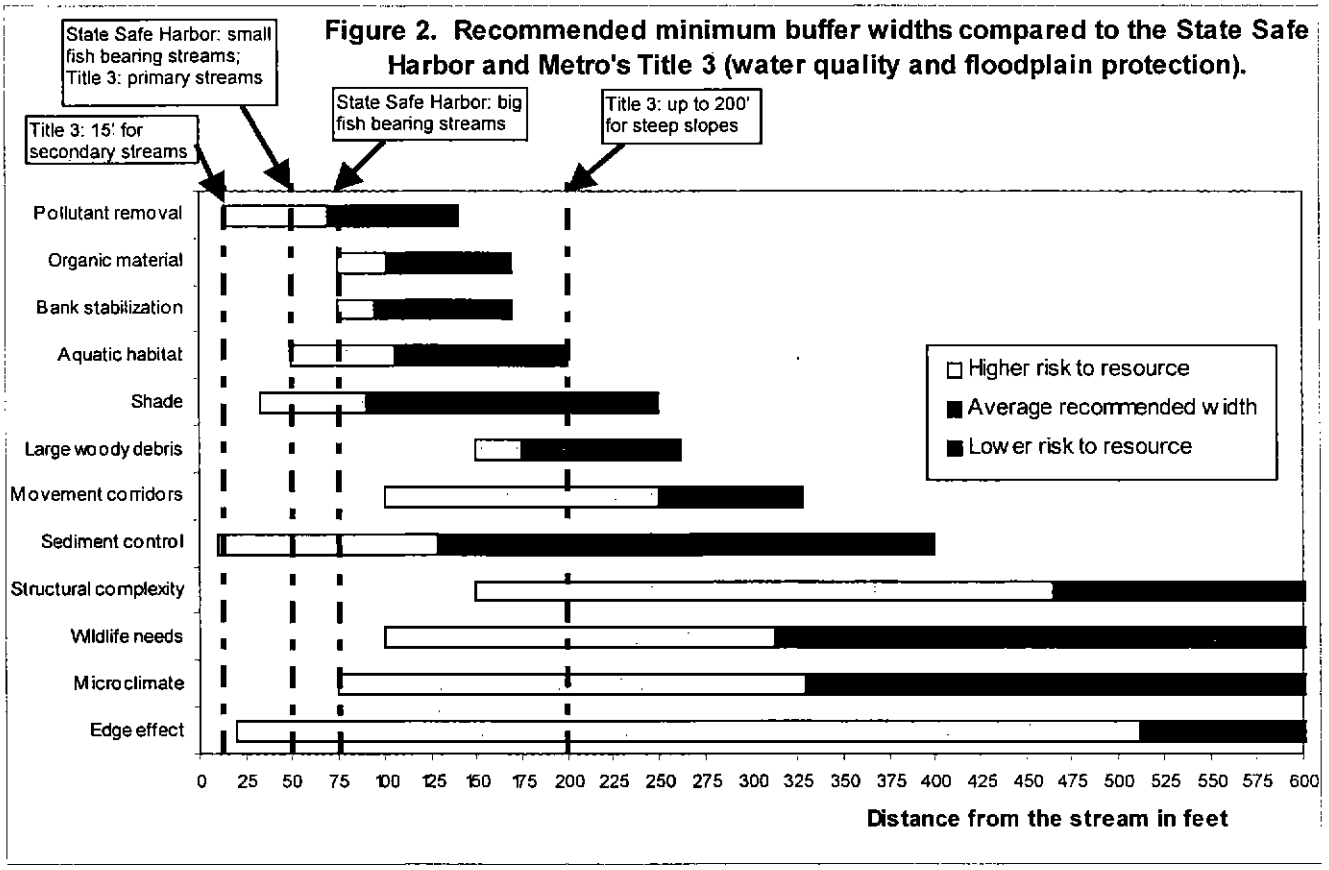


Figure 2. Recommended minimum buffer widths compared to the State Safe Harbor and Metro's Title 3 (water quality and floodplain protection).

