A G E N D A

600 NORTHEAST GRAND AVENUE | PORTLAND, OREGON 97232 2736
TEL 503 797 1542 | FAX 503 797 1793

METRO

Agenda

MEETING:	METRO COUNCIL WORK SESSION MEETING
DATE:	April 13, 2004
DAY:	Tuesday
TIME:	1:00 PM
PLACE:	Metro Council Chamber

CALL TO ORDER AND ROLL CALL

1:00 PM	**1.**	**DISCUSSION OF AGENDA FOR COUNCIL REGULAR MEETING, APRIL 15, 2004**	
1:15 PM	**2.**	**HIGHWAY 217 CORRIDOR STUDY**	Brandman/ Wieghart
1:35 PM	**3.**	**YEAR 15 PARTNERSHIP PLAN FOR WASTE REDUCTION**	Erickson/ Barrett
1:50 PM	**4.**	**GOAL 5 PRESENTATION**	Jordan/ Deffebach
2:50 PM	**5.**	**CITIZEN COMMUNICATION**	
3:00 PM	**6.**	**CHIEF OPERATING OFFICER COMMUNICATION**	
3:10 PM	**7.**	**COUNCILOR COMMUNICATION**	

ADJOURN

Agenda Item Number 1.0

YEAR 15 PARTNERSHIP PLAN FOR WASTE REDUCTION

Metro Council Work Session
Tuesday, April 13, 2004
Metro Council Chamber

METRO COUNCIL

Work Session Worksheet

Presentation Date: April 13, 2004 Time: Length: 15 minutes

Presentation Title: Year 15 Partnership Plan for Waste Reduction

Department: Solid Waste & Recycling

Presenters: Lee Barrett, Jennifer Erickson

ISSUE & BACKGROUND

Each year since 1990, Metro and local government staff have prepared a work plan for the region's waste reduction activities in the upcoming fiscal year. The plan is designed to provide a regional framework for programs that lend continuity throughout the region, as well as to partner in our efforts to meet state requirements and work toward reaching regional goals.

The plan for the 2004-05 fiscal year is the fifth year of a revised format plan developed in response to lower-than-anticipated recovery rates in the region. The plan includes three program areas: maintenance, targeted competitive grants, and initiatives in commercial, construction and demolition debris, and organics recovery. The Year 15 Partnership Plan is the third year in which a measurement system designed to assess both the accountability and the effectiveness of program elements has been incorporated. The completed assessment for the 2002-03 fiscal year (Year 13) is included with the legislative packet.

The resolution, if passed, will approve the format and framework for the Annual Partnership Plan for Waste Reduction between local governments and Metro. This enables local jurisdictions to complete their portion of the plan and for Metro and local jurisdictions to begin the annual waste reduction program implementation process in July 2004. Legislation approving the Plan framework is traditionally brought before the Metro Council in April to allow for planning deadlines to be met.

OPTIONS AVAILABLE

1) Direct staff to proceed with bringing legislation forward to approve the framework for the Year 15 Plan on April 22, 2004 to enable local government partners to prepare implementation plans by the June 1 deadline.

2) Direct staff to amend or delay the Year 15 Plan as presented.

IMPLICATIONS AND SUGGESTIONS

The primary reason for early adoption of the framework is to allow enough time for local governments to prepare their program plans for submission to Metro by the June 1 deadline. The deadline was moved to an earlier date several years ago to enable programs to be reviewed, approved and implemented as early in the fiscal year as possible.

The associated budget presented in the in the Partnership Plan is draft until the Metro budget is approved. Local jurisdictions understand that funding levels are draft until the Metro budget is adopted and are able to prepare plans in advance and then adapt them as needed to any changing budgetary conditions.

A later approval date means many programs and associated agreements would not be executed until several months into the fiscal year, leaving less time for actual implementation.

QUESTION(S) PRESENTED FOR CONSIDERATION

1) Shall staff proceed with the legislation according to the standard schedule?

LEGISLATION WOULD BE REQUIRED FOR COUNCIL ACTION _X_Yes __No
DRAFT IS ATTACHED _X__Yes ____No

SCHEDULE FOR WORK SESSION

Department Director/Head Approval _____
Chief Operating Officer Approval _____

T:\RemWRLG Grants\Year 15\YR 15 work session 4-13-04.doc

Agenda Item Number 2.0

HIGHWAY 217 CORRIDOR STUDY

Metro Council Work Session
Tuesday, April 13, 2004
Metro Council Chamber

METRO COUNCIL

Work Session Worksheet

Presentation Date: 4/13/04 Time: Length:

Presentation Title: Highway 217 Corridor Study

Department: Planning

Presenters: Bridget Wieghart, Richard Brandman

ISSUE & BACKGROUND

Study of the Highway 217 Corridor, identified as a high priority during the Corridor Initiatives Study, began in summer 2003. In September 2002, the Metro Council approved an agreement with the Federal Highway Administration (FHWA) for a grant to study value pricing options in this corridor. In December 2002, the Metro Council authorized the request for proposals execution of contracts to complete the study. The study will consider a range of alternatives including general-purpose lanes and value priced lanes, consistent with regional policy (RTP Policy 19.2).

The Highway 217 Corridor Study Policy Advisory Committee, comprised of elected officials, community members and business leaders appointed by the Council President and confirmed by the Metro Council, began meeting in September 2003. The study will be completed in two phases by the spring 2005. The first study phase is expected to be complete late this summer.

At their March meeting, the policy advisory committee unanimously approved the set of options to be studied in phase one. The alternatives range from a low-build alternative that focuses on implementing arterial and transit improvements included in the RTP preferred alternative to six-lane options, both general purpose and managed lanes. Each option includes improvements to the bike and pedestrian network.

Options were developed through review of previous studies of the corridor including local transportation system plans and a 1999 study of possible corridor improvements by ODOT. In addition, the study hosted a series of stakeholder interviews and focus groups, posted an on-line survey that received more than 1,500 responses and met with neighborhood groups to better understand the needs and preferences of those who live in or use the corridor.

Options approved by the policy advisory committee:

- Baseline
- 4-lane Highway 217 with braided ramps and transit and arterial improvements
- 6-lane Highway 217-new general purpose lanes
- 6-lane Highway 217- new general purpose lanes and braided ramps
- 6-lane Highway 217- new HOV lanes
- 6-lane Highway 217- new value priced lanes

- 6-lane Highway 217-new general purpose lanes and tolled ramp meter bypass

The policy advisory committee considered studying an eight-lane option and determined that it should not be considered at this time. The committee will reconsider inclusion of an eight-lane option if the six-lane option does not satisfy travel demand over the 20-year planning horizon.

Metro staff and consultants will now begin analyzing the costs, benefits and impacts of these alternatives. The Baseline option, which reflects the RTP's financially constrained alternative, will be used as a comparison for the other options. Once analysis is complete, it will be shared with the policy advisory committee and the public. Community members will be invited to review and comment on the options. Public input will be reviewed by the policy advisory committee as they refine the options for the second study phase.

OPTIONS AVAILABLE

No action required.

IMPLICATIONS AND SUGGESTIONS

No action required.

QUESTION(S) PRESENTED FOR CONSIDERATION

Is the Metro Council comfortable with the range of alternatives presented for analysis in the first phase of the study?

LEGISLATION WOULD BE REQUIRED FOR COUNCIL ACTION __Yes _x_No
DRAFT IS ATTACHED ___Yes __x_No

SCHEDULE FOR WORK SESSION

Department Director/Head Approval _____
Chief Operating Officer Approval _____

Fall/Winter 2003

Highway 217 Corridor Study

Like the entire region, Washington County has experienced unprecedented growth during the last 20 years – and the county is still growing. New residents and businesses create new demands – from moving freight to additional bus riders – on the transportation system.

Highway 217, the major north-south route for the county, operates near capacity during rush hour and can be especially congested when a minor accident occurs or even when it rains.

Because of growing demands on Highway 217, Metro, in partnership with the cities of Beaverton, Lake Oswego and Tigard; Washington County, the Oregon Department of Transportation and TriMet, is undertaking a study of the Highway 217 Corridor. The 18-month study, guided by a Policy Advisory Committee that includes business representatives, residents and elected officials, will consider improvements to make Highway 217 function more efficiently while minimizing impacts to surrounding communities.

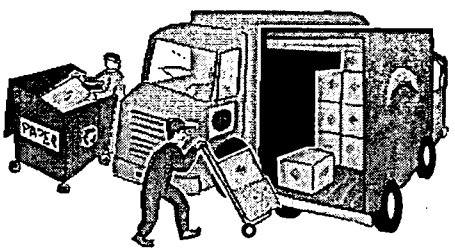
Study goal

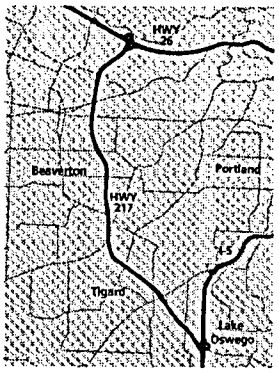
The goal of the study is to develop transportation strategies that can be implemented during the next 20 years to provide for efficient movement of goods and people along the corridor while supporting economically dynamic and attractive regional and town centers and respecting the livability of nearby communities.

The study will look at ways to:

- engage community members in discussions about possible improvements and develop widely supported projects that include financing and phasing plans
- support and enhance regional and town centers by improving bike, pedestrian, roadway and transit access to centers and connections across the highway
- enhance the function of Highway 217 as a major thoroughfare that serves key regional destinations
- promote the safety of all modes and develop alternatives that are cost effective
- support the pivotal role that Highway 217 plays in the economy of the region by enhancing the efficient movement of goods, services and people along the corridor
- minimize impacts to neighborhoods and the natural environment
- consider a range of lane-types, including carpool and peak hour priced lanes, and enhanced transit service.

The Policy Advisory Committee and technical staff will work together to develop criteria to measure how well each alternative achieves project goals.





Study organization

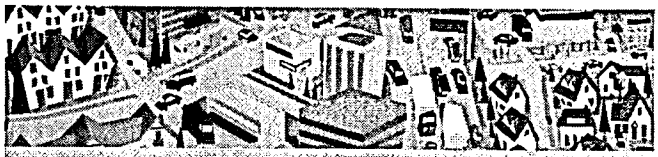
An advisory committee of technical staff from each of the jurisdictions will meet regularly to review technical documents, study options and designs and findings.

The Policy Advisory Committee will meet once a month throughout the study to review findings, make recommendations and advise staff on public outreach. The committee also will hear public comment and make final study recommendations to the Metro Council and local jurisdictions.

Get involved

As the study progresses, there will be many opportunities for you and other community members to get involved. Study staff will provide information and ask for feedback through workshops and open houses, meetings with neighborhood and civic organizations, public opinion research and one-on-one meetings. To join the mailing list for notices of future meetings and public comment opportunities, call Kristin Hull at (503) 797-1864 or send an e-mail to hull@metro.dst.or.us.

Policy Advisory Committee meetings are held from 4:30 to 6:30 p.m. on the third Wednesday of each month at the Beaverton City Library, 12375 SW Fifth St., and are open to the public. Visit Metro's web site at **www.metro-region.org** for meeting information.

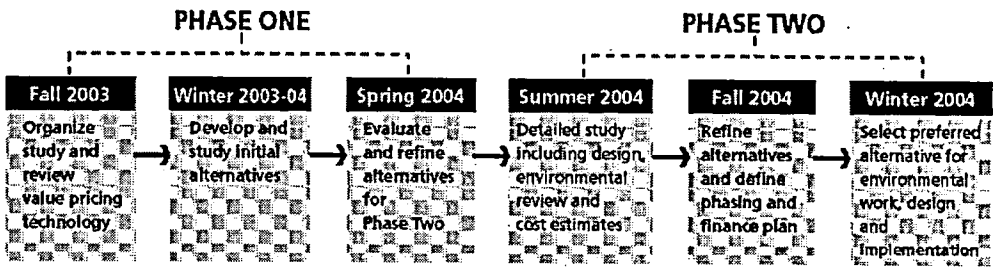


PAC members

Brian Moore – PAC chair; Tigard City Council; PGE
Frank Angelo – Westside Economic Alliance Transportation Committee chair
Dan Aberg – Westside Transportation Alliance
Steve Clark – Community Newspapers; Westside Economic Alliance
Domonic Biggi – Beaverton Chamber of Commerce; Beaverton Foods
Nathalie Darcy – Garden Home resident
Rob Drake – mayor of Beaverton; member of Metro's Joint Policy Advisory Committee on Transportation
Matthew Garret – ODOT Region 1
Kent Haldorson – citizen representative, north of Highway 217
S. Joan Hamrick – citizen representative, south of Highway 217
Van Hooper – Sysco Food Systems
Carl Hosticka – Metro councilor, District 3
James A. Johnson – frequent user of Highway 217
John Kaye – Tektronix
George Machan – Cornforth Consultants, Inc.
Jim Persey – Greenway Neighborhood Association Committee chair
Lynn Peterson – Lake Oswego City Council
Jack Reardon – Washington Square
Dick Schouten – Washington County Board of Commissioners
Dennis Thomas – Beaverton School District

Timeline

The study will be completed in two consecutive phases beginning in September 2003.



HIGHWAY 217 CORRIDOR STUDY

Printed on recycled paper. 03515jl

Agenda Item Number 3.0

GOAL 5 PRESENTATION

Metro Council Work Session
Tuesday, April 13, 2004
Metro Council Chamber

METRO COUNCIL

Work Session Worksheet

Presentation Date: 4/13/04 Time: Length: 30 min

Presentation Title: Discussion of a resolution for the purpose of endorsing Metro's draft Goal 5 Phase 2 ESEE Analysis, making preliminary decisions to allow, limit or prohibit conflicting uses on regionally significant fish and wildlife habitat, and directing staff to develop a program to protect and restore regionally significant fish and wildlife habitat

Department: Planning

Presenters: Jordan, Cotugno, Deffebach

ISSUE & BACKGROUND

The Fish and Wildlife Habitat Protection Program staff has completed a draft of the Economic, Social, Environmental and Energy (ESEE) consequences of applying different protection levels to the regionally significant fish and wildlife habitat. By May, Metro Council is scheduled to consider a preliminary recommendation for the extent of habitat area protection by specifying where development (or conflicting uses) should be allowed, limited or prohibited and giving direction for the development of the protection program.

Metro has conducted a public outreach effort to solicit comments on the habitat protection options prior to Council consideration of a recommendation. The effort included mailing almost 90,000 notices to owners of property with regionally significant resources and other interested parties. The public had opportunities to comment at six open houses, participate in an electronic survey, leave comment cards, visit the web site and write, call or visit Councilors and staff.

Based on the ESEE analysis and public comments, staff has prepared a resolution with a recommendation for fish and wildlife protection levels and direction for developing the protection program for Council consideration. The resolution will be included in the Council Packet for the Council session on April 15. The first hearing on the recommendation is scheduled for April 15 with additional hearings scheduled for May 4 and May 20. At this work session, staff will review the staff proposed recommendation.

OPTIONS AVAILABLE

The discussion of the resolution will give Councilors an opportunity to review it before the public hearing. They will have additional opportunities during the public hearings.

IMPLICATIONS AND SUGGESTIONS

Councilors will have opportunities to consider comments at the public hearings and make additional revisions to the recommendation. This initial presentation will give them an opportunity to begin consideration of such revisions.

QUESTION(S) PRESENTED FOR CONSIDERATION

Staff request that Councilors identify issues that they have questions about and would like staff to respond to as they consider the resolution

LEGISLATION WOULD BE REQUIRED FOR COUNCIL ACTION _X_Yes __No
DRAFT IS ATTACHED ___Yes X___No

SCHEDULE FOR WORK SESSION

Department Director/Head Approval _____
Chief Operating Officer Approval _____

04/1304c-01

A G E N D A

600 NORTHEAST GRAND AVENUE | PORTLAND, OREGON 97232 2736
TEL 503 797 1542 | FAX 503 797 1793

METRO

Agenda

MEETING:	METRO COUNCIL REGULAR MEETING
DATE:	April 15, 2004
DAY:	Thursday
TIME:	2:00 PM
PLACE:	Metro Council Chamber

CALL TO ORDER AND ROLL CALL

1. INTRODUCTIONS

2. CITIZEN COMMUNICATIONS

3. CONSENT AGENDA

3.1 Consideration of Minutes for the April 1, 2004 Metro Council Regular Meeting.

3.2 **Resolution No. 04-3443**, For the Purpose of Confirming the Appointments of Mike Huycke and Ray Phelps to the Regional Solid Waste Advisory Committee (SWAC)

3.3 **Resolution No. 04-3444**, For the Purpose of Reappointing Tanya Schaefer to the Regional Solid Waste Advisory Committee (SWAC).

4. ORDINANCES – FIRST READING

4.1 **Ordinance No. 04-1040**, For the Purpose of Amending the Metro Urban Growth Boundary, the Regional Framework Plan and the Metro Code to Increase the Capacity of the Boundary to Accommodate Growth in Industrial Employment. ***(Available at April 15, 2004 Council Meeting)***

4.2 **Ordinance No. 04-1048**, For the Purpose of Amending Metro Code Chapter 7.01 to Increase the Amount of Additional Excise Tax Dedicated to Funding Metro's Regional Parks and Greenspaces Programs and to Provide Dedicated Funding for Metro's Tourism Opportunity and Competitiveness Account.