Title 3 on primary streams only provides minimal protection for five functions. For smaller streams, those draining less than 50 acres, Title 3 provides for a 15-foot buffer that barely meets the most minimal scientific recommendations for two functions.

In effect, there is not a regulatory program in the region that provides sufficient protection for riparian corridors based on consideration of all the functions necessary for fish and wildlife habitat. While it is unlikely that any regulatory program could be implemented that would fully protect all of the functions depicted in Figure 2, resource protection in the Metro region does not comport with the scientific knowledge of what is needed for full fish and wildlife habitat protection.

As mentioned previously, local protection of upland wildlife habitat is limited throughout the region. Only eight jurisdictions[12] have identified upland areas not associated with streams or wetlands for regulatory protection. By default, some steeply sloped areas are regulated due to natural hazards, such as earthquakes and landslides. The planning guidelines for upland habitats, described above, recommend protection of large areas and retention of native vegetation. However, based on our review of local regulations, protection of these areas in the region does not meet the scientific recommendations. Tree protection ordinances occur most frequently.

[12] Beaverton (not yet acknowledged by DLCD), Lake Oswego, Milwaukie, Portland, Wilsonville, Clackamas County, Multnomah County, and Washington County have specifically mentioned wildlife habitat not associated with riparian corridors in local code.

However, ordinances that specifically protect upland habitat by limiting development are more effective but less common. Lake Oswego requires protection of significant tree groves, but allows for up to 50 percent of the trees on a site to be removed for development purposes. Other jurisdictions such as Sherwood and Tigard require a tree inventory and provide incentives for retention of trees through the permit process.

ESA and 4(d) limit protection recommendations

In 1973, Congress adopted the Endangered Species Act (ESA) to conserve the ecosystems upon which endangered and threatened species depend and to provide a program for the conservation of such endangered and threatened species.[13] Section 4(d) of the ESA directs the implementing agencies, NMFS and United States Fish and Wildlife Services (USFWS), to issue regulations that are "necessary and advisable to provide for the conservation of [threatened] species." In June of 2000, NMFS, acting pursuant to section 4(d), implemented a regulation prohibiting the "take" of fourteen groups of salmon and steelhead listed as threatened under the ESA. In the context of the ESA, "take" means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" *Id.* § 1532(18).[14]

The salmon and steelhead were listed as threatened due to the fact that their populations have declined to the point that they are likely to become endangered species within the foreseeable future (NMFS 2000). The threatened status of the fish cannot be attributed to changes in ocean and weather conditions, but is due to the impact of several different activities such as harvest, destruction of freshwater and estuarine habitat, hydropower dams, and hatchery practices. Many of the fourteen listed species are present in the Metro region at some point during their life cycles. Fish migrate through the metropolitan area along the Columbia River and its tributaries as adults and juveniles. Others spawn and/or rear in metropolitan area streams.

The final rule limits the take prohibitions for certain land and water management activities that NMFS has determined will conserve listed salmonids' habitat even though they may incidentally take individual listed fish. To make these determinations, NMFS evaluated whether the activities would allow properly functioning habitat condition to be attained and persist. Thus, programs under one of the thirteen limits identified by NMFS must allow for properly functioning condition (PFC).

The NMFS defines PFC as the sustained presence of natural habitat-forming processes (e.g., hydraulic runoff, bedload transport, channel migration, riparian vegetation succession) that are necessary for the long-term survival and recovery of the species (The Habitat Approach, NMFS,

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[13] Endangered Species Act of 1973, 16. U.S.C. § 1531(b) (1998 & Supp. I). The Secretary (Interior or Commerce) determines whether a species is threatened or endangered. *Id.* § 1533(a)(1). An "endangered species" is "any species which is in danger of extinction throughout all or a significant portion of its range . . .." *Id.* § 1532(6). A "threatened species" is "any species which is likely to become an endangered species within the foreseeable future though out all of a significant portion of its range." *Id.* § 1532(19).

[14] "Harass" is defined as an intentional or negligent act that creates the likelihood of injuring wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns such as breeding, feeding, or sheltering. "Harm" is defined as an act that actually kills or injures protected species. Harm can arise from significant habitat modification or degradation where it actually kills or injures protected species by significantly impairing essential behavior patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering.