5. ORDINANCES - SECOND READING

5.1	**Ordinance No. 03-1021A,** For the Purpose of Amending Title 4 of the Urban Growth Management Functional Plan to Improve its Protection of Industrial Land and to Make Corrections.	McLain
5.2	**Ordinance No. 03-1022A,** For the Purpose of Amending the Employment and Industrial Areas Map to Add Regionally Significant Industrial Areas in Compliance With Subsection J of Section 3.07.420 of Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan.	Park
5.3	**Ordinance No. 04-1042**, For the Purpose of Amending Metro Code Chapter 5.02 to Amend Disposal Charges and System Fees.	McLain
5.4	**Ordinance No. 04-1043,** For the Purpose of Amending Metro Code Chapter 5.03 to Amend License and Franchise Fees; and Making Related Changes to Metro Code Chapter 5.01.	McLain
5.5	**Ordinance No. 04-1044**, For the Purpose of Adopting the Annual Budget For Fiscal Year 2004-05, Making Appropriations, and Levying Ad Valorem Taxes, and Declaring an Emergency. ***[PUBLIC HEARING; NO ACTION]***	Newman

6. RESOLUTIONS

6.1	**Resolution No. 04-3441**, For the Purpose of Authorizing the Chief Operating Officer to Award Additional Regional System Fee and Excise Tax Credits in FY 2003-04.	Monroe
6.2	**Resolution No. 04-3440**, For the Purpose of Endorsing Metro's Draft Goal 5 Phase 2 ESEE Analysis, Making Preliminary Decisions to Allow, Limit, or Prohibit Conflicting Uses on Regionally Significant Fish and Wildlife Habitat And Directing Staff to Develop a Program to Protect and Restore Regionally Significant Fish and Wildlife Habitat. ***(Public Hearing)***	Hosticka

7. CHIEF OPERATING OFFICER COMMUNICATION

8. COUNCILOR COMMUNICATION

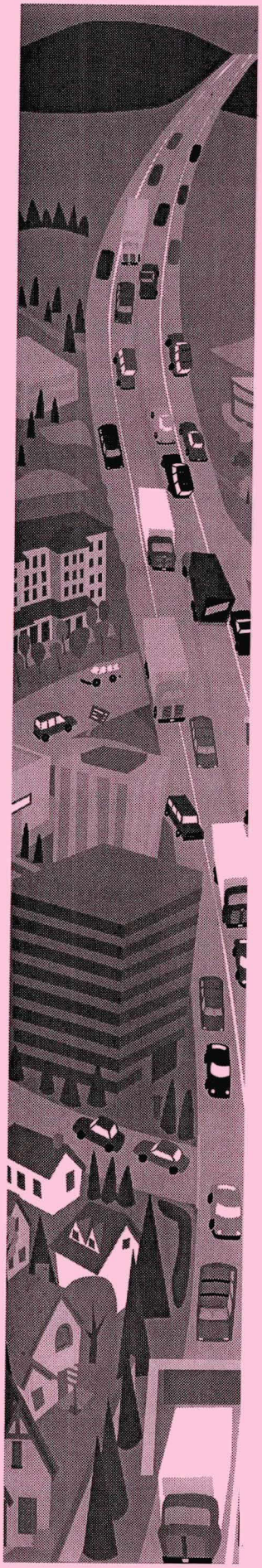
ADJOURN

Television schedule for April 15, 2004 Metro Council meeting

Clackamas, Multnomah and Washington counties, Vancouver, Wash. Channel 11 -- Community Access Network www.yourtvtv.org -- (503) 629-8534 Thursday, April 15 at 2 p.m. (live)	**Washington County** Channel 30 -- TVTV www.yourtvtv.org -- (503) 629-8534 Saturday, April 18 at 11 p.m. Sunday, April 19 at 11 p.m. Tuesday, April 20 at 6 a.m. Wednesday, April 21 at 4 p.m.
Oregon City, Gladstone Channel 28 -- Willamette Falls Television www.wftvaccess.com -- (503) 650-0275 Call or visit website for program times.	**West Linn** Channel 30 -- Willamette Falls Television www.wftvaccess.com -- (503) 650-0275 Call or visit website for program times.
Portland Channel 30 (CityNet 30) -- Portland Community Media www.pcmtv.org -- (503) 288-1515	

PLEASE NOTE: Show times are tentative and in some cases the entire meeting may not be shown due to length. Call or check your community access station web site to confirm program times.

Agenda items may not be considered in the exact order. For questions about the agenda, call Clerk of the Council, Chris Billington, 797-1542. Public Hearings are held on all ordinances second read and on resolutions upon request of the public. Documents for the record must be submitted to the Clerk of the Council to be considered included in the decision record. Documents can be submitted by email, fax or mail or in person to the Clerk of the Council. For assistance per the American Disabilities Act (ADA), dial TDD 797-1804 or 797-1540 (Council Office).



Fall/Winter 2003

Highway 217 Corridor Study

Like the entire region, Washington County has experienced unprecedented growth during the last 20 years – and the county is still growing. New residents and businesses create new demands – from moving freight to additional bus riders – on the transportation system.

Highway 217, the major north-south route for the county, operates near capacity during rush hour and can be especially congested when a minor accident occurs or even when it rains.

Because of growing demands on Highway 217, Metro, in partnership with the cities of Beaverton, Lake Oswego and Tigard; Washington County, the Oregon Department of Transportation and TriMet, is undertaking a study of the Highway 217 Corridor. The 18-month study, guided by a Policy Advisory Committee that includes business representatives, residents and elected officials, will consider improvements to make Highway 217 function more efficiently while minimizing impacts to surrounding communities.

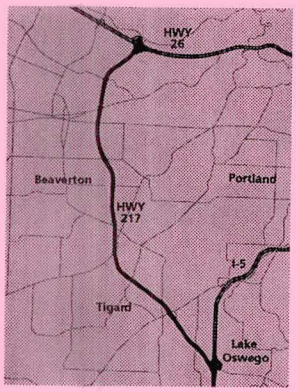
Study goal

The goal of the study is to develop transportation strategies that can be implemented during the next 20 years to provide for efficient movement of goods and people along the corridor while supporting economically dynamic and attractive regional and town centers and respecting the livability of nearby communities.

The study will look at ways to:

- engage community members in discussions about possible improvements and develop widely supported projects that include financing and phasing plans
- support and enhance regional and town centers by improving bike, pedestrian, roadway and transit access to centers and connections across the highway
- enhance the function of Highway 217 as a major thoroughfare that serves key regional destinations
- promote the safety of all modes and develop alternatives that are cost effective
- support the pivotal role that Highway 217 plays in the economy of the region by enhancing the efficient movement of goods, services and people along the corridor
- minimize impacts to neighborhoods and the natural environment
- consider a range of lane-types, including carpool and peak hour priced lanes, and enhanced transit service.

The Policy Advisory Committee and technical staff will work together to develop criteria to measure how well each alternative achieves project goals.



Study organization

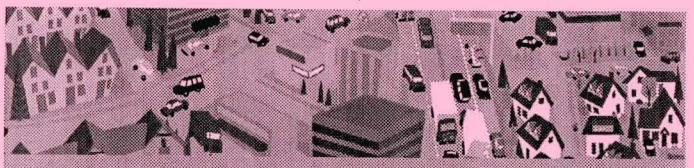
An advisory committee of technical staff from each of the jurisdictions will meet regularly to review technical documents, study options and designs and findings.

The Policy Advisory Committee will meet once a month throughout the study to review findings, make recommendations and advise staff on public outreach. The committee also will hear public comment and make final study recommendations to the Metro Council and local jurisdictions.

Get involved

As the study progresses, there will be many opportunities for you and other community members to get involved. Study staff will provide information and ask for feedback through workshops and open houses, meetings with neighborhood and civic organizations, public opinion research and one-on-one meetings. To join the mailing list for notices of future meetings and public comment opportunities, call Kristin Hull at (503) 797-1864 or send an e-mail to hull@metro.dst.or.us.

Policy Advisory Committee meetings are held from 4:30 to 6:30 p.m. on the third Wednesday of each month at the Beaverton City Library, 12375 SW Fifth St., and are open to the public. Visit Metro's web site at **www.metro-region.org** for meeting information.



PAC members

Brian Moore – PAC chair; Tigard City Council; PGE

Frank Angelo – Westside Economic Alliance Transportation Committee chair

Dan Aberg – Westside Transportation Alliance

Steve Clark – Community Newspapers; Westside Economic Alliance

Domonic Biggi – Beaverton Chamber of Commerce; Beaverton Foods

Nathalie Darcy – Garden Home resident

Rob Drake – mayor of Beaverton; member of Metro's Joint Policy Advisory Committee on Transportation

Matthew Garret – ODOT Region 1

Kent Haldorson – citizen representative, north of Highway 217

S. Joan Hamrick – citizen representative, south of Highway 217

Van Hooper – Sysco Food Systems

Carl Hosticka – Metro councilor, District 3

James A. Johnson – frequent user of Highway 217

John Kaye – Tektronix

George Machan – Cornforth Consultants, Inc.

Jim Persey – Greenway Neighborhood Association Committee chair

Lynn Peterson – Lake Oswego City Council

Jack Reardon – Washington Square

Dick Schouten – Washington County Board of Commissioners

Dennis Thomas – Beaverton School District

Timeline

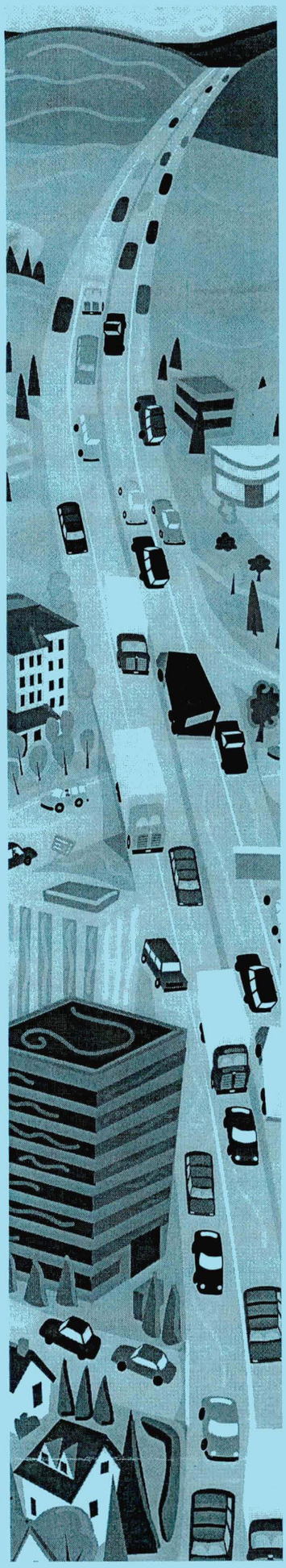
The study will be completed in two consecutive phases beginning in September 2003.

Fall 2003	Winter 2003-04	Spring 2004	Summer 2004	Fall 2004	Winter 2005
Organize study and review value pricing technology	Develop initial alternatives	Finalize initial alternatives and begin analysis	Complete analysis	Public input and refinement of alternatives	Detailed study and selection of preferred alternative

HIGHWAY 217 CORRIDOR STUDY

Printed on recycled paper. 03515jl

Phase One Highway 217 Corridor Study Options



The Highway 217 Policy Advisory Committee, a committee of community members, business representatives and elected officials, has approved a range of alternatives to be considered during the first phase of the Highway 217 Corridor Study. The first phase will include preliminary technical and environmental analysis of each option. In fall 2004, community members will be invited to review the analysis and help the committee select which options should be carried forward to the second phase.

Expected to recommend transportation improvements for the Highway 217 corridor in the spring 2005, the study is a cooperative effort by Metro, the cities of Beaverton, Lake Oswego and Tigard, Washington County, the Oregon Department of Transportation and TriMet.

Seven options have been selected for study. In addition to these options, the study will identify needed bike, pedestrian and local street connections in the corridor. These improvements will be considered in addition to the baseline option.

Baseline option

The baseline option helps determine the benefits of each alternative by offering a base for comparison. It assumes construction of improvements that are adopted as part of the region's financially constrained transportation plan. The financially constrained plan includes road, transit, bike and pedestrian projects expected to be constructed in the next 20 years given current funding streams. Because these improvements are likely to be constructed, they are included as the base for each of the options that will be studied.

The baseline option would include:

- additional northbound lane on Highway 217 from Canyon Road to US 26
- additional lanes on US 26 from the Sylvan interchange to Highway 217 (under construction)
- additional lanes on US 26 from Highway 217 to Murray Boulevard
- roadway improvements throughout the corridor planned by local jurisdictions
- transit service increases
- commuter rail service from Wilsonville to Beaverton during rush hour.

Four-lane plus transit and interchange improvements option

The four-lane option does not include new lanes on Highway 217 except a new northbound lane from Canyon Road to US 26 that has already been funded. This option attempts to meet transportation demand in the corridor by improving ramps, increasing transit service and constructing improvements to other streets that are in the region's preferred transportation plan. The region's preferred plan includes projects that are not expected be constructed unless new funding sources are identified.

This option also would include building braided ramps or consolidating interchanges by connecting them with frontage roads. These solutions seek to address the merge and weave problem that has been identified by both technical analysis and community observation as a cause of accidents and slow traffic on Highway 217.

The four-lane plus option would include:

- four through lanes from Canyon Road to I-5 on Highway 217 (no additional through lanes)
- six through lanes north of Canyon Road to U.S. 26, as currently constructed or funded
- improvements to streets that cross or parallel Highway 217 that are included in the region's preferred transportation plan
- either braided ramps or consolidated interchanges at some locations on the highway
- additional bus service such as new light-rail feeder routes, new connections between centers and capital improvements to make bus service function better
- more frequent headways and longer hours of operation for commuter rail between Wilsonville and Beaverton.

Braided ramps separate traffic that is trying to exit from entering traffic by creating a bridge for traffic entering the freeway that does not descend to the freeway until it has crossed over traffic exiting the freeway. In this way, traffic engineers "braid" ramps with some traffic crossing over and some crossing under to prevent accidents and slowing traffic.

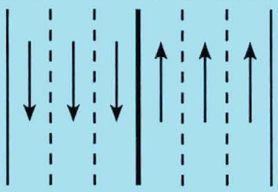
For more information, call Kristin Hull at (503) 797-1864 or send e-mail to hull@metro.dst.or.us.

HIGHWAY 217 CORRIDOR STUDY

Another way to address merge/weave conflicts is **consolidating interchanges** and connecting them with frontage roads. This solution has been applied at Canyon Road and the Beaverton-Hillsdale Highway on Highway 217 where access to two streets has been combined into one interchange. Drivers entering Highway 217 going north from Beaverton-Hillsdale Highway use a frontage road to enter at the Canyon Road entrance. Frontage roads are less expensive to construct than braided ramps but require more right of way. They also remove local trips from the freeway by providing a parallel off-freeway connection between streets.

SIX LANE OPTIONS

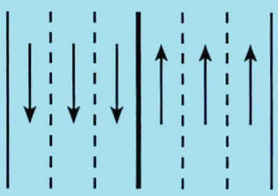
Six-lane option without interchange improvements



The six-lane option would include:

- six through lanes (three in each direction) on Highway 217 from US 26 to I-5
- existing on and off ramp system with auxiliary lanes
- improvements included in the baseline option.

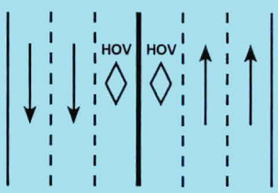
Six-lane plus option



The six-lane plus option would include:

- six lanes (three in each direction) on Highway 217 from US 26 to I-5
- braided ramps or consolidated interchanges
- improvements included in the baseline option.

Carpool lane option



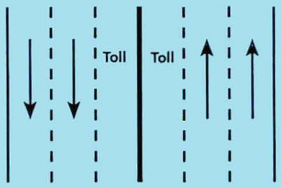
Carpool lanes, like those on I-5 between 405 and the Interstate Bridge, are lanes restricted to automobiles carrying two or more people and buses during rush hours. Carpool lanes are an incentive to carpool or take transit. A bypass lane on ramps for carpools could be constructed to further reduce delay for carpools. Carpool lanes are sometimes referred to as high-occupancy vehicle (HOV) lanes.

The carpool lane option would include:

- six lanes (three in each direction) on Highway 217 from US 26 and I-5
- one lane in each direction would be reserved for carpools during rush hours
- two express bus routes that would use the carpool lane to provide service between key corridor destinations
- braided ramps or consolidated interchanges
- improvements included in the baseline option.

Printed on recycled-content paper. 04142tsm

Rush-hour toll lane option



In other cities, a concept called rush-hour tolling, or value pricing, has been successfully implemented to give drivers another option to sitting in traffic and to help fund construction of new lanes. In this case, rush-hour tolling would include building a new lane on Highway 217 that drivers would pay a fee to use during the peak hours.

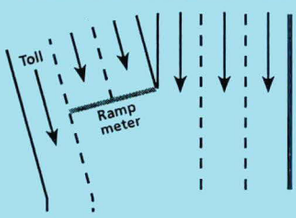
The toll would only be applied to the new lane and would be assessed electronically without requiring drivers to stop at a tollbooth. The toll would vary so that it would cost more to use the lane when the highway is most congested.

The rush-hour toll lane option would include:

- six lanes (three in each direction) on Highway 217 from US 26 and I-5
- one lane in each direction would be a rush-hour toll lane
- two express bus routes that would use the tolled lane to provide service between key corridor destinations
- braided ramps or consolidated interchanges
- improvements included in the baseline option.

The rush-hour toll lane could include an extra lane on freeway ramps to allow those using the toll lane to bypass the queue at the ramp meter or a ramp that provides direct access to the toll lane.

Ramp meter bypass option



Another way to apply the rush-hour tolling concept would be to offer drivers a choice to wait at ramp meters as they do today or pay a toll to avoid waiting on the ramp. This option would include a new lane on the freeway that would be open to all traffic. Like rush-hour tolling, tolls would be assessed electronically without requiring drivers to stop at a tollbooth and would vary based on the level of congestion.

The ramp meter bypass option would include:

- six lanes (three in each direction) on Highway 217 from US 26 and I-5
- an extra tolled lane on entrance ramps
- two new express bus routes that would use the ramp meter bypass and provide service between key corridor destinations
- braided ramps or consolidated interchanges
- improvements included in the baseline option.

NOT SELECTED FOR STUDY AT THIS TIME

Eight-lane option

The committee decided not to include an eight-lane option at this time because it would have significant environmental and neighborhood impacts and would cost about twice as much as a six-lane option. The committee will consider studying it in the second phase if projected traffic demand cannot be met with the other options.

04/1304-04

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ENDORSING METRO'S DRAFT GOAL 5 PHASE 2 ESEE ANALYSIS, MAKING PRELIMINARY DECISIONS TO ALLOW, LIMIT, OR PROHIBIT CONFLICTING USES ON REGIONALLY SIGNIFICANT FISH AND WILDLIFE HABITAT; AND DIRECTING STAFF TO DEVELOP A PROGRAM TO PROTECT AND RESTORE REGIONALLY SIGNIFICANT FISH AND WILDLIFE HABITAT	))))))	RESOLUTION NO. 04-3440 Introduced by Michael Jordan, Chief Operating Officer, with the concurrence of the Council President

WHEREAS, Metro is developing a regional fish and wildlife habitat protection and restoration program consistent with the state planning Goal 5 administrative rule, OAR 660-023-0000 through OAR 660-023-0250; and

WHEREAS, Metro is conducting its analysis of the economic, social, environmental, and energy (ESEE) consequences of allowing, limiting, or prohibiting conflicting uses on identified habitat land and impact areas in two phases; and

WHEREAS, on October 30, 2003, Metro Council adopted Resolution No. 03-3376B for the purpose of endorsing Metro's draft Goal 5 Phase 1 Economic, Social, Environmental and Energy Analysis and directing staff to conduct more specific ESEE analysis of multiple fish and wildlife habitat protection and restoration program options; and

WHEREAS, Metro has now completed a draft Phase 2 ESEE consequences analysis of the tradeoffs identified in Phase 1 as applied to six program options for protection of regionally significant resource sites, attached as Exhibit A (the "Draft Phase 2 ESEE Analysis"); and

WHEREAS, based on the Draft Phase 2 ESEE Analysis, Metro is prepared to make a preliminary decision of where to allow, limit, or prohibit development on regionally significant fish and wildlife habitat lands and impact areas and, based on that preliminary decision, to develop a Program to Achieve Goal 5; and

WHEREAS, throughout its ESEE analysis, Metro has continued to rely on the input and advice of the Goal 5 Technical Advisory Committee, the Water Resources Policy Advisory Committee, the Goal 5 Economics Technical Advisory Committee, the Goal 5 Independent Economic Advisory Board, and an independent, well-respected economic consultant, ECONorthwest, and those advisors reviewed the Draft Phase 2 ESEE Analysis and provided input and advice on that document; and

WHEREAS, Metro engaged in extensive public outreach to inform the citizens of the region about this stage of Metro's work to develop a fish and wildlife habitat protection and restoration program consistent with the Goal 5 administrative rule, including participating in seven public open houses, distributing material at public events, and presenting Goal 5 material to other interested organizations, groups, businesses, non-profit agencies, and property owners; now therefore

BE IT RESOLVED:

1. Endorse Draft Phase 2 ESEE Analysis

The Metro Council endorses the Draft Phase 2 ESEE Analysis in Exhibit A and reserves the opportunity to minimally or substantially alter the ESEE analysis prior to adoption of a final ESEE analysis and Program to Achieve Goal 5, after additional public comment and review. The Metro Council further directs staff to address and consider comments regarding Exhibit A that were received from several Metro advisory committees, as identified on the "Addendum to Exhibit A," and to revise the Draft Phase 2 ESEE Analysis accordingly. As used in this resolution, "Exhibit A" includes both the Draft Phase 2 ESEE Analysis and the Addendum to Exhibit A.

2. Preliminary Allow-Limit-Prohibit Decision

Based upon and supported by the Metro Council's review of the economic, social, environmental, and energy consequences of decisions to allow, limit, or prohibit conflicting uses in identified fish and wildlife habitat resources and impact areas, on the technical and policy advice Metro has received from its advisory committees, and on the public comments received regarding the ESEE analysis, the Metro Council concludes that the preliminary allow, limit, and prohibit decisions described in Exhibit B, which represent a modified regulatory Option 2B, best reflect the ESEE tradeoffs described in Exhibit A.

3. Direct Staff to Develop Regulatory Program

The Metro Council directs staff to develop a program to protect and restore fish and wildlife habitat as described in Exhibit C. Such regulatory program shall be consistent with the preliminary allow, limit, and prohibit decision described in Exhibit B.

4. Direct Staff to Develop Non-Regulatory Program

The Metro Council directs staff to further develop and analyze a non-regulatory program to protect and restore fish and wildlife habitat as described in Exhibit D.

5. This Resolution is Not a Final Action

The Metro Council's action in this resolution is not a final action designating regionally significant fish and wildlife habitat areas, a final action on an ESEE analysis, a final action on whether and where to allow, limit, or prohibit conflicting uses on regionally significant habitat and impact areas, or a final action to protect regionally significant habitat through a Program to Achieve Goal 5. Pursuant to OAR 660-023-0080, when Metro takes final action to approve a Program to Achieve Goal 5 it will do so by adopting an ordinance that will include an amendment to the Urban Growth Management Functional Plan, approval of the final designation of significant fish and wildlife habitat areas, and approval of a final ESEE analysis (including final allow, limit, and prohibit decisions), and then Metro will submit such functional plan amendments to the Oregon Land Conservation and Development Commission for acknowledgement under the provisions of ORS 197.251 and ORS 197.274.

ADOPTED by the Metro Council this ___ day of _____ 2004.

_____
David Bragdon, Council President

Approved as to Form:

_____
Dan Cooper, Metro Attorney

M:\attorney\confidential\DOCS#07.P&D\04 2040 Growth Concept\03 UGMFP\02 Stream Protection (Title 3)\02Goal5\R04-3440 with exhibits 040804.DOC

EXHIBIT B TO RESOLUTION NO. 04-3440

REGULATORY PROGRAM OPTION

Based on the results of the Phase II ESEE analysis, public comments, and technical review, Metro Council recommends Option 2B as modified (shown in the table below) to form the basis for a regulatory program to protect fish and wildlife habitat.

Option 2B (modified): Low level of protection in high urban development value areas, moderate level of protection in other areas.

Fish & wildlife habitat classification	HIGH Urban development value	MEDIUM Urban development value	LOW Urban development value	Other areas
	Primary 2040 components,[1] high employment value, or high land value[4]	Secondary 2040 components,[2] medium employment value, or medium land value[4]	Tertiary 2040 components,[3] low employment value, or low land value[4]	Parks and Open Spaces, no design types outside UGB
Class I Riparian/Wildlife	ML	SL	SL	SL
Class II Riparian/Wildlife	LL	LL	ML	ML
Class III Riparian/Wildlife	LL	LL	LL	ML
Class A Upland Wildlife	LL	ML	ML	SL
Class B Upland Wildlife	LL	LL	ML	ML
Class C Upland Wildlife	LL	LL	LL	ML
Impact Areas	A	A	A	A

[1]Primary 2040 components: Regional Centers, Central City, Regionally Significant Industrial Areas
[2]Secondary 2040 components: Town Centers, Main Streets, Station Communities, Other Industrial areas, Employment Centers
[3]Tertiary 2040 components: Inner and outer neighborhoods, Corridors
[4] Land value excludes residential lands.

Key to abbreviations
SL = strictly limit
ML = moderately limit
LL = lightly limit
A = allow

EXHIBIT C TO RESOLUTION NO. 04-3440

DEVELOPING A REGULATORY PROGRAM

The third step of the Goal 5 process calls for the development of a program to protect habitat areas by allowing, limiting, or prohibiting conflicting uses on habitat land based on the results of the ESEE analysis. Council directs staff to address the following concerns when developing a regulatory program to protect fish and wildlife habitat:

A. Defining limit in the program phase

- Specifically define limit. As a guiding principle, first avoid, then limit, and finally mitigate adverse impacts of development to protect fish and wildlife habitat. Some of the key issues in the definition relate to expected impact on housing and employment capacity, disturbance area extent and location, and mitigation, as illustrated below:

  - **Strictly Limit** – Strict avoidance of the habitat (especially Habitats of Concern) with maximum allowable disturbance areas, design standards, and mitigation requirements. Allow trails, roads and other public access to meet the public good (e.g. construction and maintenance of public utilities such as water storage facilities). Expect some overall loss of development capacity; consider development of a transfer of development right (TDR) program to compensate for lost development capacity.

  - **Moderately Limit** – Avoid impacts, limit disturbance area, require mitigation, and use design standards and other tools to protect habitat (especially Habitats of Concern) while achieving goals for employment and housing densities. Work to minimize loss of development capacity; consider development of a TDR program to compensate for lost capacity.

  - **Lightly Limit** – Avoid impacts (especially Habitats of Concern), allow development with less restrictive limits on disturbance area, design standards, and mitigation requirements. Assumes no loss of development capacity.

B. Effect on existing development and redevelopment

- Clarify that a regulatory program would apply only to activities that require a land use permit and not to other activities (such as gardening, lawn care, routine property maintenance, and actions necessary to prevent natural hazards).
- Clarify that redevelopment that requires permits could be subject to new regulations, which could depend on a redevelopment threshold determined in the program.

C. Regulatory flexibility

- Include regulatory flexibility that allows development while avoiding, minimizing and mitigating impacts on habitat in the program. Some ways in which regulations could limit development include lowered density, minimum disturbance areas, and setbacks from significant resources. Development can occur in a manner that avoids or reduces the impact on the habitat, for example: cluster development, streamside

buffers, and habitat-friendly development techniques can all provide some level of regulatory flexibility that allows development to occur while protecting habitat. A transfer of development rights (TDR) program could also compensate for loss of development capacity.

D. Mitigation, mitigation banking and restoration

- Include mitigation requirements for development in habitat areas to minimize habitat degradation, and consider methods for implementing a mitigation bank and enforcement mechanisms to ensure success. Mitigation could be targeted in accordance with an overall restoration plan.

E. Program specificity and flexibility

- As part of the regulatory program, provide a specific program that can be implemented without further local analysis.
- Provide a general framework for local jurisdictions to implement, as part of the regulatory program, through standards or other guidelines, flexibility during implementation for consideration of regionally significant public facilities (such as hospitals and educational institutions), riparian and wildlife district plans, and other case-by-case decisions.
- Clarify a timeline for when the program would be adopted by local governments after acknowledgement by the State.

F. Map corrections and inventory maintenance

- Continue addressing map corrections and complete the process by the adoption of the final program and define the on-going responsibilities for maintaining habitat maps.

G. Long-term monitoring

- Develop a plan to monitor program performance in protecting fish and wildlife habitat while meeting housing and employment capacity (both regulatory and non-regulatory) to determine the effectiveness of the regional fish and wildlife habitat protection plan and identify potential adjustments to the program in the future.

\\\

EXHIBIT D TO RESOLUTION NO. 04-3440

DIRECTION ON NON-REGULATORY PROGRAMS

Although the Goal 5 rule does not require the consideration of non-regulatory tools to protect fish and wildlife habitat, the Metro Council has previously indicated a commitment to include incentives and restoration as part of an overall regional program to protect fish and wildlife habitat. Council directs staff to develop a proposal for implementing the most promising non-regulatory habitat protection and restoration programs to supplement and complement a regulatory program. Based on public comments and staff analysis of the effectiveness of non-regulatory programs, Council directs staff to further develop the following non-regulatory tools:

A. ***Technical assistance.*** Determine if technical assistance is most effective when directed at individual owners, developers, or local jurisdiction staff, or a combination of the potential audiences. Develop a plan to implement a technical assistance program to assist in the implementation of habitat-friendly development techniques, better stewardship of habitat, and restoration on public and private land.

B. ***Grants for restoration and protection.*** Develop a proposal for a grant program that could be aimed at individual property owners, public land model examples, habitat-friendly development, or green streets, wildlife crossings, and culvert replacements. Grants could also be targeted to agency-led efforts to restore habitat on public land, possibly utilizing volunteers. Identify potential sources of funding for grants. Develop a plan to define restoration priorities to effectively allocate restoration efforts and investments.

C. ***Willing-seller acquisition.*** Develop a proposal for a targeted acquisition program that could work as a revolving acquisition fund. Identify a funding source for acquiring habitat land from willing sellers. Consider potential for encouraging expansion of local programs that use system development charges to purchase land that provides habitat functions for the public good (such as floodplains).

D. ***Property tax reductions.*** Identify steps to encourage implementation of property tax reduction programs in the Metro region. There are two state programs that could be applicable within the urban area: the *Riparian Lands Tax Incentive Program* and the *Wildlife Habitat Conservation and Management Program.* Both of these programs would require county or city action to be implemented.

\\\

MARCH 2004

Public Comment Report

Executive Summary

Metro Fish and Wildlife Habitat Protection Program

Economic, Social, Environment and Energy Analysis Phase II

METRO

PEOPLE PLACES
OPEN SPACES

Metro

People places • open spaces

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 24 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

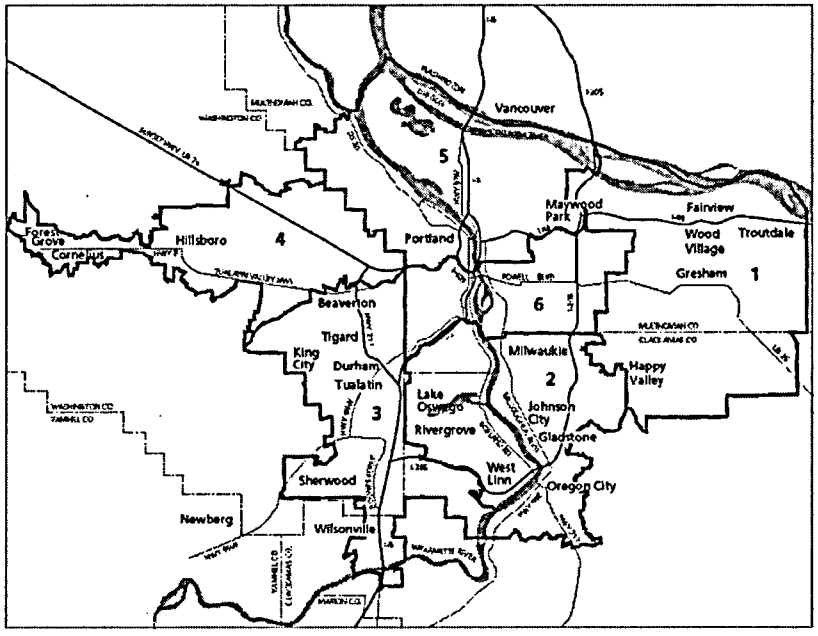
Your Metro representatives

Metro Council President – David Bragdon

Metro Councilors – Rod Park, District 1; Brian Newman, deputy council president, District 2; Carl Hosticka, District 3; Susan McLain, District 4; Rex Burkholder, District 5; Rod Monroe, District 6.

Auditor – Alexis Dow, CPA

Web site: www.metro-region.org



Council districts

Metro's Fish and Wildlife Habitat Protection Program
Economic, Social, Environment and Energy (ESEE) Phase II

Public Comment Report

March 2004

Table of Contents

Introduction

In October of 2003, following an active late summer and early fall outreach effort, the Metro Council endorsed a technical report on the general economic, social, environmental and energy (ESEE) consequences and tradeoffs of protecting-or-not-protecting habitat lands within the metropolitan area. This concluded the first phase of the ESEE analysis, Step 2 of Metro's three-step process to develop a fair and equitable fish and wildlife habitat protection program. At that time staff was directed to further analyze six regulatory program options as well as non-regulatory program options. This report summarizes outreach efforts undertaken and public comments received following the October 2003 hearings and activities through approximately March 19, 2004, the close of a comprehensive outreach effort that focused on the second phase of the ESEE analysis and the comparison of regulatory and non-regulatory program options.

Metro staff utilized several different methods for announcing events and engaging the public about on going and current activities relating to the fish and wildlife habitat protection program. Information and event announcements were sent to over 50 newsletters and list serves including Metro sources, neighborhood and watershed groups as well as non-profit organizations representing a variety of environmental, business and other interests. Articles were published in newspapers such as The Oregonian, The Daily Journal of Commerce, the Hillsboro Argus and The Portland Tribune. In addition, in February 2004 numerous advertisements detailing the open houses were placed throughout the region in regional, community and business publications. Several weeks before the first open house 90,000 notices were sent to interested parties and property owners with land in Metro's habitat inventory.

The Metro web page was updated with text and images to reflect past, current and future activities. Several documents are available on line and two interactive web tools have been developed to provide individuals access to property- or area-specific information regarding: (1) the habitat inventory; and (2) 'allow, limit and prohibit' decisions applied under six potential regulatory program options. The searchable habitat maps received more than 800 visitors in its first few weeks of operation, making it one of the top 15 most frequently visited sites for the entire Metro website. Feedback emphasizes the value of this tool for individual property owners, as did the fact that many open house attendees arrived with their printed property maps in-hand.

Comments were gathered with standard forms and open comments have been collected via regular mail, e-mail, phone calls, walk-in visits, one-on-one conversations and "idea tables" at the open houses. Seven open houses were held throughout the region. These public forums were announced through several venues including media releases, advertisements and various newsletters (see the Appendix for examples of outreach materials). Metro staff and councilors also participated in a forum sponsored by the Commercial Real Estate Economic Coalition (CREEC) in March and met with neighborhood and other stakeholders groups, on request. More specific information on the open houses, methods employed for communicating with the public and public feedback are detailed below.

During March 2004 seven open houses, geographically distributed through the region, were held to inform the public and gather feedback about progress on developing a regional fish and wildlife habitat program. More than 700 people attended these events. Two events were coordinated with the Tualatin Basin Partners' parallel fish and wildlife protection efforts. In addition, staff from local jurisdictions participated in each of the events, providing detailed information about how local plans relate to the wider regionally consistent approach Metro is seeking. Metro staff and councilors were available at the open houses to listen to individuals' views and concerns and to answer questions on the habitat program. Maps of regionally significant habitat, urban development values, and the six regulatory program options were available at these events. Information was also posted about the habitat program background and timeline, regulatory and non-regulatory options under consideration and detailed case studies of regulatory program options. In addition, to further facilitate understanding of very complicated scientific and technical findings, a user-friendly summary of each of the steps guiding the development of Metro's fish and wildlife protection program was distributed.

Public comments were documented by three means at the open houses: (1) open-ended comment cards, (2) "idea tables" at the events, where attendees could write specific comments on post-it notes about how to protect (or not) fish and wildlife habitat in the region; and (3) a keypad "polling" questionnaire that could be completed electronically or on hard copy form (at the events or elsewhere, at the public's convenience). It is important to note that this keypad questionnaire was an unscientific, self-selected survey tool that was incorporated as a means to help people begin to prioritize the many conflicting uses we have for the same land.

Metro has received nearly 700 written comments or other forms of substantive feedback on the fish and wildlife habitat protection program since fall 2003 (see table at right). Approximately 280 people participated in the non-scientific keypad questionnaire either at events, on-line, or via mail. Over 100 written comments were submitted by e-mail or mail and more than 80 comment cards were completed. In addition, Metro staff spoke to more than 50 people on the phone, many of whom requested maps of their property or general information. The majority of callers inquired about how and why their property (or another particular area) is classified in the inventory or how their property may be impacted by Metro's fish and wildlife habitat protection program. Likewise, many of the conversations at the open houses and with walk-ins were inventory-based inquiries.

Type of contact	Apprx. # received
Phone calls	50
Emails & letters	115
Comment forms	86
Keypad polling	280
Post-it notes at events	60
FAUNA postcards	110
Total	***691***

Executive Summary

Generally, people were supportive of habitat protection. Very few people expressed opposition to protecting habitat in the metropolitan area. Rather, opposition expressed was towards imposed regulations, especially those that reduce the development potential or economic value of private property. Opponents often cited the "takings issue" addressed by the fifth amendment of the US Constitution and some questioned the legality of applying restrictions to private property. Some people who expressed concerns about the impacts of regulations on private property also expressed support for habitat protection, emphasizing the important role of educational and stewardship programs. In addition, several people noted the positive impact that natural resources such as wildlife habitat have on property values.

Most comments received did not express support or opposition to specific regulatory program options. However, the keypad questionnaire provided some information on peoples' preferences for the various program options under consideration. It should be noted, however, that the majority of the keypad responses were from residential property owners and did not, therefore, provide a comprehensive view of business owner/interests. When the first and second most preferred options are considered together, options 1b (33 percent) and 2a (20 percent) rank the highest. The least preferred options were the most and least protective options: options 1a (27 percent) and 2c (61 percent).

Comments with regard to non-regulatory options were far more specific than the comments received regarding the six possible regulatory program options under consideration. The results of the keypad exercise suggest that the most preferred non-regulatory program options are acquisition (32 percent), restoration (20 percent) and low impact development program (17 percent). The least preferred options are an information center (45 percent), a stewardship/recognition program (23 percent) and acquisition (10 percent). Open-ended comments indicated less of a preference for an acquisition program. Those that did recommend acquisition did so in the context of the "takings" issue and legal requirements for just compensation. Though people expressed minimal support for education options in the keypad exercise, several written comments highlight the importance of education in encouraging landowner stewardship, especially with respect to landscaping and the use of chemicals. Beyond information materials on such topics as habitat-friendly landscaping, one-on-one technical assistance with such things as habitat restoration and low impact development were frequently mentioned, as were educational programs for schools. With regard to financial incentives, people expressed substantial support for tax relief (e.g., reductions, credits, etc.) in return for habitat protection or restoration. Concerning restoration, several people mentioned the need for financial and technical assistance.