1999). Thus, PFC constitutes a species' habitat-based biological requirements – the essential physical features that support spawning, incubation, rearing, feeding, sheltering, migration, and other behaviors. Such features include adequate instream flow, appropriate water temperature, loose gravel for spawning, unimpeded fish passage, deep pools, and abundant large tree trunks. (NMFS 2000).

NMFS identified several activities that may be likely to cause harm to salmonids and thus violate the ESA regulations. Many of the activities could occur in an urban environment, such as:

- construction barriers to fish passage;
- removing or altering physical structures such as rocks, soil or gravel that are essential to fish habitat;
- construction of bridges, roads or trails on unstable or erosive slopes near fish habitat;
- harvesting timber, grazing, mining, or moving earth in such a way that increases the sediment level in streams;
- conducting land use activities in riparian areas and areas susceptible to mass wasting in a manner that increases sediment;
- disturbing the shoreline or riparian areas in a way that retards or prevents the development of certain habitat characteristics on which the fish depend (e.g., vegetation, development, armoring shorelines);
- filling or isolating side channels, ponds and intermittent waters can destroy fish refuge areas. (50 CFR Part 223, pp. 42472-73)

One of the thirteen limits identified by NMFS, the Municipal, Residential, Commercial, and Industrial (MRCI) development limit could apply to Metro and its planning jurisdiction. If Metro complies with the MRCI requirements, it would be exempt from the ESA "take" prohibitions. The Metro Council has determined that Metro's Goal 5 fish and wildlife protection work should be developed in such a way that the resulting program could be submitted to NMFS for compliance under the MRCI 4(d) limit. The MRCI limit outlines twelve evaluation considerations for MRCI development or redevelopment ordinances or plans that will be considered adequate to conserve listed fish, shown below in Table 16.

Table 16. Requirements for a MRCI ordinance or plan.

1)	Ensures that development avoids inappropriate areas (unstable slopes, wetlands, areas high in habitat value, and similarly constrained sites).
2)	Adequately prevents stormwater discharge impacts on water quality and quantity and stream flow patterns in the watershed (avoid impairing water quality and quantity).
3)	Protects riparian areas well enough to attain or maintain properly functioning conditions (PFC) around all rivers, estuaries, streams, lakes, deepwater habitats, and intermittent streams.
4)	Avoids stream crossings (roads, utilities, or other linear development) where possible, and where crossing must be provided, minimize impacts.
5)	Protects historical stream meander patterns and channel migration zones and avoids hardening of stream banks and shorelines.
6)	Protects wetlands, wetland buffers, and wetland functions—including isolated wetlands.
7)	Preserves permanent and intermittent streams' ability to pass peak flows.
8)	Stresses landscaping with native vegetation to reduce the need to water and apply herbicides, pesticides, and fertilizers.
9)	Contains provisions to prevent erosion and sediment run-off during (and after) construction and to prevent sediment and pollutant discharge to streams, wetlands, and other water bodies that support listed fish.
10)	Ensures that demands on the water supply can be met without affecting the flows salmon need.
11)	Provides mechanisms for monitoring, enforcing, funding, reporting, and implementing its program.
12)	Complies with all other state and Federal environmental and natural resource laws.

Source: NMFS, Endangered and threatened species: final rule governing take of 14 threatened salmon and steelhead evolutionarily significant units (ESUs), 50 CFR Part 223, 2000.

NMFS has not yet released recovery guidelines, but there is a description of riparian zones included in the Critical Habitat definition in the Final Rule. NMFS defines steelhead critical habitat "based on key riparian functions." However, the area within which those key functions occur is not delineated, as it varies throughout the range of the fish. While the NMFS does not provide specific recommendations as to adequate riparian area width or upland wildlife habitat protection, it does emphasize an approach for retaining the functions necessary for the survival of the listed salmonid species. We utilized this functional approach to describe the recommendations identified in our scientific literature review and for assessing the adequacy of resource protection programs currently in place in the region.