Overall, there seems to be a desire for a balance between regulatory and non-regulatory program options. Though several people expressed strong opposition to strong standards and restrictions, many people also expressed support. Support is

expressed for a variety of protection tools and recognition is generally given to the need for a mixed approach to protection.

Written comments suggested and the keypad exercise further supported that people particularly support protecting areas such as those with water resources, steep slopes, connector habitat areas and unique resources such as Forest Park and Johnson Creek. Moreover, attention is given to specific resource areas within peoples' neighborhoods or residential areas, especially in relation to maintaining the character or sense of place of local communities.

Many written comments expressed concern about recent development projects on steep slopes (especially in the Gresham and east Portland-Metro area and in the West Hills sub-region). These included the removal of trees on steep slopes and resulting erosion and landslide problems. Ironically, results from the keypad exercise indicated that some 45 percent viewed "upland areas" as least important to protect. This indicates that the meaning of "upland habitat" is not well understood.

Although a large number of keypad respondents indicated that "all habitats" were most deserving of protection, additional input suggests that in general people greatly support a tiered approach to protection in which the most valuable habitat (i.e., in the habitat inventory rankings) should be protected with the greatest efforts or strongest standards.

Several emails, phone calls and other comments dealt with two specific issues. First, people want to know how and why a specific area is (or is not) classified as regionally significant fish and wildlife habitat in the inventory. Some of these contacts have noted discrepancies between Metro's maps and the on-the-ground reality of a particular site, while others want to know why, for example, a drainage ditch, intermittent stream or built area is classified as valuable habitat. Some conversations resulting from these comments identified needed map corrections or led to the landowner submitting a map correction form. Though many comments addressed potential map correction issues, less than 15 map correction requests were submitted to Metro this winter/spring. The second major issue raised by the public is how the habitat designations, program options or habitat protection program, in general, affect their property. The searchable inventory and program options maps on Metro's web site helped address these issues to a significant degree.

Other significant issues raised include the following. First, people inquired about how habitat protection and industrial lands designations are reconciled, since many people received both property notices and were confused about how their land could be under consideration for both Metro programs. Second, the fairness of the habitat protection program was emphasized with regard to maintaining private property rights and economic uses of land, especially in terms of the balance between restrictions on residential property owners vs. developers and the distribution of costs for protection. Lastly, several people expressed a desire for flexibility in Metro's habitat program and *not* a "one-size-fits-all" program.

The Friends and Advocates of Urban Natural Areas (FAUNA) distributed pre-addressed postcards to be sent to Metro Council and the Tualatin Basin partners in support of the fish and wildlife habitat protection program. Prior to the October 2003 hearings, 1,320 postcards were sent to Metro Council and another 168 to the Tualatin Partners. As of March 31, 2004, an additional 111 FAUNA postcards were sent to Metro in support of a regional fish and wildlife habitat protection program. The following are major themes expressed in the postcards: a desire and need for additional regulations to protect watershed and habitat resources; the need to pursue responsible development and stop reckless development; the importance of habitat areas for environmental health and neighborhood livability; the positive influence protected natural areas have on property rights; the long timeframe involved in recovering resource health relative to the short timeframe of degrading resources and, the desire and need to protect habitat resources to maintain the character of our region and for the benefit of future generations.

Section 1: Public Comments Summary Table

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
2	comment card	03/01/04		Tim Shiel	TB-Hillsboro	Goff Place	Supports more cooperative approach to gain more than ha and fast regulations. New lands will unfairly carry a higher resource protection load. Suggests that a shift of protection could occur on highly valued properties allowing for conflicting use, but requiring purchasing other development rights on sensitive property. [Note: resembles mitigation program.]	Not directly expressed.
3	comment card	03/01/04		Dana Wintraub	TB-Hillsboro	SW Spratt Way	Expressed thanks at public comment opportunity. Important to preserve as much of the natural environment as possible to have least impact on habitat. Urban encroachment shoul be taken into consideration on future UGB expansion.	For habitat protection; supportive of program.
4	comment card	03/01/04		Mary Gibson	TB-Hillsboro	Dogwood Dr.	Resident of Rivergrove, on the Tualatin River, but outside TB plan. Yet the notice received talked mainly about TB plan, not Metro's plan	
5	comment card	03/01/04		Susan Warner	TB-Hillsboro		Family highly values nature. Votes for strong habitat protections.	For strong habitat protection.
6	comment card	03/01/04		Dresen Skees-Gregory	TB-Hillsboro		Option 2A should be lowest level of protection. In looking at options 2A & 2B, it goes from a broad distribution of greens (prohibit & limit treatments) and yellows (allow treatments) almost entirely yellow (under option 2B). Option 2A allows more residents to enjoy open and green spaces.	For habitat protection; supportive of program.
7	comment card	03/01/04		David Hoffman	TB-Hillsboro	NW Rolling Hill Ln	Supports strong protections of streams and habitats. Appreciates open houses, outreach efforts. Balance is important. Economic, individual rights, natural environment need to be considered. Stressed good science and study.	For habitat protection; supportive of program.
8	comment card	03/01/04		Ann Hoffman	TB-Hillsboro	NW Rolling Hill Ln	Metro has very important goal. Done excellent job in presenting plan to public. Bronson Creek needs work to bring it up to good environmental standards.	For habitat protection
9	comment card	03/01/04		Bill Funk	TB-Hillsboro	SW Gassner Rd	Interested in map correction process and programs designed under ALP conditions to develop. Important to protect these resources.	For habitat protection; supportive of program.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
10	comment card	03/01/04		Kim Vendehey	TB-Hillsboro	SW Sileu	Property not too affected, but neighbors is. Hopes that we can preserve wildlife but not be too rigid in the property rights of those who own/pay taxes on property.	For habitat protection; supportive of program.
11	comment card	03/01/04		Paul Bell	TB-Hillsboro	SE Blossom Ave.	Suggests working with ODOT to build concrete barrier wall alongside I-205 from Strawberry land north for a mile or so. Wall would protect critical wetlands area that forms Kellogg Creek's headwaters from noise pollution. Offers to show people around.	For habitat protection (not directly expressed)
12	comment card	03/01/04		Charles Hoff	TB-Hillsboro	SW 91st	Government continues to take private property under guise of not taking 100% of it, just enough so one can't use it. Asks why one wants wild animals in an "urban" area. Accusation of just trying to take property without paying for it.	Emphasizes property rights. Habitat protection not mentioned.
13	comment card	03/01/04		Sharon L Cornesh	TB-Hillsboro	Hillsboro	Claims that all land in Goal 5 is private property. If program requires or denies land-use, jurisdictions should buy or lease land from private owner. Civil revolt will occur without compensation.	Emphasizes property rights. Habitat protection not mentioned.
14	comment card	03/04/04		John & Jean Dickson	TB-Tualatin	SW Norwood Rd	Didn't get notice and wants to know why. [Note: Property on SW Norwood Rd contains no regionally significant habitat.]	
15	comment card	03/04/04		Mike Van	TB-Tualatin	SW Boeckman Rd	Prefers option 2C	Not directly expressed.
16	comment card	03/04/04	Carl Hosticka		TB-Tualatin		Look into including the Living Enrichment Center in Wilsonville as a regionally significant institutional area.	
17	comment card	03/04/04		John Rabnin	TB-Tualatin	SW Montgomery Dr	Supports least restrictive plan, 2C.	Not directly expressed.
18	comment card	03/04/04		Ron Atkins	TB-Tualatin	SW Meier Dr	Believes option 1A is the least we can do to preserve the quality of our city and neighborhoods and provide minimal habitat for wildlife.	For habitat protection

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
19	comment card	03/04/04		Michael G. Holmes	TB-Tualatin	Cardinal Dr	Eliminate or reduce regulatory burdens on private property owners. Promote business activity, growth and opportunities.	Not directly expressed.
20	comment card	03/15/04		Judy Morton	OR City	Geer St, West Linn	Expresses thanks for the outreach and the regional nature of the plan. Protecting wildlife & fish habitat is very important. Clean water & air help everything be more economically productive. Living with environment is more important than controlling it. Population control must be addressed or other programs won't matter.	For habitat protection; supportive of program.
21	comment card	03/15/04		Vinson Turner	OR City	S Beutel Rd, OR City	Commenters property and adjacent property listed as high priority for wildlife. [Note: property contains Class A & B habitat in inventory] Both properties have been logged in la 2 years. Not a lot of wildlife since. Visit property rather than rely on out-dated photography before decisions are enacted.	
22	comment card	03/16/04		Doug Bolen	Clackamas		Expressed questions about how program would affect properties under tax deferral through the state small timber lot program.	
23	comment card	03/16/04		Richard B. Shook	Clackamas		Attached letter. Stream side home owner in unincorporated Clackamas county. Property includes class 1 &2 riparian and impact areas in inventory. Need strong protection for highest value habitats. Any allowed development must be mitigated with no net loss of riparian functioning area. Program options should be applied consistently, not just in urban expansion areas or based on development status. Urge programs to comply w/ Clean Water & Endangered Species Acts. Supports strong protection for high value upland wildlife habitats. Supports inventory methodology for riparian/upland resources.	For strong habitat protection.
24	comment card	03/16/04		Roxy Hilton Averill	Clackamas	Jennings Lodge, OR	Asked why do some projects (Trolley Trail) take precedenc over habitat protection/restoration? Expressed concerns th despite protections, habitat is still developed cavalierly.	For habitat protection.

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
25	comment card	03/16/04		Larry Jacobs	Clackamas	Boring	Critical of lack of info at open house. Specifically, difficult to provide input with no definition of costs to existing property owner, to future ability to sell, impact of rules on modificatic of land use.	
26	comment card	03/16/04		Greg De Grazia	Clackamas	Clackamas	Stresses balance in developing the program with more emphasis on regulatory tools. Well defined guidelines that spell out alternatives & restrictions are better than non-reg education only. Economic development should be emphasized more, but habitat protection is critical.	For habitat protection.
27	comment card	03/16/04		Dee Wescott	Clackamas	Boring	Expressed support for option 2B	For habitat protection.
28	comment card	03/16/04		Lynn Sharp	Clackamas	Milwaukie	In addition to strong regulatory-based program, suggests developing a stronger native plant program for homeowner businesses and agencies. Stresses that quick native growing rate means substantial benefits in short time.	For strong habitat protection.
29	comment card	03/16/04		Eileen Stapp	Clackamas	Oregon City	In relation to Damascus development: Imperative that quali of wildlife in all habitats be maintained. Do not allow rezoning of industrial land. Protect quality of wildlife habitat by establishing/preserving green buffer zones. Limit tree removal for housing/commercial development.	For strong habitat protection.
30	comment card	03/16/04		Len Mills	Clackamas	Milwaukie	Some regulation is necessary, but sensitive to individual property owners. Lengthy permit/permission processes should be avoided and not tied to simple things. (ex: a new garage should not trigger riparian restoration) Industry must not enjoy relaxed rules, as they can undo the work of everyone else.	For habitat protection, but balance of property rights.
31	comment card	03/16/04		Bruce Fontaine	Clackamas	Milwaukie	Request to be added to mailing list	
32	comment card	03/16/04		Nancy Stoll	Clackamas	Milwaukie	Request to be added to mailing list	
33	comment card	03/17/04		Martha Johnston	North Portland	NW Multnomah St, Portland	Suggests that everyone should pay for fees incurred in mitigation. Avoid unfairly burdening residential land owners while exempting industry.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
34	comment card	03/17/04		Richard Anderson	North Portland	NE Meadow Dr, Portland	Suggests avoiding large fees for residential construction or they will be too prohibitive.	
35	comment card	03/17/04		Carolyn Eckel	North Portland	Portland	Urges adoption of option 1A, 1B "at the very least." Stresses fish & wildlife habitat protection as extremely important.	For strong habitat protection.
36	comment card	03/17/04		Richard Anderson	North Portland	NE Meadow Dr, Portland	"It sounds like residential has no weight in the regulatory option decision."	
37	comment card	03/17/04		Troy Clark	North Portland	NE Klickitat, Portland	Supports Option 1A, 2A as "second choice."	
38	comment card	03/17/04		Brian Williams	North Portland	SE Umatilla, Portland	Questions regarding the limits on fences, decks, landscape and outside lighting; limits on building after fire/earthquake; technical assistance for restoration improvements.	
39	comment card	03/17/04		S. Bartel	North Portland	SE 30th	Supports Option 1A	
40	comment card	03/17/04		Barb Grover	North Portland	NE 48th	Compliments presentation of overall program, but critical of option outcome language as sometimes misleading and not necessarily true.	
41	comment card	03/17/04		Norm Shaffaroz	North Portland	NW Skyline	Encourage all development to consider opportunities to utilize green building and permaculture design	
42	comment card	03/17/04		Sheilah Toomey	North Portland	NW Sauvie Island	Expresses concern over development in the Tualatin River watershed and loss of habitat.	
43	comment card	03/17/04		Bob Grable	North Portland	Borland Road	Property owner on Borland Road. Suggests no restrictions on land use without compensation of property owner.	
44	comment card	03/17/04		Jeff Kee	North Portland	NW Riverview Dr	Suggests: Systems development charges should be levied for new development. Immigration tax should be developed for new residents. Purchase conservation easements on adjacent land to buffer habitat. Provide tax & permitting breaks for wildlife friendly construction/development.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
45	comment card	03/17/04		John Nee	North Portland	NW Winston Dr	Expresses thanks for the event and "keeping such a good eye on the livability of our community." Stresses the need to keep the economic value of land in Portland to foster "a good quality of life and prosperity."	
46	comment card	03/17/04		Jeff Kee	North Portland	NW Riverview Dr	Suggests: inventory noxious & invasive plants on all Metro lands. Develop action plan to control/remove them.	
47	comment card	03/17/04		Scott King	North Portland	NE 133rd Ave, Portland	Commends staff at presenting issues/options. Inventory maps need to be updated well before council decision. Land use options (2 series) seem more viable/consistent with 2040 than habitat options. Diverse region may mean one option may not be appropriate over the entire region.	
48	comment card	03/18/04		J. Michael McCloskey	SW Portland	SW Sunset Blvd.	Believes Metro should acquire steep slopes owned by cemeteries to prevent development. Slopes should retain habitat, protect from erosion and provide walking trails. Specifically opposed to apartments at Lone Fix Cemetery	For protection on cemetary slopes
49	comment card	03/18/04		Bob Del Gizzy	SW Portland	SW 40th Ave.	Riparian zones need to have strong buffers and corridors fo the movement of wildlife.	For strong protection along riparian corridors
50	comment card	03/18/04		Scott Rosenlund	SW Portland	NW Cornell	For Option 1A. Writes that Forest Park Neighborhood Assn plan is about protecting wildlife corridor. Both sides of Skyline Blvd important to wildlife corridor, serving two different microclimates, supplying habitat needs to multiple wildlife. Property between Skyline Blvd & WA county line needs max. protection.	For strong protection on both sides of Skyline blvd.
51	comment card	03/18/04		Karen Ashford	SW Portland	NE 28th	Streamside property owner wants full and maximum protection200 feetfor all wetlands & streams. 15' or 50' setback is not enough. Angry at road built into Marylhurst University. Claims MU allows ivy to climb into trees & cover the ground, killing many native plants. Wants no more development.	For maximum protection in wetlands and along streams.

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
52	comment card	03/18/04		Randy Harrimon	SW Portland	SW Ibach Rd	Wants curtailment of a lot of development that eliminates b trees. Cites West Linn development. Wants more natural areas saved from developers.	For habitat protection (not directly expressed)
53	comment card	03/18/04		Doug Pontifex	SW Portland	SW Highland Rd	Cites 5 years of attacks by first Portland, now Metro, on his property rights. Suggests that consistent property rights are 1 of 3 basic things modern economy requires (citing Economist magazine). Probably would leave Oregon, taking company that employs hundreds, if plan moves forward.	Emphasizes property rights. Habitat protection not mentioned.
54	comment card	03/18/04		Alan Locklear	SW Portland	SW 36th Ave	Metro should put very strong emphasis on maximum level protection & restoration. Time has past for nonregulatory measures. Too much habitat already destroyed/degraded. Strong regulatory measures should be instituted soon.	For strong habitat protection.
55	comment card	03/18/04		Kenenth Bauman	SW Portland	SW Upland	Send issue to voters as an up or down votenew regulations or no new regulations.	
56	comment card	03/18/04		Jeny Ward	SW Portland	SW Fulton Park Blvd	Asks why issue is not put to vote. Complaints about the public questionnaire. There is not a "no" options where appropriate. Questionnaire is waited on environmental side.	
57	comment card	03/18/04		Brian Swaren	SW Portland	unknown (PO Box)	The city (of Portland) should be cooperative and not confrontational. Also submitted postit idea.	Not directly expressed.
58	comment card	03/18/04		Unknown	SW Portland		Get rid of Metro. A real wasted of money, could be replaced by local government and/or private sector.	Not directly expressed.
59	comment card	03/19/04		Debra Fleck	Mailin	SE 105th, Portland	Suggests that enforcing the laws already in place would suffice. Is critical of Metro's program in relation to property rights and moneywasting concerns.	
60	comment card	03/19/04		Ruth Scott	Mailin	SE 89th	Requested to be added to the mailing list.	
61	comment card	03/19/04		D. Fray	Mailin	NE 120th, Portland	Expressed very strong sentiments against Metro concernin landuse restrictions and believes that public input is never listened to.	Against landuse regulations.
62	comment card	03/19/04		F. Fleck	Mailin	SE Main	Expressed concerns about landuse restrictions, suggesting already existing laws are suitable for habitat protection.	Against landuse regulations.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
63	comment card	03/19/04		Frank Fleck	Mailin	SE 105th, Portland	Accuses the theft of property rights. Asserts standing as good and responsible citizens who do not need communists to tell them how to live.	
64	comment card	03/19/04		D. Fleck	Mailin	SE 105th, Portland	Expressed concerns about landuse restrictions, asserting that already existing laws are suitable for habitat protection, they just need enforcement.	
65	comment card	03/19/04		Warren Howell	Mailin	SE Lusted	Expressed feelings of discrimination as small/large landowners because of Goal 5. Points to lack of regulations on subdivision residents against use of pesticides, runoff issues.	
66	comment card	03/19/04		Dana Bailey	Mailin	Oregon City	Accuses the theft of property rights and Metro's participatio in creating a socialist state.	
67	comment card	03/19/04		John Fleck	Mailin	SE 105th, Portland	Against restrictions on property rights. If rights are to be taken, they should be paid for.	
68	comment card	03/19/04		F. Fleck	Mailin	SE 105th, Portland	Accuses "the few do gooders" of keeping property owners from enjoying their propertyreferred to as a socialist approach.	
69	comment card	03/19/04		Dana Fleck	Mailin	SE 105th, Portland	Stresses the enforcement of pollution lawsjail and fine violators. Expresses concern over restriction of property owner rights.	
70	comment card	03/19/04		Dwight Cash	Mailin	SW Sunrise Lane	Suggested developable habitat land should be purchased. Undevelopable habitat land should be exempt from property tax.	
71	comment card	03/19/04		Edo Barbara McDaniel	Mailin	SE Webster, Gladstone	Expressed concern that the open house in Clackamas felt too hurried and required more time before giving an option, that perhaps the program has already been decided without public input.	
72	comment card	03/19/04		Boring water district #24	Mailin	Boring	Expressed serious concern regarding pollution of North fork of Deep Creek, due to Clackamas treatment plant and other upstream issues.	
73	comment card	03/19/04		Nancy Wallwork	Mailin	S. Noblewood Ave, Oregon City	Supports option 1A and passive use (trails, boardwalks, etc development.	