Summary of inadequacies in data and protection

The levels of protection called for by the science in riparian corridors and upland wildlife habitat are not being provided by current regulations in the Metro region. Further analysis of on-the-ground conditions within the minimum buffer areas recommended by the scientific literature indicates that additional protection of natural resources is necessary in order to provide adequate fish and wildlife habitat. However, there are limitations on what level of habitat function can be provided in an urban area. In Oregon, land within the urban growth boundary is intended to be urbanized, yet the listing of the salmon as "threatened" indicates the need for additional habitat protection in urbanized environments.

Conclusion

This local plan analysis has shown that there are many inconsistencies and inadequacies in natural resource protection in the Metro region. An important reason for the inconsistency in local protection is that the Goal 5 rule does not set a specific standard, rather it lays out a process for jurisdictions to follow. The process described by state law allows jurisdictions to choose which resources to protect and the level of protection received after balancing the consequences of protection with the economic, social, and energy needs within the jurisdiction. Most jurisdictions choose to "limit" conflicting uses in resource areas, the Goal 5 Rule defines this choice as "conflicting uses should be allowed in a limited way that protects the resource to the desired extent." This language gives local governments wide discretion in designing protection programs.

If protecting natural resources is an important piece of maintaining livability within the region, as stated in Metro's Regional Urban Growth Goals and Objectives (RUGGOs), then it is critical to provide a more consistent level of protection throughout the region.

In this analysis we found ***inconsistencies*** in both data and protection, as called for in Title 3, Section 5:

1) ***Data.*** Inconsistencies in data range from the date inventories were conducted to the ESEE analysis methodologies.
   - *Date of inventory:* Several jurisdictions have never completed an inventory for one or more resources: riparian area (3 jurisdictions); wetlands (3 jurisdictions); wildlife habitat (8 jurisdictions). Two jurisdictions have never completed a Goal 5 inventory for any resource, and one jurisdiction completed but never adopted inventories for riparian areas and wetlands. Only nine jurisdictions have completely updated their inventories since they were first acknowledged. Eight jurisdictions have completed inventories for some resources under the new Goal 5 rule (revised in 1996).
   - *Resource definition:* The old Goal 5 rule, under which most jurisdictions developed their Goal 5 programs (only eight jurisdictions have completed a Goal 5 program under the new rule), provides no specific guidance on how Goal 5 resources should be defined. Thus, jurisdictions have inconsistent definitions of resources.
   - *Data collection methodology:* The data used in local Goal 5 inventories ranges from current 2001 information gathered using field biologists and the latest technology to information gathered in 1983. Jurisdictions may inventory a single resource category, or may choose to inventory several Goal 5 resources. All but five jurisdictions have inventoried streams/riparian corridors in the region, while 10 jurisdictions have not yet inventoried upland wildlife habitat.
   - *Data format:* Data on natural resource inventories are found in notebooks, hand-drawn on paper maps, and on electronic GIS systems. This lack of consistency in data format adds to the difficulty in comparing data across the region.
   - *Comparability of data from one jurisdiction to another.* Inventories are not comparable based on the time data was collected and the varying methodologies employed.
   - *Methods of significance determination:* Jurisdictions may develop unique criteria to determine the significance of the same resource (with the exception of wetlands which

require the use of specific criteria identified by the Division of State Lands). The approaches may or may not result in similar outcomes, but exemplify the inconsistent treatment of natural resources between jurisdictions in the region. For some jurisdictions, the criteria for determining significance are stated explicitly in planning documents. Other jurisdictions, especially those that completed Goal 5 several years ago, may simply state that they determined certain sites to be significant. This makes it difficult to compare the factors used by various jurisdictions in determining which resources are significant.