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
74	comment card	03/19/04		Sara Vickerman	Mailin	Hidden Spring Ct, West Linn	Suggests a flood plain development prohibition, a revisit of the balanced cut & fill, more strategic nonregulatory methods, and a flexible incentive fund using mitigation money to fund effective programs.	
75	comment card	03/19/04		RAA LLC	Mailin	NW Metolius Drive, Portland	Refers to specific property listed as no value by the city of Forest Grove/developers. Suggest compensation. Refers to possible incorrect mapping.	
76	comment card	03/19/04		Elaine Davis	Mailin	NW Evergreen Rd, Hillsboro	Concerned that mandatory implementation of streamside protection would be a hardship for most affected property owners. Suggests incentives. Acknowledges habitat program as important project for future generations, but stresses that existing property owners shouldn't absorb the costs. Believes (new) development should be prohibited within a certain distance from streams, but does not require incentives offered to existing property owners.	For habitat protection; concerned with hardship caused to property owners.
77	comment card	03/19/04		Nancy Cable	Mailin	SW LaSalle Rd, Gaston	Expresses support specifically for the "vision, goal, principles and context" of Goal 5 Streamside CPR and Tualatin Basin Partner's stated goal. Supports Option 1A.	For habitat protection.
78	comment card	03/19/04		Carolyn M. Perrin	Mailin	NW Old Germantown Rd, Portland	Comments about March 1 open house as informative. States it is necessary to educate the public about fish and wildlife protection, and also important to protect property rights and provide adequate compensation to assist in compliance.	For habitat protection; for property rights.
79	comment card	03/19/04			Mailin		Suggests an investigation of a specific property south of Germantown Rd.	
80	comment card	03/19/04		Mike Bode	Mailin	SW Prindle Rd, Tualatin	Concerned that habitat protection will restrict land use and adversely affect property values. Prefers no restriction, but supports 1C if necessary. Expects lower taxation if land use options/value lowered.	Against new regulations without compensation

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
81	comment card	03/19/04		Lois Read	Mailin	Tualatin Loop, West Linn	Agrees with TB's recommendation to protect habitat along the drainage pathways. Supports options 1A or 2A. Lives o Tualatin Loop replete with wildlife, where contaminants concentrate. Welcomes preservation.	For habitat protection; supportive of program.
82	comment card	03/19/04		Dennis Richey	Mailin	Jolie Pointe Rd, West Linn	Suggests that science can bring back endangered salmon through proper mitigation. Urges compromise option. Achieve environmental progress by considering the economic impact of proposals.	For habtiat protection, but urges compromise.
83	comment card	03/19/04		Alan Grosso	Mailin	SE 158th, Portland	Public should bear cost of Goal 5 restrictions, not property owner. Continued regulatory restriction on private property robs landowners of their property rights. Should be voluntai or municipality should pay.	Against new regulations without compensation
84	comment card	03/19/04			Mailin		Half of property is designated in protection area. Landowners who are good wildlife stewards don't want property designated. Property is steep and unbuildable, but wants to secure landowner rights without wildlife protection. Lifelong investment and want to keep it as such.	Against new regulations.
85	comment card	03/19/04		Nancy Cable	Mailin		Quotes Lisa Naito, former Metro Councilor, in June 1998. "a regional water quality strategy that will help protect streams and wetlands from the impacts of development."	For habitat protection.
86	comment card	03/19/04		William Wessinger	Mailin		Resident of Balch Creek Watershed for over 50 years. Strongly supports extremely strong standards, especially on steep slopes.	For strong habitat protection.
87	comment card	03/30/04	Metro	Karen Suran		Clackamas	Migration rates are great, so protect greenways. Facilitate wildlife travel and avoid wildlife losses to due lack of connectivity.	For protection, especially corridors.
88	discussion at event	03/10/04	Lori Hennings, Metro		03/09/04 event	Tualatin Mts.	Gentleman at 03/09/04 event notes that he has seen relatively large elk herd in Tualatin Mts.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
89	email	02/06/04	habitat	Gale Gilliland			Education and incentives are essential tools to protect habitat. However, voluntary measures leave habitat at mercy of developers. Benefits of protecting habitat outweigh costs of requiring/enforcing environmental regulations.	for habitat protection including regulatory and voluntary measures
90	email	02/10/04	habitat	Ron Weaver			Comments on ESEE analysis: reads like a justification for economic development. Difficult to read and understand. In economic section, dollars spent on hunting/fishing should be included. How do you plan to weigh the economic, social and environmental values, especially when positive externalities not included. Have you projected value for 200 years into future? Habitat will continue and the value should be projected into future. No good successes with mitigation over time. On pg 2, what is "rule"?	
91	email	02/20/04	habitat	Leslie Anderson		Oak Lodge area, Milwaukie	Lives in Robins Wood in Oak Lodge area of Milwaukie, has worked to restore and maintain restoration in a wooded area uphill from a class I resource area. Some restoration thru local municipalities with grant. More needs to be done in th area. Dumping of debris/garbage in this area needs to be cleaned up. Has seen following wildlife in this area: Osprey, peregrine falcon, pileated woodpecker. Need to make this a protected area, clear English ivy. Currently, wooded area labeled medium value, but should be upgraded to high importance. [More comments on online form]	For protection (especially of wooded area near home in Oak Lodge area)
92	email	02/20/04	habitat	Norman Gray		Damascus	Emailed about difficulty in finding his address (SE Hwy. 212 in Boring) with web tool. Expresses dislike of being new incorporated into UGB. Lori responded with info on property and mailed maps.	
93	email	02/20/04	habitat	Susan Blatt		NW Hermosa, Portland	Expresses concern over development on NW Skyline, near Forest Park. Not opposed to all development in area, but think density of more than 1 house on 310 acres is appropriate. Opposed to loss of any wild lands in this area when Portland has so many other empty lots to offer.	For protection of areas around Forest Park.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
94	email	02/20/04	Paul G., Karen W., Metro	Teri, Friends of Trees			Request for information on Goal 5 and outreach events to publish in the Friends of Trees quarterly newsletter.	
95	email	02/21/04	habitat	Anna Jeter		Johnson Creek watershed	How can you even talk about fish habitat without cleaning u Johnson Creek, specifically homes that are not on sewer system?	
96	email	02/21/04	Metro & Stacy Hopkins, Tualatin	Kathleen Lundeen		SW Kimball St., outside Lake Oswego	Property backs 1.2 acres recently annexed by Lake Osweg and approved for development (five houses). Parcel was clear cut. My parcel outside LO. Neighborhood strongly rejected being annexed by City, feared futher loss of natural spaces, and feel LO always decides in favor of developmer and against the environment. Clackamas neglects development, surface water management and preserving riparian areas and habitat. Parcel to be developed is Class and borders Class 1. Part of my land is Class 1. Asks if Metro approves of development of the parcel (Parker Rd. & Ballene St.), and if Metro can intervene, or is it outside jurisdiction? Asks about suface water management suggestions and whether neighgborhood annexation into Lake Oswego would help or hinder Metro efforts to protet natural places. Asks for suggestions on how neighborhood could prevent unwanted changes and environmental damage.	Not specifically, but for natural resource protection.
97	email	02/22/04	habitat	A. Caviglia & S. Emmons		NW Thurman, Portland	Wants to know about final designation for their home on NW Thurman St. Originally it was listed as having an open stream, when in fact the stream is converted and designate a storm drain and there is no running water at all.	
98	email	02/22/04	Lori Hennings, Metro	Chuck Henley		SE Portland	Existing lots of record and developed lots w/ homes should be exempt from new regulations to protect habitat.	

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
99	email	02/22/04	habitat	Rosemarie Evans		SE Portland	How can Street of Dreams for 2004 be built in class A habitat? Has land been reclassified or are maps outdated?	
100	email	02/23/04	habitat	Ellen Worcester		West Linn	Home in West Linn is identified as Class 1 habitat. Asks about proposals on table at this point, and how they can react to them.	
101	email	02/23/04	Karen Withrow, Metro	Michael Ragghianti			Request for general information. Received 4 notices for property (cemeteries) that he maintains. Don't think Gethsemane is in concerned area, but Mt. Calvary Cemeteries is. Wants to know why he received 4 notices...are other properties affected?	
102	email	02/23/04	Stacy Hopkins, Tualatin	Stephen Titus		SW Sedlak Ct, Tualatin	Feels assaulted by gov't sources continuously creating regulations to choke off economic development and never ending quest to increase tax revenue. How will additional property restrictions (under habitat program) continue to economic health, as stated in your materials?	Against (new) regulations/restrictions on property.
103	email	02/24/04	habitat	Tom Williamson			How does Metro plan to validate habitat model? Have ontheground surveys been conducted? How will efficacy of program be monitored over time?	
104	email	02/25/04	habitat	Leslie Labbe		SW Portland	Follows habitat studies, but couldn't attend open house. Urges strongest protections. States people must be able to plan and count on [Metro's] decisions. Need program that considered varied landscapes and not one size fit all. Talke to Sylvan Nbhd. Assoc., which is fighting overlays. Told them to get involved in Metro's process. Please send event dates.	For protection, not onesizes fits all.

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
105	email	02/26/04	habitat	Chuck Bolsinger		Hemrick Rd., north of Damascus	Lives on Hemrick Rd, N of Damascus, for ~11.5 yrs. Unnamed branch of Rock Creek runs through property. At purchase, closing papers laid out what could/could not be done to property. After that, nearby residents did things papers said couldn't be done - straighten channel, fill in marginal wetlands, build within 10 ft. of creek. Talked to EPA, county who agreed that these were against law but they had no funds to enforce. When Abundant Life Church was built on Hemrick & 172nd, 11 acres of habitat was wiped out and lights increased brightness. I planted trees o open grassland in part to stabilize creek at the sharp bend and to provide habitat. Have seen several avain species. When Metro expanded UGB, we were mad as hell. Helped write Happy Valley's Urban Forestry Plan which was a waste. One concern is apparent lack of connectivity provided east-west across Rock Creek-Pleasant Valley. Also, waterways in this valley (including critical/feeder streams) don't appear to be a part of inventory, which would be a huge oversight.	
106	email	02/26/04	habitat	Franni Farrell		unincorporated Clackamas	Proud to own little half-acre parcel in unincorporated Clackamas County that is designated Class 1, 2, and A. Expresses great care about issue and for wildlife. Requests information on open houses, and asks about further protection opportunities around lot. Supports strictest possible measures to protect habitat.	For habitat protection
107	email	02/26/04	habitat	Jean Morgan		NW Sewell Rd., outside Metro's boundary	1. Land is included in both the industrial lands study area as well as the habitat inventory. How will two programs be reconciled? 2. Reports neighbors cows in creek, muddy "unsanitary" banks near home by Shute & Jackson Rds. Slough (Wieble Creek). Herd of 7-10 deer have been decreasing, ducks, herons, catchable fish, crawdads, tadpoles, frogs, salamanders are decreasing, creek almost dead last summer.	For wildlife protection

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
108	email	02/26/04	habitat	Joe Turner		SE Jackson, Grehsam	Stream to the south is class I habitat, surrounded by class I and C areas. Classifications are understandable but I don't understand why class C areas have significant indents on properties to the east and west of mine. I assume these are due to the location of homes, but the indents on the map don't coincide with the location of the houses. Houses may also be located in class I and II areas; does this matter? Appreciate and encourage natural resource planning efforts	For natural resource protection
109	email	02/26/04	habitat	Roy Brower		SW Skiver, Aloha	Property is Class III riparian. What does this mean? Property to east is being developed, trees have been cut, street is about to be paved and a houses built. Any chance of reversing this?	For habitat protection (on nearby, recently developed lot)
110	email	02/27/04	habitat	Don Dubois			As member of Audobon & Nature Conservancy, deeply interested in protecting habitat but more interested in rights of property owners. Gov't should not reduce land values. Landowner should not be made to pay for advantage of mass. Re-zone, take land, protect birds, but pay for it.	for protection, against any resulting losses in property values. must compensate.
111	email	02/27/04	Lori Hennings, Metro	Randy Shaver			Expresses interest in converting farmed property into habitat, and asks if/how Metro can help. Old concrete dam constricts flow. Dirt bikes are damaging habitat, and worry about herbicides in water from nurseries. Hopes Metro will investigate areas in neighborhood that are not ecologically-minded.	for habitat protection
112	email	02/28/04	habitat	Jaqueline Wilson			Supports anything to protect our water and air. Decrease use of pesticides/fertilizers, don't allow people to plant and build right up to water, discourage blacktop/cement, fine people who don't recycle.	

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
113	email	02/29/04	habitat	Andrew Aebi			Think it's great that creek behind house is designated as class I resource, but concerned that entire property is designated class B. Since homes on my street were developed in last 18 months, suggest that zones in area be carefully reevaluated.	
114	email	03/02/04	Paul Ketcham, Metro	Brian & Virgina Horler		West Linn	Expresses thanks for letters of support encouraging West Linn-Wilsonville School Board to establish fair market value for the Dollar Street Property and then to give residents of West Linn opportunity to pass bond measure on Nov. 2004 ballot to acquire property.	
115	email	03/02/04	Justin Houk, Metro	Russell Nance			Inquiry about if/how Longview Fibre property is affected by Tualatin Basin habitat protection area.	
116	email	03/04/04	Justin Houk, Metro	Carla Carver		Germantown Rd.	Thinks stewardship, education are best answers. Appreciates wildlife. Chose home for proximity to park. That said, very upset with this process when large condo project is going up less a mile away (Germantown Rd.) on property with intermittent stream. Hillside was clear cut and condo built right over stream. Frustrated that Metro won't allow me to build a gazebo when total habitat destruction is happenir only a few yards away.	For protection, frustrated with Metro process.
117	email	03/04/04	habitat	Judith Vestch		Milwaukie	In response to Oregonian article published 02/27/04, I am i favor of any and all regulations deemed necessary to prote water and prevent pollution which I believe would increase property values.	for habitat protection
118	email	03/04/04	Lori Hennings, Metro	Michele			Request for mapping criteria used in Metro's model.	
119	email	03/05/04	Justin Houk, Metro	John Frewing			Request for information on habitat classes in order to identify any not on Metro's maps.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
120	email	03/05/04	webmaster @metro	Randy Ellis		Oregon City	Light industrial or any other business has no place in our nice quiet neighborhood. We enjoy peace and quiet surroundings and wildlife. That's the way we like it around Forest Grove Loop.	For protecting natural setting (wildlife), against industrial development. .
121	email	03/07/04	Hosticka, Mayor Lehan	Phil Lane		Tualatin/ Wilsonville	Lives around Elligsen & SW 65th in Tualatin/Wilsonville area, drawn to area because of natural beauty, wildlife, agricultural land, etc. Consider environmental impacts to ai water & wildlife if you allow industrial development.	For protecting natural areas (wildlife), against industrial development.
122	email	03/08/04	Justin Houk, Metro				Request for 1996 flood map.	
123	email	03/08/04	2040, habitat, Bragdon, Newman	Karen Hall		Oregon City	Explains how recent developing of Holcomb & Winston (OR Cit)y has already endangered wildlife & habitat. Area is hilly and forested, a residential country area w/ farms and wildlife, outside of UGB for a reason. Against industrial development here.	For protecting natural setting (wildlife), against industrial development.
124	email	03/08/04	habitat	Nick Corrado	Tualatin	SW Portland	Attended Tualatin open house but was unable to get info on how property is affected. How am I to know how this plan affects me? Oppose further use restrictions on my property. Particularly object to Metro making table space available to sympathetic organizations. Process unfair and lopsided since rising from ashes of Healthy Portland Streams. Will continue to oppose project until sincere effort made to address property owners rights. Vague references to possible compensation plans and lack of concrete information at open house not good enough.	Against any use restrictions on property.
125	email	03/09/04	Metro Council - Monroe & Burkholder	David Ray		SW Portland	Concerned about proposed regulatory map for property on SW Menefee Dr. Haven't received a response, so I'm writin you (Councilors). Why is protection area located on landscaped lot with building? Lines seem arbitrary. Do not object to stricter land use laws (option 2), but in this case, logic is flawed. What recourse do property owners have to redraw map lines?	Not against stricter land use laws, but mapping of my property seems flawed.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
126	email	03/09/04	Brian Newman, Metro --> Chris Deffebach	Gay Stryker			Emailed twice for more information and haven't received a response. Want more specific information on: meeting agenda for open houses; specific info on six program options; and,what info would aid public dialogue.	
127	email	03/09/04	Lori Hennings, Metro	Keith Black		SW Portland	First, inquired about six program options, which he didn't understand from website, and how decisions were/will be made about high, medium, low levels of protection. Also asked about status of limitations placed on development. Second, inquired about regulations that currently apply to specific address on SW 73rd in Portland.	
128	email	03/09/04	habitat	Mary Regan			Home is in class B habitat. How does that affect me?	
129	email	03/09/04	habitat	Zori & Richard Valasek		West Portland Park	Property owners are in process of negotiating a real estate contract for property on SW Stephenson St. and are talking with Portland's land use dept to discuss aggregation of tax lots to create buildable lots. Property is Class A habitat and maps show that development on entire block may be limited or prohibited. Did Metro notify current owners? how does this affect the development potential of the lot now or in future? Nearby neighbors would be very vocal in keeping this space open and undeveloped.	
130	email	03/10/04	Paul Ketcham	Ellen Eaton		East Columbia (NBA)	Request for maps showing how neighborhood is affected a well as other information.	
131	email	03/10/04	Paul Ketcham & Justin Houk, Metro	Janice Lorentz			Map correction request for mother's property on River St. in West Linn. Map indicates that stream flows over much larger section of property than it actually does. Concerned about accuracy. Appreciates effort to protect habitat, but wants to mature sure mother is not unfairly impacted.	For resource protection
132	email	03/10/04	habitat	Jim Karlock		Oregon City	Request for program options maps displayed at Oregon Cit open house.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
133	email	03/10/04	Paul & Brent, Wa. Co.	Paul Ketcham, Metro		Tualatin Basin	After discussions among property owner and Tualatin Partners, Paul Ketcham responded to Wa. Co. to let them know that Metro amended the regional streams layer to remove the unnamed tributary of Rock Creek, located north of NW Greenwood Dr. & Skycrest Pkwy, which affects the Jenkins property (tax lot 6900) & Kim property (tax lot 101), Section 21, T1N, R1W. Metro will add the wetland resource based on recently amended Clean Water Services data, which adds a wetland to a portion of the properties.	
134	email	03/11/04	Justin Houk, Metro	Mary Gibson			Inquiry about whether or not GIS maps on ftp site include inventory corrections yet. Houk: only those made prior to Aug. 01.	
135	email	03/11/04	habitat	Peggy Day			What do you mean by lightly, moderately and strictly limit and prohibit? Wants to know if any of these would limit building of fences or garden sheds and what extra fees may be imposed.	
136	email	03/11/04	habitat	Santo Graziano		8900 block on SW 157th Ave, Beaverton	Interactive maps suggests a high priority wetland on property. Would like to organize a wetland restoration project...removal of blackberry and planting natives. Deer r longer run through this area, would be nice to see some trees preserved.	Interested in restoration on personal property.
137	email	03/12/04	habitat	Melissa Maxwell		SW Portland	Drainage stream thru backyard on SW Whitford Dr. flows from culvert, then to another property before going under street. Wants to plant in and around it, do I need permission? Area is classified as class II habitat.	
138	email	03/13/04	habitat	Michael Schuermyer		SE Portland	Property will be affected significantly by new rules accordin to web tool. Loss of use of most of backyard will have detrimental affect on property value. Whole concept needs rethinking and movement of boundary lines to owner's property lines instead of thru private property. Asks who will take better care of property - landowner with vested interest or regulating uncaring bureaucracy? Additional regs are not needed, they'll just build distrust.	Against (new) regulations or restrictions on property.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
139	email	03/15/04	Justin Houk, Metro	Geoff Chew		Lake Oswego	Request for inventory and program options maps. Response: Maps on ftp site show continuous line of forest cover on eastern side of Diamond Head just up from water' edge. Attached aerial photo shows forest cover is not continuous and is significantly degraded, with lots of ivy under story. Cannot argue logic of the habitat/inventory model. Area around our house shows that the model is not good fit for our neighborhood. e.g., area with house is classified as class II, and it has roofs, ivy, etc. Respectfully requests that habitat maps be revised. [Houk responded that floodplain is a large factor in the designations, not just tree canopy.]	
140	email	03/15/04	Cameron Vaughan-Tyler, Metro Council	Pat Russell, North Clackamas Citizens Assoc.		North Clackamas, Kellogg Creek & Oatfield Ridge	Neighborhood group circulated ~200 flyers, especially to people who live near Kellogg Creek, Oatfield Ridge to announce Goal 5 meeting. About 35-50 people attended. Residents expressed concern that multiple, responsible agencies aren't working together enough. Neigbhorhood is low density residential and not likely to increase in near future, so not as concerned about development policy. Neighbors have complained publicly that both Mt. Scott & Kellogg Creek corridors are very sick and in need of a lot of attention. People did not understand (too confusing) six options and ESEE analysis. Seems like option 1a would protect most habitat; this could affect yards and will require a strong pubic relations campaign and feeling among owners that it's in their best interest to protect streams. Appears to be distrust of "lofty" concepts and "promises" presented in hearings and workshops. Current state, federa efforts don't focus enough on local stream corridors. Interagency initiative, cooperation, coordination, long-term planning strategies for improvement/management were not	Interest in protecting habitat, concerns about lack of interagency coordination.
141	email	03/15/04	Justin Houk, Metro	Steve Edelman			Substantial discussions regarding map corrections to property. Old information is not accurate. Check new information provided by 2003 aerial photos.	