- *Variability in inventory approaches:* Six jurisdictions have utilized the State safe harbor option for inventorying and significance determination for one or more riparian resources. Beaverton is the only jurisdiction in the Metro region to have implemented the State safe harbor for wildlife habitat (not yet acknowledged by DLCD).
- *Status of the ESEE analysis:* Only 13 jurisdictions have an adopted ESEE analysis that has been acknowledged by DLCD, while two jurisdictions have completed ESEE analyses and await acknowledgement. Six jurisdictions have adopted the State safe harbor for one or more resources. Nine jurisdictions do not have an adopted ESEE analysis.
- *Method of conducting the ESEE analysis:* Five jurisdictions utilized the standard DLCD worksheet methodology under the old Goal 5 rule. Four jurisdictions took a site-by-site or resource-by-resource approach. Six jurisdictions used a two-tiered approach to the ESEE analysis: generic and site-specific. One jurisdiction took a watershed approach to analyze the impacts in the ESEE analysis.

2) ***Protection.*** The level of protection for natural resources is inconsistent from one jurisdiction to another. The protection varies by the type of resource protected. Streams and wetlands receive relatively consistent protection, but upland wildlife habitat receives very little protection across the region. Even when resources are protected the amount of protection they receive varies.
   - *Decisions to allow, limit, or prohibit conflicting uses:* Most jurisdictions choose to limit conflicting uses on a majority of sites. However, the extent to which the conflicting use is limited varies from one jurisdiction to the next. Many jurisdictions choose to prohibit conflicting uses in the natural resources areas found to be most significant. This does not mean that every resource site receiving full protection is granted the same level of protection across jurisdictional boundaries.
   - *Variation in the application of the "limit" and "prohibit" decision:* Riparian buffer widths vary across the region for the same type of resource. Some of the riparian buffers indicate a prohibition on development, with few exceptions, while others indicate an area within which certain development or performance standards apply. Eighteen jurisdictions' code contains regulations referring to upland tree groves and open space, not associated with water resources. Seven jurisdictions have specifically mentioned wildlife habitat not associated with riparian corridors in local code.
   - *Mitigation and restoration requirements:* All but two jurisdictions require some type of mitigation for intrusion into fish and wildlife habitat. 14 jurisdictions vary the amount or type of mitigation required based on the value or condition of the impacted resource. Some jurisdictions refer to the importance of restoration, but no jurisdiction requires restoration actions beyond mitigation requirements.

- *Monitoring and enforcement process:* The few jurisdictions that do mention some form of enforcement appear to rely exclusively on the permitting process and citizen complaints to ensure compliance with code provisions.

We also found ***inadequacies*** in data and protection:

1) ***Data.*** Local jurisdictions have varying capabilities in terms of mapping natural resources as well as the areas identified for protection. Currently, Metro has Goal 5 protection information in GIS format from only 12 jurisdictions. This makes it difficult to analyze the level of protection provided by local jurisdictions.
2) ***Protection.*** Based on the level of protection for fish and wildlife habitat called for in the recommendations from the scientific literature, current regulations do not adequately protect fish and wildlife habitat in the Metro region.

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NATURAL RESOURCES COMMITTEE REPORT

CONSIDERATION OF RESOLUTION NO. 02-3218A, FOR THE PURPOSE OF COMBINING METRO'S DRAFT INVENTORY MAPS OF REGIONALLY SIGNIFICANT RIPARIAN CORRIDORS AND WILDLIFE HABITAT FOR GOAL 5 ESEE ANALYSIS, AND APPROVING METRO'S LOCAL PLAN ANALYSIS

Date: August 8, 2002 Presented by: Councilor McLain

Committee Action: At its August 7 meeting, the Natural Resources Committee voted 4-0 to recommend Council adoption of Resolution 02-3218A. Voting in favor: Councilors Atherton, Bragdon, Park and McLain.

Background: Resolution 02-3218A finalizes the first step of Metro's Fish and Wildlife Habitat Protection Plan, the inventory phase. The resolution adopts a map depicting the geographical extent of both the riparian and the wildlife inventories. These inventories are separately contained in Resolution 02-3176 and 02-3177A. The resolution further adopts a Local Plan Analysis as required by Metro code. This analysis examines inconsistencies and adequacies in data or protection strategies between local plans.