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
142	email	03/16/04	habitat	Frank Fleck			Metro's plans will almost totally restrict my property rights. Cannot express strongly enough the unfairness and outrigh theft of my property rights that plan represents. If you want property, buy it. Otherwise, back off and don't steal it. Metro/plan is un-American and against what country founded on.	Against any plan that restricts property rights (wthout just compensation)
143	email	03/16/04	habitat	Joan Holst	Gresham		Email forwarded from Jim Labbe. Criticizes Gresham open house for not focusing on why Metro is holding meetings and what input they want from public; and issues with respect to East County specifically.	
144	email	03/16/04	habitat	Josh Kling		SE Ivon, Portland	Strongly urges Council to adopt regulatory option thats protect most fish and wildlife habitat...for species and for public enjoyment. These areas have much value: aesthetic public pride, neighborhood caring, increase property values, reduces natural disasters (e.g., flooding in Johnson Creek). Compared to efforts at state level, it's time for Oregon's largest urban area to adopt habitat protection in own backyard. Best reason for protection is our regional identity.	For strong habitat protections
145	email	03/16/04	Metro staff	Nancy Chase, Metro			Several people have called to say they would like Metro to buy their (or their neighbor's) Goal 5 property. There seems to be confusion about the availability of money or a program to purchase sensitive lands.	
146	email	03/16/04	habitat	Tamara Palmer		SE Portland	Property is classified as Class B. How does this affect what I can do with my property? Want to build garage/shop. Will there be restrictions?	

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
147	email	03/17/04	habitat	Gay Bauman	SW Portland	Sylvan-Highland area	Live in Sylvan-Highland area. Expects to hear (from experts) how specific property was identified as high value habitat at 03/18/04 open house. Maps are incorrect. 5.3 acre parcel that is scheduled for development is not designated as habitat, while it has stream and sits next to wildlife refuge. Process lacks validity as long as naturally wooded land is allowed to be destroyed w/o any regulations. Do not support any plan that places severe restrictions on established homeowners who safeguard habitat while allowing developers to clear cut and decimate same property w/o restrictions.	For habitat protection, especially restrictions for developers.
148	email	03/17/04	Paul Ketcham, Metro	Terry Wilson	Clackamas	Damascus	Following conversation at open house, information sent about Damascus planning process.	
149	email	03/18/04	habitat	Charles B. Ormsby		Birdshill CPO, north of Lake Oswego	Myself and collection of residents throughout Birdshill CPO are concerned about regulations because: 1. they will likely involve fees and taxes. 2. there is lack of consideration to how potential regulations likely affect home insurance rates. 3. there are likely conflicts with Lake Oswego tree ordinances and costs associated with second growth tree maintenance in heavy forest canopy areas. And: 1. how does policy interface with Metro's infill policies and decreas in lot sizes from R-30 to R -20. 2. how does policy interface with fire hazard maps of Clackamas Co. and tree codes of LO along with home insurance costs? 3. what is written process to change inventory?	
150	email	03/18/04	Paul Ketcham, Metro	John Nee	NE Portland	NW Winston	Expresses pleasure and gratitude for conversations at the open house.	
151	email	03/19/04	habitat	Andy			Property is classified as Riparian Class 1. How would program, especially a prohibit designation, impact a homeowner?	

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
152	email	03/19/04	habitat	Jessica Glenn	Clackamas	Johnson Creek watershed	Lives near Johnson Creek and shares space with great blu herons, hawks, beavers and a coyote. Learned at the Sunnybrook Center open house that my land is designated as Class I riparian. As property owner, I am supportive of regulatory actions and urge most protective steps to help areas like Johnson Creek. Encourage collaboration and information sharing across jurisdictions, especially about water quality. Have been in difficult negotiations with 3 jurisdictions about getting on sewer system and no-one but me refers to the environmentally sensitive nature of the area.	For habitat protection and regulations
153	email	03/19/04	habitat	John Rabkin		SW Montgomery	Owns 5 tax parcels on SW Montgomery Dr. that are zoned for SFR development but are not yet built. Reviewed Metro proposals and spoke with Lori Hennings, who was very helpful. Strongly opposes any limitations placed on developing buildable lots beyond Portland's current e-zone overlay. Supports least restrictive proposals: 2c or possible 1c.	Against (new) regulations or restrictions on property.
154	email	03/19/04	habitat	The Druid			Tax lot maps from counties state: "for assessment purpose only, do not rely on for other use." Concern expressed abo using the tax lot boundaries for inventory. Also contacted Clean Water Services about this and they said locating property using this method is not acceptable.	
155	email	03/20/04	habitat	Courtney Meissen Brooks		Hillsboro	Wants to see more information about use of pesticides and lawn chemicals near riparian areas, clean creeks in region. On other hand, wants to maintain options to use property. Owns 2/3 acre parcel with Reedville Creek, which he may sell and would like maximum value for. Parcel could be divided in a number of ways for development. Doesn't want new regulations to prohibit new development.	Against (new) regulations or restrictions on property, for educational efforts, clean rivers.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
156	email	03/20/04	habitat	Linda Robinson		Hazelwood neighborhood, Portland	Support greatest habitat protection but concerned that stringent program will result in huge backlash and legal challenges that will ultimately lessen protection. Concerned that lowest valued resources will not receive enough protection (e.g., Hazelwood has small wooded areas with habitat value, especially for providing link between Johnson Creek and Columbia Slough). It's a big mistake to remove lower valued resources from protection efforts. Had problems trying to search interactive map for NE 148th & Glisan to see how Glendoveer Gold Course classification.	For habitat protection
157	email	03/22/04	habitat	Phil Hamilton		SW Laview Dr., Portland	Reviewed options and generally favor option 2a, and 2b for industrial lands.	
158	email	03/23/04	Paul Ketcham, Lori Hennings, Metro	Sablan's			Inquiry about how property may be affected by inventory ar possible program, especially given interest in (potentially) dividing lot.	
159	email	03/23/04	habitat	Warren Aney		Tigard	Expressed difficultly in having to choose which habitat area is least important to protect. On question of compact development vs. trees - this isn't an either/or issue. As professional consultant, notes that survey is biased due to self selection in filling it out. Only can gauge range of opinions, not numbers and strength of opinions.	
160	email	03/24/04	habitat	David Halseth		S. Wisteria, West Linn	Would like clarification on what exactly the program options mean, where Metro is in decision-making process. Concerned that not contacted about regulations on property.	
161	email	03/24/04	habitat	Diane Field		NW Portland	Distressed about timber companies trashing headwaters of local streams, especially in West Hills beyond Cornelius pass and around NW Miller & Cornell. How can this be allowed when we are struggling to protect wildlife? Please do everything you can to protect what is left for the future.	For habitat protection

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
162	email	03/24/04	habitat	Jim Harries		SW Portland	Concerned about habitat designations around property on SW 25th, Portland. Map shows a stream on property to the east, which is not correct. There is only a watercourse fed from a culvert that collects runoff from the street on property. Water does not run year-round. Please do not designate my property as critical habitat. If you do, buy the property and designate it as an urban reserve.	Against habitat designations on his property.
163	email	03/25/04	habitat	Heather McNeil		West Linn	Went to Pioneer Ctr. for 3/15 event and couldn't find anyone. On West Linn Parks and Recreation Board and they want more info on habitat planning process. Brought u Metro at a meeting and staff hadn't gotten informational mailers. Would like to help relay this info.	
164	email	03/25/04	habitat	Laurie Sonnefield		Oak Grove	Supports regulatory efforts to protect habitat quality. Lives few hundred feet from Willamette River in Oak Grove. Many nearby property owners use pesticides and chemicals on lawns, despiteposted signs. Much more education is needed along with regulations. Local suburban stores only have chemicals/pesticides. Gardening workshops are great, but need to reach everyone else.	For habitat protection
165	email	03/29/04	habitat/web master	Sue Dresden		Hillsboro	Questions about why land inventoried and applied potentia regulatory treatments under six program options. Expressed frustration with lack of response through habitat email. [Note: Metro staff cannot find original email in web system or elsewhere].	
166	email, phone	02/23/04	Justin Houk, Metro	Amy Patton		SW 76th, Tigard	Appreciates habitat inventory, but sees errors in map details. Map tool is not responding for: SW 76th Ave, Tigard. Requests hard copy of this area. A couple of years ago property was identified as having a tributary of Fanno Creek on it, but this is incorrect... Inquired about proposed protection level in Tualatin Basin and what inventory/ALP classifications mean for property owners. Wants to know Metro interest in acquiring the property.	

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
167	event hearing	03/29/04		Henry Oberlelmon	TB hearing	NW Evergreen Rd, Hillsboro	Requested program option maps/mailing	
168	event, phone	03/16/04	Paul Ketcham	Lee Bembrose	Clackamas	SE Portland	Checking on map request made June 2002. Postcard sent on 3/18/04.	
169	letter	03/29/03	Metro Council	Bob Williams		SW Portland	Adopt 1a. Protect all remaining habitat since much has bee lost. Strictest protection for riparian habitats, which are important to wildlife and flood management. Degraded habitats also should be protected and restored. Habitat loss should be mitigated at a 1:2 ratio or more for higher value habitats. Upland areas also deserve protection, especially steep slopes and to maintain connectivity. Keep development away from prime wildlife areas. Portland has been leader in environemtnal issues, hope you protect remaining wildlife areas.	For protection & restoration of all habitat areas.
170	letter	11/10/03	Carl Hosticka, Metro Council	Margret Jennings		SW Portland	Thanks for coming to my house to see how environmental protection regulations can have devastating impacts on my long-term financial security. I appreciate your willingness to discuss potential solutions. Ordinary property owners are ill-equipped to bear the financial burden of paying for protection. Any way impacts to property values can be protected will greatly reduce the cost of environmental protection and therefore enhance the chance for success.	Concerned about (financial) impact to property.
171	letter	12/11/03	Metro Councilors	Sandra Joos		SW Portland	Expresses support for regulatory and non-regulatory protection of stream and wildlife corridors to and from Fores Park. Program must ensure new development doesn't degrade riparian corridors, floodplains and wetlands, sever upland and wildlife corridors, or deforest steep slopes adjacent to Forest Park. No more Forest Heights type developments!	Support for protection

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
172	letter	01/01/04	Metro Councilors	David Mildrexler		Univ. of Montanta	Expresses value of Forest Park for educational, recreational and ecological reasons. Protect Forest Park and adjacent area 94 that is vital to maintaining corridors and sufficient habitat for wildlife. If area 94 is developed, a narrow buffer between the habitat in park and edge effects negative to wildlife. Forest Park and similar natural areas are part of our cultural roots and foster a healthy, balanced citizenry with exceptional skills and knowledge.	Supports protection, especially ~Forest Park
173	letter	01/05/04	Metro Councilors	Julia C. Harris		SW Portland	Urges adoption of a strong, comprehensive fish and wildlife protection program. Need new development standards to protect headwaters, forested ravines and upland habitat. Expresses particular concern for areas by Forest Park. Require developers to retain forest canopy in Balch, Saltzman, and Rock Creek watersheds.	Supports protection, especially ~Forest Park
174	letter	01/08/04	Metro Councilors	Douglas Van Fleet		NE Portland	Concerned about condition of habitat areas in and around Forest Park, including area 94. Supports protecting forest canopy and corridors.	Supports protection, especially ~Forest Park
175	letter	01/09/04	Metro Councilors	Marilyn Clampett		NE Portland	Urges protection of areas around Forest Park from more residential development.	Supports protection, especially ~Forest Park
176	letter	01/15/04	Metro Councilors	Suzanne Thorton			Please protect Forest Park for future generations, fish and wildlife and biodiversity. Your responsibility is great. Homebuilders will try push you the other way. You have the voice of the people. Do the right thing.	Supports protection, especially ~Forest Park
177	letter	01/16/04	Metro Councilors	Anne Favorite and Family		SE Portland	Extremely disappoint with addition of area 94 around Forest Park in UGB. Implores Council to reverse this and protect this critical habitat as buffer around Forest Park or potential inclusion in it.	Supports protection, especially ~Forest Park

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
178	letter	01/26/04	Metro Councilors & Tualatin Basin Coordinating Committee	Ingrid Louiselle		Beaverton	Cautions against allowing repetition of abused of fragile urban/forest boundary (area 94) that have resulted from unbridled residential development of other park boundary areas since 1984. Urges strongest protection possible and consideration of ALL ramifications of development. Support strict limits on density and steepness of terrain where building allowed, in addition to safeguards for maintain corridors and continuous forest canopy.	Supports protection, especially ~Forest Park
179	letter	01/31/04	Metro Councilors	Phyllis C. & John W. Reynolds		SW Portland	Express support for strong, comprehensive habitat protection for Forest Park and Buttes/Lava Domes of SE Portland, Gresham, and Damascus. Apply options 1a or 2a, strictest protection for HOCs and protect upland on steep slopes where reduced trees and increased mud slides in sloped areas have strained habitat. Birds needs continuous ribbon of green. Require 1:1 mitigation. We live near Hoyt Arboretum and have seen a drop in wildlife, especially birds since Forest Heights was developed.	Supports protection, especially ~Forest Park
180	letter	03/25/04	Metro Council	Barbara Hanawalt		SW Portland	As weekly user of Forest Park and observer of Forest Heights development, I think area is in deep need of protection. Though enough development in area and Forest Heights is ugly, it is at least fairly dense. Support values of clean air, land and water and stable grounds. Development should occur where forest has already been changed, leave animals current habitat. Add areas to Forest Park or at least protect them from development.	For habitat protection, especially ~Forest Park.
181	letter	03/25/04	Metro Council	Lisa Jaffe		SW Portland	Support for strong, comprehensive regional wildlife program for Forest Park west flank. Between 1984 & 2002, enormous development in Cedar Mill Creek watershed resulted in damage to stream habitat, break up of wildlife corridors to park and unnecessary landslides during floods.	For habitat protection, especially ~Forest Park.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
182	letter	03/29/04	Tualatin Basin Coordin. Commit.	Laura Hill, Rock Creek Watershed Parnters		Rock Creek Watershed	Extensive 7-page letter emphasizing protection of continuous, viable corridors. Current Tualatin recommendations fall short of this goal. Sites examples. Supports prohibiting conflicting uses. Place greater emphasis on big picture. Addresses confusing "ALP adjustment process."	For habitat protection.
183	letter	03/29/04	Tualatin Basin Coordin. Commit. & Metro Planning	Sue Beilke		Biodiversity Project of Tigard & Friends of Fowler Openspace	Supports option 1a. Protecting just streams and narrow buffer will not protect full range of species of concern. Protection affects livability. In Tigard, many habitat areas lost (e.g. Bull Mt.) Increase protection for floodplains, preserve connectivity, protect & restore degraded habitat & give landowners incentives to do so on private land, continue to fund acquition in Tualatin, especially Tigard, protect all remaining upland forests, and avoid stream crossing with utility lines.	For habitat protection, especially in Tualatin/Tigard
184	letter	03/29/04	Tualatin Basin Coordin. Commit.	Terry & Willy Moore		Garden Home	Fanno & Ash Creek & tributaries deserve strong regulations for protection. Own Class B habitat & support ecologically viable program. Expect Metro to protect and restore remaining riparian areas. Urge strong protection of Garden Home Park, Oleson Rd. & terminus of Taylors Ferry Rd. including stream crossing of Oleson Rd. Support testimony of Audubon Society of Portland that calls for more protectio for continuous ecologically viable corridors, no net loss of riparian and habitat areas, protection of upland trees/forests and strong protection for habitats of concern.	For habitat protection of all areas
185	letter	03/30/04	Metro	Kenneth E. Itel		Tualatin	Believes maps are incorrect for property on SW Tualatin-Sherwood Rd. Frustrated with apparent refusal to address what I believe is obvious area. Questions objectivity of the process, given similar land nearby w/ lower ratings. Stream has never been on this property. Agricultural drainage tiles in place more than 70 years ago. Trees on property serve a wind break. See letter for more details	

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
186	letter	12/16/03	Metro Councilors	Geneva A. Maier		NE Portland	Strong support for comprehensive regulatory and non-regulatory fish and wildlife habitat protection. Urges protection of stream and wildlife corridors to and from Forest Park. Program must ensure that new development doesn't degrade riparian corridors, floodplains and wetlands, sever upland and wildlife corridors, or deforest steep slopes by park.	Support for habitat protection, especially Forest Park area.
187	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/20/02	habitat	Anderson			Developed land needs new protection standards (e.g. single home often replaced by several). W/o protection, nearby high quality riparian area will be gone. Sites co-workers that have construction companies joking about loopholes in development. Incentives: assist with maintaining habitat, coordinate activities like SOLV clean up days, enforce illeg dumping laws, support funding depending on how devised, organize & mobilize local chapters of environmental groups with restoration programs for homeowners and use volunteers to reduces costs. Maybe a special additional fee for dumping hazardous waste?	For protection
188	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/03/04	habitat	Marra			Developed land should meet minimum standards for new and additional development. Exceptions should not be allowed. Incentives: public-private partnerships to raise awareness, provide technical advice and support for people who want to do the right thing but can't afford it or don't know how, purchase land or use easements for permanent protection, stiffen enforcement fines, impose higher fees on new development and construction (not redevelopment or brownfield construction), support public funding (e.g. greenspaces bond to purchase at reasonable price). Support habitat protection above all economic development. Mitigation is risky. Use sensitive design!	For habitat protection

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
189	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/15/04	habitat	Murray			Developed land should not be exempt. Restrict further development and lessen impact (e.g. restore native species, erosion control). If development unavoidable, require additional actions. Incentives: Education is paramount. Community support, monetary incentives for voluntary restoration and restriction of further development. Support public funding. Revenues and taxes from timber and other industries that threaten habitat. Federal and private granting sources. Adoptions of Goal 5 is unique opportunity to protect natural areas for future. Value of habitat cannot be translated into economic terms. Rights to clean water, etc. have no price. Foolish not to protect because of decreasing costs and values associated w/ resource protection.	For habitat protection
190	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/19/04	habitat	McAlpine			Exempt developed land. No new regs or mitigation requirements. Property tax reduction incentives. Oregon sales tax program. No more funds from property tax. Make state-wide expense. Find another more reliable source than property taxes.	Against new regualations, mitigatlaon requirements.
191	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/19/04	habitat	Moss			Developed land should be exempt. People trump wildlife. Where urban development is designated, it should be the priority. Current protection is adequate. No funding of protection within UGB. Huge areas of E. Portland that contribute pollution of habitat areas are not designated for protection, yet treed areas are singled out as culprits. [Restrict areas contributing to degradation.}	People come before wildlife. Current protection enough.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
192	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/20/04	habitat	Hollands			Developed land should not be exempt. Protect all habitat, with most restrictions on most valuable habitat. Incentives: Easement program. Higher tax rate for "improved" or developed properties and low tax rate for properties with easement contract. Or, differential tax growth rates for land w/ vs. w/o an easement. More neighborhood association ar watershed council type groups/activities. Support public funding and restrictions on development rights. My property affected and I support these restrictions. Habitat fee that could be waived if restrictions/improvements agreed to. Acquisition, paid for by people who harm habitat. Urge Council to adopt option that focuses on habitat over economic development. Focus on Portland's niche; preserv livability and integration of natural areas and we'll attract quality economic development.	For habitat protection
193	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/20/04	habitat	Ritchey			Developed land should be exempt, though new and redevelopment may deserve new standards, especially for most valuable habitat. Notes concerns about new development occurring in valuable habitat area (Springwater Trail). Incentives: cash grant, subsidized landscaping, or ta incentives. No one seems supportive of new taxes. Perhaps fees imposed on developers of high value habitat.	For habitat protection
194	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/22/04	habitat	Henley			Developed land should be exempt. Property owners shouldn't be burdened with mitigation requirements. Incentives: public should pay property owners for cost of protecting or improving habitat. Combination of private and public sources. Existing developed land should not be burdened by more regulations.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
195	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/23/04	habitat	Locklear			Developed land should not be exempt, but regulations should be used on case-by-case basis to avoid injustice. If exemptions, require mitigation at all levels but more for most valuable habitat. Incentives: Property tax reductions for limited periods, like historical preservation incentives, for voluntary protection. Avoid abuse of incentive programs thru inspection, etc. Discounted prices for native plants for mitigation projects. Protection is responsibility of property owners. Public funding for project that do not include property values. Low-interest loans, small grants, and property tax abatement. Support public funding so long as private business pulls its weight. Favor strong and immediate steps for protection and restoration programs. N one has right to destroy habitat. Focus development in already degraded areas. No more building in stream corridors. No removal of urban forests w/o additional plantings. Favor education and non-native plants removal.	For habitat protection
196	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/23/04	habitat	Riches			Education and voluntary efforts are best. Involuntary regulations should not be imposed on already developed land, except with just and fair compensation. Building permits should not be used as leverage for "takings" on other parts of land. Incentives: education - would use organic lawn products if I knew where to find them how to use them. Combination of gov't sources, eventually funded by taxes and (voluntary) foundation type fundraising. Financial burden should not be on private property owners. No "takings". Strongly believe in "takings" clause of the fifth amendment and oppose gov't taking control of private property thru imposition of restrictions.	No "takings" thru restrictions.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
197	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/25/04	habitat	Madigan			All land deserves same standards. Incentives: property tax reductions for proof of protection. Support public financing currently thru property taxes. Willing to support science-based policies, not yours. Support concentrating population. Habitat in-between highly developed areas may provide hostile environment for wildlife. Notes intermittent streams that are classified as high value habitat -protecting such areas that don't have salmon in them dilutes property tax base. Annoyed with bland replies to emails. Metro does not appear to have open minds or be considering financial impact. Approach doesn't seem science-based.	For habitat protection
198	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/26/04	habitat	Sutherland-Finch			Developed land should not be exempt. Require reductions negative impact and restoration. Assistance needed, especially for elderly, perhaps by citizen or public group. Incentives: credit for proving protection or property tax relief...to combat issues such as debris removal, appropriate plantings, etc. Wholesale resource for native plants. Define mechanisms. Perhaps a county bond. Restrictions and enforcement of waterway diversions. Subdividing class I areas should be prohibited.	For habitat protection
199	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	02/26/04	habitat	Werder			Developed land should not be exempt. Not in favor of redevelopment plans that alter density. No exemptions for development. Incentives: tax relief, either property or income. Fund with existing resources. Reduce budgets of social programs or education. Also in favor of bonds. Protection is essential.	For habitat protection

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
200	online survey w/ 3 Qs: developed land, incentives, funding mechanisms	03/01/04	habitat	Pistor			Developed land should be exempt from new regulations. Property owners must be compensated for impacts of new regs. Incentives: education to addresses pros/cons of protection, etc. Private funding, except in rare/extreme cases. Notes seasonable drainage ditch that is classified habitat. Don't believe info from source that makes such claims.	Against new regs w/o compensation.
201	open letter	02/02/04	Metro Council	Christian Clere		Kerr Pkwy, Lake Oswego	Strong support for strictest protection. Save riparian corridors and uplands. Concerned about development in Forest Park...steep slopes and near headwater ravines as well as severed corridors, slides, and flooding. Not against development but support smarter development such as cluster development.	For habitat protection
202	open letter	02/03/04	Metro Council	James W. Hatfield, Dunthorpe Press		Portland	Brought company to Oregon for natural beauty and enjoys walks in Forest Park, which are stress-relieving and rejuvenating. Make sure Forest Park remains green and healthy.	For protection (of Forest Park)
203	open letter	02/08/04	Metro Council	Barry Armentoout		SW Preslynn, Portland	Support mandates to protect bird habitat - options 1a or 2a. No net loss of riparian habitat and protect habitats of concern and upland habitat on steep slopes.	For habitat protection
204	open letter	02/09/04	Metro Council	Susan Stein		NE Multnomah, Portland	Strongly encourages protection of streamside habitats, bird and bird habitat. Highly recommends most protective options: 1a and 2a.	For habitat protection
205	open letter	02/23/04	Tualatin Basin Coordin. Commit. & Metro Planning	Robert Riches		NE Jackson School, Hillsboro	"Riparian III" designation on property is not accurate reflection of reality. Area is cut off by residential development from swale. Strongly opposed to restriction on use of private property without just compensation. Strongly favors educational and incentive-based voluntary methods. Education powerful for conscientious stewardship. Need info on best use of non-toxic pesticides.	For stewardship, against regulations that restrict property rights.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
206	open letter	03/02/04	Metro Council	Peter Finley Fry		SW Main, Portland	Strive to integrate human activities in natural environment and healthy manner. Issue of setbacks must be realigned. Review scientific basis tosupport notion of integration and reject segregation as strategy doomed to failure. Teach people to treat animals with grace and compassion.	For protection, against setbacks
207	open letter	03/03/04	Metro Council	Carolyn Eckel		SE Main, Portland	Homeowner in Johnson Creek watershed. Supports strongest possible standards to protect watershed which wi protect habitat. Hike in Forest Park and observe no water running in Balch Creek. Improve habitat for salmon, including prohibiting clear cutting near streams and no tree cutting on steep slopes, since these lead to landslides and destroy streams and habitat. Preserve as much greenspaces as possible for habitat. Better to rely on high density housing and in-filling.	For habitat protection
208	open letter	03/06/04		Larry Read	Mail-in	Tualatin Loop, West Linn	Strongly supports Tualatin River Basin protections found in options 1A, 2nd choice 2A. Talks of shallow 12 foot space between river infiltration and drinking water layer as concern for low pollution and contaminate levels. Stresses importance of non-native vegetation destruction. Suggests incentives.	For strong habitat protection.
209	open letter	03/08/04	Metro open house team (at Tualatin)	Nancy Lou Tracy	Tualatin	SW Pine St.	Concerned for children and grandchildren and 6th period of mass extinction underway. Supports goals 1 & 2Need political will to reduce growth in energy consumption. Consume less. Good info at the open house but process is still predicated on compromising quality of life.	For habitat protection
210	open letter	03/08/04		Cindy Irvine	Mail-in	NE Cook St, Portland	Wants to keep Portland livable for birds. Supports the most protection for green areas along streams. Protect steep slops to prevent landslides. Protect habitat with at-risk species. Require no net-loss of riparian habitats. Strictest protections for "primary function riparian habitats."	For strong habitat protection.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
211	open letter	03/11/04	Metro	S. Crown	Gresham	Kingswood Way, Clackamas County	Views declarations of resource value for the hills of east Portland/metro area by Oregon, Metro, Multnomah and Clackamas Counties, Portland and Gresham as "public relations gambit." Sites Persimmon phase 7 development a case in point, since proposal will remove stabilizing vegetation from steep hillsides, degrade soil stability and groundwater, destroy wildlife habitat and further pollute the area. Asks how this development can be allowed responsibly	For protection of hills in east Portland metro area. Against irresponsible development.
212	open letter	03/14/04	habitat	Margot Barnett	SW Portland	SW Portland	Comments follow from event attended on 03/18/04 in SW Portland. Appreciates efforts to inventory habitat. Supports options 1a and 2a. Expresses concerns about keypad polling, specifically questions 11, 12, and 14. Some don't make sense from biological perspective, while others depend knowledge that general public doesn't have. Importance of habitat areas depend on quality and proximity to other habitat areas.	For habitat protection
213	open letter	03/16/04		Richard Carfo	Clackamas		Letter presented at Clackamas open house: 28-year resident property owner above Johnson Creek noting an increase in garbage & pollution with nothing done to clean it up. Channelization prevents fish to spawn/feed. Offended a financing another habitat study (waste of money). Suggests inmate program to clean/restore habitat along with large fines of polluters. Suggests surveillance cameras at critical spots and a reward program for those who report big polluters. (Provides photographs of Johnson Creek with pollution/debris picture.)	For habitat protection, but critical of process as slow and cumbersome.
214	open letter	03/16/04		Anne Leiser	Mail-in	SW Pendleton Ct, Portland	Asks what is habitat? Stresses that man alone should not be considered. Describes cutting of trees and proliferation of pets near property that have kept wildlife away. Emphasizes leaving human presence out of habitat. Control is the answer to encourage habitat.	For habitat protection; concerned with human presence in habitat.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
215	open letter	03/18/04		Edith Coulter		SE West View, Milwaukie	Metro is 30 years late protecting specific area. Indicates tha there are numerous developments in the area. Stream near property is mostly piped underground. 70 feet of open stream is polluted and without wildlife. Does not want to be penalized as a good caretaker and not allowed to develop. Supports option 1C.	Against regulations that prohibit development
216	phone	02/25/04	Lori Hennings, Metro	Stan Biles		Sherwood	Discussion about property in Sherwood that is being considered for habitat protection and industrial lands.	
217	phone	02/27/04	Lori Hennings, Metro	John Temmy, appraiser			Sent notes for staff review.	
218	phone call	02/19/04		Joanne Galespie		SW Highland, Tigard	Concerned about the definition of protection. Owns property and is concerned about overlay and loss of property value due to lack of development.	Against regulations that lower property value.
219	phone call	02/19/04		Lina Bauer		SE 158th	Interested in Pleasant Valley concept planning, with no specific question about Goal 5.	For habitat protection; supportive of program.
220	phone call	02/20/04		Eric Schneider		SW Towle Ave, Gresham	Interested in restoration grants. Expressed need for one-stop information center. Supports protective guidelines/regulatory tools in exchange for creek bed enhancement/erosion problems	For habitat protection; supportive of program.
221	phone call	02/20/04		Helen Johnson		SW 42nd, Portland	Concerned about selling property for development if no subdivision allowed. Mailed property map and provided information about the inventory and ESEE analysis.	Critical of program.
222	phone call	02/20/04		Gary Groover		SW 55th, Tualatin	Concerned about his ability to develop his property	For habitat protection, concerned about ability to develop.
223	phone call	02/20/04		Eileen Wong		NW Royal Blvd, Portland	Property owner of 5 acres in Forest Hill. Concern over inconsistently applied Portland regulations and tree cutting restrictions.	Critical of program.

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
224	phone call	02/20/04		Dean Myers		East Multnomah County	Concerned that comments aren't amply considered. Suggests gravel loading dock to avoid muddied streets. Suggests silt fencing and erosion control around the edges of farms.	
225	phone call	02/20/04		Stevens			Called to confirm prior map correction to ensure that no stream is listed.	
226	phone call	02/20/04		Nora Lee		Oregon City	Interested in joining the mailing list for various projects	
227	phone call	02/20/04		Peter Hengested		SW Iron Mountain Blvd.	Interested in property's inclusion in Goal 5 program. Explained process and referred to open houses.	
228	phone call	02/23/04		Irene James		NE 137th Ave, Portland	Requested general information.	
229	phone call	02/23/04		Sherri Nee			Requested information on regulatory options; referred to website. Concerned about total value loss of property. Referred to ALP guidelines that prevent total loss of value.	For habitat protection, concerned about ability to develop.
230	phone call	02/23/04		Tamara Smith			Called for more info regarding program. Referred to website and map tool for further info.	
231	phone call	02/23/04		Dick Wyss		E Historic Columbia Hwy.	Expressed questions about willing seller acquisition and concerns that this is a duplication of US Fish & Wildlife.	
232	phone call	02/24/04		Felix Frayman		SW 57th Ave, Portland	Property owner requesting information about program.	
233	phone call	02/24/04				Sylvan Area	Wanted to know the possible scenarios for property under various program options.	
234	phone call	02/25/04		Harriet Levi		Jackson M.S.	Interested in protection possibilities on a neighboring property in predevelopment stages. Referred to city of Portland.	For habitat protection; supportive of program.
235	phone call	02/26/04		Pat		Clackamas	Expressed questions about inventory, ESEE analysis and open houses.	

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
236	phone call	02/26/04		Mary Hopkins			Has property with Class 3 Riparian value. Concerned that property owners are already preserving trees and are only being further penalized.	For habitat protection, but critical of program elements.
237	phone call	02/27/04		Judy Hoglund		SE Tong Rd, Clackamas	Questions about open houses and which would be most important to attend. Referred to Sunnybrook and Oregon City open houses.	
238	phone call	03/01/04		would not provide		West Linn	Expressed concerns that Metro is implementing a program without giving notice. Did not receive public notice.	Critical of program.
239	phone call	03/01/04		Debbie Dresner		Terwilliger & Taylors Ferry	Owns steep slope property with erosion problems, searching for suggestions. Referred to program tools draft document, City of Portland's BES & EMSWCD.	
240	phone call	03/01/04		Steve Edelman		NW Portland	Email response: referred to ORS 527.722 in regards to loca governments regulation power on forestland property inside & outside urban growth boundary.	
241	phone call	03/01/04		Erin Vandeheu		Tualatin Basin, Clackamas	Attorney representing client trying to develop. Requested info on Goal 5 process, including Tualatin Basin partner process	
242	phone call	03/01/04		Heather Arendt, Pacific Habitat Services		SW Roy Rogers Rd	Expressed inventory questions about a particular property's Class III Riparian value. Performs wetland/habitat surveys for local jurisdictions.	
243	phone call	03/03/04		Anne		Boundary & Shaddock, Portland	Generally supportive of habitat program.	For habitat protection; supportive of program.
244	phone call	03/03/04		Heather Arnt			Expressed questions about ESEE analysis and open houses. Walked through online map tool on the phone. Expressed helpfulness of map tool.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
245	phone call	03/03/04		Brian Willis		SE Hogan Rd, Gresham	Expressed concern that maps default to one option and that a decision has already been made. Expressed positive and helpful interaction with Metro staff.	Critical of program.
246	phone call	03/03/04		Brian Bjornson			Expressed concerns that wetland mapping is too broad. Referred to website, interactive tools and explained inventc criteria.	
247	phone call	03/03/04		Richard Kell			Doesn't want to lose right to develop on his property, though supportive of habitat protection.	For habitat protecton, but concerned about property rights.
248	phone call	03/03/04		Steve Overson		Holcum Blvd	3rd generation property owner outside UGB & industrial lands study area. For habitat protection, but concerned about lot (59 acres) and its validity in inventory.	For habitat protection, concerned with program elements.
249	phone call	03/04/04		Jim Hinzdel		Weller St, Lake Oswego	Expressed questions about inventory & open houses. Sent property maps and public notice.	
250	phone call	03/04/04		Peter Adams		SW Nottingham Dr	Expressed concerns over county assessed values. Requested Portland C-zone and Metro regional habitat inventory maps. Referred successfully to website.	For habitat protection; supportive of program.
251	phone call	03/04/04		Janet Rood		SE Hwy 212, Clackamas	Requested info about urban growth boundary expansion plans	
252	phone call	03/04/04		Michelle, Pac Habitat Srvcs		NE Cornell Rd	Expressed inventory questions about a particular property's value. Performs wetland/habitat surveys for local jurisdictions.	
253	phone call	03/09/04		Pat McGuinn		SW Willowmere Dr, Portland	Wants Metro to do more to protect the environment. 30 year resident of Fanno Creek property. Concerned about neighbors falling trees and building in the area.	For strong habitat protection.
254	phone call	03/09/04		Dana McCullough		Washington County	Expressed rumor that 3,000 of new industrial land would require 1,000 acres of habitat with UGB expansion. Informed of inaccuracy and mailed info on program.	
255	phone call	03/11/04		John Frewing		SW 74th	Specific questions about Tigard property in unincorporated WA county.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
256	phone call	03/16/04		Edith Coulter		SE West View, Milwaukie	Expressed questions about inventory. Property maps were requested and sent.	Not directly expressed.
257	phone call	03/17/04		Rick Miller		Cooper Mt.	Generally critical of program. Has property on Cooper Mt in class 1 area and would like to build a house.	Critical of program.
258	phone call	03/19/04		Nancy Waller		SW Newland Rd, Wilsonville	Generally supportive of habitat program. Requested property maps	For habitat protection; supportive of program.
259	phone call	2/23/04 & 2/25/04		Virginia Horler		West Linn	Owns property up for sale (22 acres). City of West Linn is interested in acquisition for park use, school district supports development sale. Wants letter from Metro in support of open space purchase.	For habitat protection; supportive of program.
260	phone call	2/27/04, 3/2/04, 3/12/04		Tim O'Callahan		NW 185/Hillsboro	2/27 Did not receive notice. Faxed & mailed notice. 3/2 Requested inventory technical report. 3/12 Meeting held to look at GIS layers. Submitted map data using Clean Water Servoces floodplain data; primarily concerned w/ maximizir development when rural property brought into UGB	
261	phone call	2/27/2004 & 3/1/04		Ollie Olsen		West Linn	Property owner with creek on land. West Linn told him his land is undevelopable. Concerned that he was not adequately notified. Supports compensation for setbacks. Concerned about legality of the program under eminent domain laws.	Critical of program.
262	phone call	3/4/04 3/9/04		Terry Wilson		SE Heuke Rd, Boring	Generally supportive of habitat program. Questions about inventory. Property maps requested and sent. 3/9 Concerned that program would prevent development/limber sale from property	For habitat protection; supportive of program.
263	phone, email	02/02/04	Maggie Voss, Metro	Ralph London		SW Portland	Ralph called to inform Metro of address correction: 6809 Raleighwood Way, Portland 97225-9137	
264	phone, email	02/27/04	Lori Hennings, Metro	Sheer Nee...			Spoke on phone last week. Lori sent info on web tool and s options.	
265	post-it idea	03/11/04			Gresham		"Property owners right!"	Property owner rights