Committee Issues/Discussion: Mark Turpel, long-range planning manager, made the staff presentation, supplemented by Ken Helm, Office of General Counsel. Councilor Park questioned language in the seventh Whereas clause that seemed to indicate that one ESEE analysis was going to be performed for both riparian and wildlife areas. His preference was to replace the word "one" with "the", with no implication whether one or two ESEE analyses would be performed. The number of ESEE analyses was a decision for a future time. His amendment to that end was adopted 4-0.

A public hearing was opened on the resolution and about 6 individuals testified, roughly equal in support and opposition.

Budget Impact: There is no impact to the budget upon passage of this resolution.

STAFF REPORT

FOR THE PURPOSE OF COMBINING METRO'S DRAFT INVENTORY MAPS OF REGIONALLY SIGNIFICANT RIPARIAN CORRIDORS AND WILDLIFE HABITAT FOR THE GOAL 5 ESEE ANALYSIS, AND APPROVING METRO'S LOCAL PLAN ANALYSIS

Date: July 24, 2002 Presented by: Andy Cotugno

BACKGROUND

The Metro Council is inventorying riparian corridors and wildlife habitat as defined by State Planning Goal 5. This is the first step in the three steps outlined in the Goal: 1) inventory; 2) analyzing the economic, social, environmental and energy consequences (ESEE analysis) and 3) program choices (incentives, acquisition from willing sellers, regulation, education, etc.).

In order to proceed with the second step, the ESEE analysis, two products have been produced for Metro Council consideration. One product is a map that combines the geographic extent of the riparian corridors and the wildlife habitat inventories to show the extent of those areas determined to be regionally significant and worthy of analysis of the economic, social, environmental and energy consequences. The second product is the Local Plan Analysis - an analysis of existing city and county fish and wildlife habitat programs within the Metro boundary. This product is required by Title 3, Section 5 which states in part that Metro must undertake an analysis "...to identify inadequate or inconsistent data and protection in existing Goal 5 data, reports and regulations on fish and wildlife habitat..." and "...shall complete Goal 5 ESEE analyses...only for those areas where inadequate or inconsistent data or protection have been identified." The Local Plan Analysis was prepared to address this Metro requirement and has been provided to all planning directors within the region and revisions made based on all specific concerns stated.

ANALYSIS/INFORMATION

1. **Known Opposition** Each Planning Director within the region has been contacted about the content of the Local Plan Analysis. There have been numerous Metro Technical Advisory Committee meetings in which the document has been discussed. Staff is not aware of any remaining specific issues remaining that pertain to the analysis.

   There have been concerns expressed about the riparian corridor and wildlife habitat inventories, by individuals and organizations, but a map combining them would not result in any additional areas shown and there are no known additional issues connected with such a combined map.

2. **Legal Antecedents** There is a myriad of legislation that relates to this resolution. Relevant legislation includes Federal, State, regional and local laws. At the Federal level there is the Clean Water Act and the Endangered Species Act. At the State level there are State planning laws, goals and administrative rules (especially OAR chapter 660 and sections 660-023-090 and 660-023-110). At the regional level there is the Regional Framework Plan, the Urban Growth Management Functional Plan and resolutions 01-3141C, 02-3176 and 02-3177. Local governments within the region have also enacted a range of local policies and regulations and these are documented in the draft Local Plan Analysis, Metro, 2002.

3. **Anticipated Effects** The anticipated effect of the adoption of this ordinance is to begin the analysis of the economic, social, environmental, and energy consequences of allowing, limiting or prohibiting uses that conflict with the protection of those areas determined to be regionally significant riparian corridors and/or wildlife habitat. This information should help inform the issues and concerns that some individuals or organizations have stated about the draft inventories.

4. **Budget Impacts** The cost to implement this legislation is not possible to estimate until after the Council considers the second and third of three steps required by the state - the economic, social, environmental and energy consequences and the program alternatives. These steps have not been completed.

RECOMMENDED ACTION

Adopt Resolution No. 02-3218 and direct staff to continue analysis of the economic, social, environmental and energy consequences of allowing, limiting or prohibiting conflicting uses.

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF COMBINING METRO'S DRAFT INVENTORY MAPS OF REGIONALLY SIGNIFICANT RIPARIAN CORRIDORS AND WILDLIFE HABITAT FOR THE GOAL 5 ESEE ANALYSIS, AND APPROVING METRO'S LOCAL PLAN ANALYSIS	))))))	RESOLUTION NO 02-3218 Introduced by Councilor McLain

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, the Title 3, Section 5 of the UGMFP sets forth actions that the Metro Council anticipated that Metro would take in identifying, considering and protecting regionally significant fish and wildlife habitat conservation areas; and

WHEREAS, Metro is applying the state Goal 5 administrative rule as the framework for identifying regionally significant fish and wildlife habitat areas; and

WHEREAS, the Metro Council adopted a draft inventory and map of regionally significant riparian corridors in Resolution No. 02-3176 on August 8, 2002; and

WHEREAS, the Metro Council adopted a draft inventory and map of regionally significant wildlife habitat in Resolution No. 02-3177A on August 8, 2002; and

WHEREAS, the Goal 5 administrative rule allows local governments to conduct a single economic, social, environment and energy ("ESEE") analysis for more than one significant Goal 5 resource; and

WHEREAS, the Metro Council desires to combine the two draft inventory maps for the purpose of conducting one ESEE analysis for both riparian corridors and wildlife habitat resources within the regionally significant resource sites identified by the Metro Council in Resolution No. 01-3141; and

WHEREAS, Title 3, Section 5 of the Urban Growth Management Functional Plan states that Metro must undertake an analysis to "identify inadequate or inconsistent data and protection in existing Goal 5 data, reports and regulations on fish and wildlife habitat" and "shall complete Goal 5 ESEE analyses ... only for those areas where inadequate or inconsistent data or protection have been identified."; and

WHEREAS, a draft analysis of "inadequate or inconsistent data and protection" ("Local Plan Analysis") among local governments within Metro's jurisdiction is attached as Exhibit B; and

BE IT RESOLVED:

1. The Metro Council adopts the draft map in Exhibit A, as the map of combined riparian corridor and wildlife habitat Goal 5 resources that shall be used for the purpose of identifying conflicting uses and impact areas in the ESEE analysis.

2. The Metro Council reserves the opportunity to minimally or substantially alter the draft map prior to adoption of a final map of regionally significant fish and wildlife habitat areas and Program to Achieve Goal 5, after public comment and review.

3. The Metro Council adopts the Local Plan Analysis in Exhibit B, as required by Title 3, Section 5 of the Urban Growth Management Functional Plan. The Metro Council concludes, based on the evidence in Exhibit B, that Goal 5 data and protection among local governments within Metro's jurisdiction is inconsistent, and that Metro conduct a regional ESEE analysis for all Goal 5 resource sites containing regionally significant riparian corridors and wildlife habitat as identified by the Metro Council in Resolution Nos. 02-3176 and 02-3177A.

4. The Metro Council's action in this resolution is not a final action designating regionally significant fish and wildlife habitat areas, final action on an ESEE analysis, or a final action to protect those areas through a Program to Achieve Goal 5.

ADOPTED by the Metro Council this ____ day of _____ 2002.

_____
Carl Hosticka, Presiding Officer

Approved as to Form:

_____
Daniel B. Cooper, General Counsel

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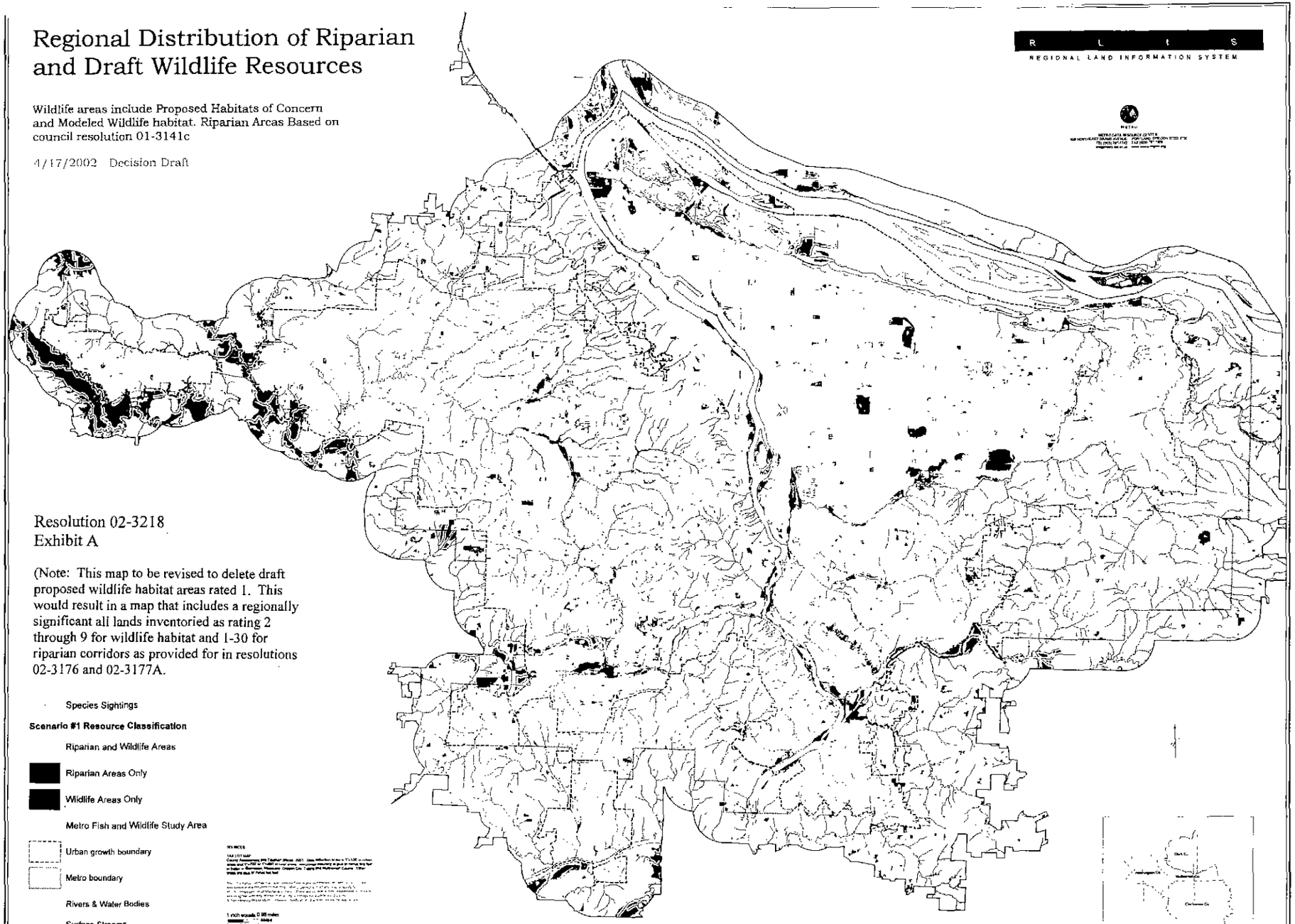
OGC/KDH/kvw (07/30/02)

Regional Distribution of Riparian and Draft Wildlife Resources

Wildlife areas include Proposed Habitats of Concern and Modeled Wildlife habitat. Riparian Areas Based on council resolution 01-3141c

4/17/2002 Decision Draft

R L I S
REGIONAL LAND INFORMATION SYSTEM



Resolution 02-3218
Exhibit A

(Note: This map to be revised to delete draft proposed wildlife habitat areas rated 1. This would result in a map that includes a regionally significant all lands inventoried as rating 2 through 9 for wildlife habitat and 1-30 for riparian corridors as provided for in resolutions 02-3176 and 02-3177A.

Species Sightings

Scenario #1 Resource Classification

Riparian and Wildlife Areas

Riparian Areas Only

Wildlife Areas Only

Metro Fish and Wildlife Study Area

Urban growth boundary

Metro boundary

Rivers & Water Bodies

Surface Streams

Location Map