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
266	post-it idea	03/11/04			Gresham		Special permit to transfer debris to a landfill or transfer station at no cost. By request on a one time/day or event basis.	
267	post-it idea	03/11/04			Gresham		"Protect property owner rights."	Property owner rights
268	post-it idea	03/11/04			Gresham		If value is lost, it should be compensated. Stressed protection of property owners rights.	Property owner rights
269	post-it idea	03/11/04			Gresham		Question #11 of keypad questionnaire is poorly written. Choosing between compact development/preserving trees does not correlate. You can do both.	
270	post-it idea	03/11/04			Gresham		Unsure why the open house is taking place.	
271	post-it idea	03/11/04			Gresham		Limit development. Start with the Persimmons development, bad for existing neighborhoods.	
272	post-it idea	03/11/04			Gresham		Tree covered buttes are unique factor. Don't allow destruction, they should remain a legacy.	For habitat protection.
273	post-it idea	03/11/04			Gresham		Property owner already protects local environment by planting trees, etc near stream	
274	post-it idea	03/11/04			Gresham		Supports option 1A	For habitat protection
275	post-it idea	03/11/04			Gresham		Protect our water supply.	
276	post-it idea	03/11/04			Gresham		"Saving our trees/forests is a start."	
277	post-it idea	03/11/04			Gresham		Suggests pesticide regulation. Owners may be more open to regulation if coupled with education programs offering easy alternatives.	
278	post-it idea	03/11/04			Gresham		Imposing regulations cause anger. Protecting habitat can b a positive and rewarding experience. Education and reward are good approaches.	Against regulations, but not protection
279	post-it idea	03/11/04			Gresham		Give awards to land owners who make efforts to preserve/enhance their properties adjacent to streams, lakes, etc.	
280	post-it idea	03/11/04			Gresham		City of Gresham should rescind its new steep slope rules.	
281	post-it idea	03/11/04			Gresham		Don't limit development based on maps. Evaluate each site separately. Do not substitute fixed regulations for reasoned decisions.	
282	post-it idea	03/11/04			Gresham		Supports option 1A	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
283	post-it idea	03/11/04			Gresham		Fairview Creek Coordinating Committee has worked for years. Cities just keep on developing impervious areas draining into Fairview Lake.	
284	post-it idea	03/11/04			Gresham		Conservation banking tied to a regulatory program; protect restore high priority sites.	Supports protection
285	post-it idea	03/11/04			Gresham		Limit development. Stop the Persimmons development. Ensure community concerns are addressed to protect habitat.	Supports protection
286	post-it idea	03/11/04			Gresham		Suggests positive responses to habitat protection stem fror education. Regulation makes land owners angry. Work with them, not against them.	
287	post-it idea	03/11/04			Gresham		Leave protection of habitat to local jurisdictions. Any program adopted by Metro should be non-regulatory.	
288	post-it idea	03/11/04			Gresham		"Stop development. Save our habitat. Enough is enough. Support option 1A."	
289	post-it idea	03/11/04			Gresham		"Why are you (Metro) here? Faircreek creek not been enough (home) (habitat) protection nothing left/all developed."	
290	post-it idea	03/11/04			Gresham		Develop a waste program for sewage/waste that develops "methane gas" for energy to offset oil demand.	
291	post-it idea	03/11/04			Gresham		Persimmons development will destroy butte, trees, wildlife. Land development will not preserve our natural habitat.	
292	post-it idea	03/11/04			Gresham		Property owners can protect their own land and are responsible. Don't need more rules.	Against regulations
293	post-it idea	03/11/04			Gresham		A list of native plants/places to purchase or pick-up upon private restoration grant.	
294	post-it idea	03/11/04			Gresham		People should be left alone by Metro, but educated on proper fish and game management on properties.	Against new regulations
295	post-it idea	03/15/04		Clair Klock	OR City		The title of education classes (a non-regulatory tool) should reflect how the class will improve the property.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
296	post-it idea	03/15/04		Clair Klock	OR City		Grants for city lot owners should be in conjunction with a Naturescapaing class & technical consultation	
297	post-it idea	03/15/04		Clair Klock	OR City		Grants should be given in conjunction with a conservation plan of the entire property.	
298	post-it idea	03/15/04		Karen Davis	OR City		Question: are there any agencies that would help with wildlife restoration?	
299	post-it idea	03/15/04		Sarah Brown	OR City		No paved trails along rivers.	
300	post-it idea	03/15/04			OR City		In large developments along UGB edge, make developers leave a naturalized boundary.	
301	post-it idea	03/15/04		Larry	OR City		Enforce current laws regarding polluting streams, etc. Don't add more laws.	Not directly expressed.
302	post-it idea	03/15/04		Larry	OR City		Leave restoration to people who will do it voluntarily or donate their land	Not directly expressed.
303	post-it idea	03/15/04			OR City		Make developers leave old growth large trees--work development around to save maximum extent possible.	Not directly expressed.
304	post-it idea	03/15/04			OR City		Use non-regulatory incentives for property owners of small tracts. Regulate urban areas less aggressively where large tract owners are impacting wildlife.	Not directly expressed.
305	post-it idea	03/16/04			Clackamas		Same essential rules for business as everyone else.	
306	post-it idea	03/16/04			Clackamas		Strive for sustainability--a balance between economy, ecology and community. Going with what brings the most money makes the environment and community suffer.	
307	post-it idea	03/16/04			Clackamas		"The more the better!" (Reference unknown.)	
308	post-it idea	03/16/04			Clackamas		Enforce the regulations, once adopted.	
309	post-it idea	03/16/04			Clackamas		Metro must enforce its laws, audit performance, quality and administrative track record of local jurisdiction's programs.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
310	post-it idea	03/16/04			Clackamas		Visit homeowners in habitat areas and give suggestions on what to plant, how to improve, etc.	
311	post-it idea	03/16/04			Clackamas		More home- and commercial owner (esp. near streams/new development) education about pesticide/runoff issues	
312	post-it idea	03/16/04			Clackamas		"If taxpayers' want to regulate someone else's land, let them buy it!"	
313	post-it idea	03/16/04			Clackamas		Don't allow developers to cut all the trees.	
314	post-it idea	03/16/04			Clackamas		Restrict companies along waterways to prevent growth of pollution problem.	
315	post-it idea	03/16/04			Clackamas		"Use common sense. The area will never be as it was before the Indians came here. People are more important than fish."	
316	post-it idea	03/16/04			Clackamas		Tax reduction for maintaining wetlands and streamside habitat.	
317	post-it idea	03/16/04			Clackamas		Combine regional trail system with wildlife corridors that connect streams, buttes & riparian areas.	
318	post-it idea	03/17/04			North Portland		Higher density development.	
319	post-it idea	03/17/04			North Portland		Better stewards on Metro-owned property. (e.g., remove ivy)	
320	post-it idea	03/17/04			North Portland		Charge immigrants to Metro counties a habitat tax and/or develop system development charges for proposed development.	
321	post-it idea	03/17/04			North Portland		Buy conservation easements on lands adjacent to Metro lands to buffer high quality habitats	
322	post-it idea	03/17/04			North Portland		Include more street tree protection, even outside habitat areas.	
323	post-it idea	03/17/04			North Portland		Support/encourage limits on sale of chemical fertilizers, pesticides, herbicides, fungicides.	
324	post-it idea	03/17/04			North Portland		Only allow native plans for new landscape development.	

	A	B	C	D	E	F	G	H
1	Type of comment	Date	To	From	Event	Location of sender (general)	Brief Summary	Sentiments about habitat protection program
325	post-it idea	03/17/04			North Portland		Tax or water bill credit for amount of tree canopy for homeowners/businesses.	
326	post-it idea	03/17/04			North Portland		Encourage the use of native plants on all metro area development projects, commercial or residential. Discourag the increase of "car" habitat through tax incentives. Tax on pesticides.	
327	post-it idea	03/17/04			North Portland		Do not expand urban or industrial lands	
328	post-it idea	03/18/04		Brian Swaren	SW Portland		City of Portland usually overbearing/bossy. Most people want to do right thing. Work w/ homeowners to help them protect streams in cooperative, non-dictatorial manner. Contact person/advisor that homeowners hire to look at property, listen to and consider ideas. Then, through simplified process, homeowners could begin immediately o plans. Critical of city process with tons of paperwork, lot of money, just for a meeting.	Not directly expressed.
329	post-it idea	03/18/04		J. Michael McCloskey	SW Portland	SW Sunset Blvd.	Metro should put pressure on City of Portland to change Local Improvement District approach that requires nearly every resident to agree to putting in more curbs to help collect storm water.	For habitat protection (not directly expressed)
330	walk-in	02/24/04		Terrell Garrett		NW St. Helens	Interested in map correction form. Faxed form.	
331	walk-in	02/25/04		Linda Bauer		SE 158th	Very supportive of Metro program thus far. Knowledgeable about current ESEE analysis and program development process.	For habitat protection; supportive of program.
332	walk-in	03/11/04		Alex Reverman		NW. 185/Cornell	Concerned about wetland & stream protection requirement Provided arc view maps and explained timing of program versus development permitting process	
333	walk-in	03/19/04		Gordon Boorse		NE 122nd Ave, Portland	Requested and given property maps. Discussed questions about the inventory and ESEE analysis.	
334	walk-in	2/20/04 & 2/23/04		Al Jones		SE Robert Ave, Clackamas	Owns several properties, one zoned industrial. Concerned with takings/condemnation issues.	Critical of program.

	A	B	C	D	E	F	G	H
1	**Type of comment**	**Date**	**To**	**From**	**Event**	**Location of sender (general)**	**Brief Summary**	**Sentiments about habitat protection program**
335	walk-in	2/20/04 & 3/3/04		Skip Ormsby		SW Birdhill Rd, Portland	Picked up inventory, science report and industrial lands study. Chair of Birdshill CPO.	For habitat protection, concerned with program elements.
336	walk-in	2/26/04 & 3/2/04		Sparkel & Bruce Anderson		SW Stafford Rd, Wilsonville	Questions about stream on her property and possible discrepancies between habitat inventory and industrial land study area maps.	

Acknowledgement

Metro's fish and wildlife habitat protection (Goal 5) communications and community involvement program is designed to support the technical work and Council decision-making process. Its goal is to provide effective means of informing and engaging citizens in the making of important regional habitat protection policy.

There were many opportunities to be informed about and participate in the decision-making process: newspaper advertisements, information materials and interactive maps (by mail, online), property owner notices (mailed), comment cards (by mail, online), non-scientific survey (keypad, online), workshops, community stakeholder meetings and special events, open houses and formal public hearings.

Thanks to the following staff for making all this possible:

Communications and Community Involvement Staff
Gina Whitehill-Baziuk, manager
Karen Withrow
Kelli Larson
Jesse Beason

Creative Services Staff
Janice Larson, manager
Sue Gemmell
Marlon Warren
Vanessa Schwab
Cathy Thomas

Technical Staff
Christina Deffebach, manager
Paul Ketcham
Lori Hennings
Justin Houk
Carol Krigger
Malu Wilkinson

Public Comment Report Production
Sherrie Blackledge
Jenny Stein

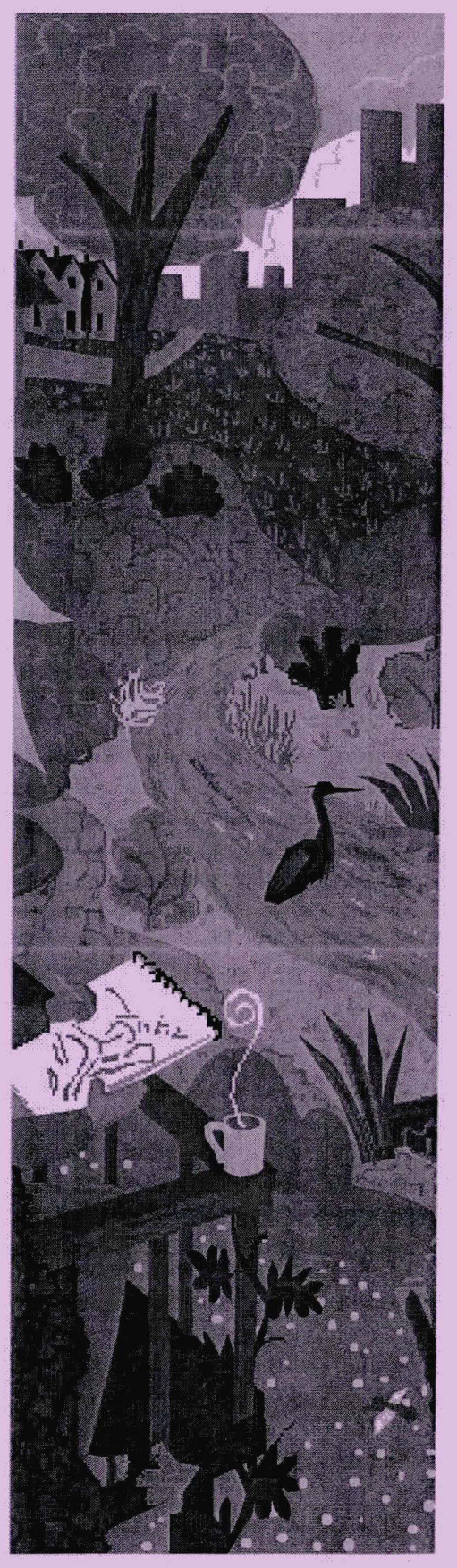


Exhibit A to Resolution 04-3440

METRO FISH AND WILDLIFE HABITAT

PROTECTION PROGRAM

Economic, Social, Environmental and Energy Analysis (ESEE)

Phase II: Analysis of program options

April 2004 Draft

METRO

PEOPLE PLACES
OPEN SPACES

Draft
Phase II: Analysis of Program Options
Metro Fish and Wildlife Habitat Protection Program

Table of Contents

ACKNOWLEDGEMENTS

ETAC MEMBERS
Robert Anderson, Bonneville Power Administration
Al Burns, City of Portland
Cindy Catto, Association of General Contractors
Brent Curtis, Washington County
Rob DeGraff, Portland Business Alliance
Eric Hovee, ED Hovee & Co.
Greg Jenks, Clackamas County
Jerry Johnson, Johnson Gardner Consulting
Tom Kelly, Neil Kelly Company, Inc.
Jim Labbe, Portland Audubon Society
Gene Leverton, Port & transportation marketing consultant
Patti McCoy, Columbia Corridor Association
John Mitchell, M&H Economic Consultants
Terry Morlan, NW Power Planning Council
Noelwah Netusil, Reed College
Kelly Ross, Home Builders of Metropolitan Portland
Shelly Parini, City of Gresham
Tom Potiowski, State of Oregon
Mike Salsgiver, Intel
Dick Sheehy, Industrial Design & Construction
Dennis Yee, Chief Economist, Metro
Grant C. Zadow, International Brotherhood of Electrical Workers, Local 48

GOAL 5 TECHNICAL ADVISORY COMMITTEE MEMBERS
Ann Beier, Oregon Dept. of Land Conservation & Development
Blair Csuti, The Oregon Zoo
Brent Curtis, Washington County
Greg Fritts, Clackamas County
Barbara Fryer, City of Beaverton
Lisa Hamerlynck, City of Lake Oswego
Roberta Jortner, City of Portland
Jim Labbe, Portland Audubon Society
Marc Liverman, National Marine Fisheries Service
Karl Mawson, ex officio member, consultant and citizen
Tom McGuire, Adolfson & Associates
Holly Michael, Oregon Dept. of Fish & Wildlife, NW Region
Marty Mitchell, ClearWater West, Inc.
Alison Rhea, Rhea Environmental Consulting
Patty Snow, Oregon Dept. of Fish & Wildlife, Habitat Division
Jennifer Snyder, David Evans & Associates, Inc.
Jennifer Thompson, U.S. Fish & Wildlife Service
Paul Whitney, Jones & Stokes Environmental Consultants
Don Yon, Oregon Dept. of Environmental Quality, Water Quality Division
Goal 5 Alternates
Hal Bergsma, City of Beaverton
Shannon Buono, City of Portland
Dennis Egner, City of Lake Oswego
Doug McClain, Clackamas County
Bob Sallinger, Audubon Society of Portland
Andrea Vannelli, Washington County

WATER RESOURCES POLICY ADVISORY COMMITTEE
Councilor Carl Hosticka, Chair
Councilor Susan McLain, Past Chair
Michael Carlson, Citizen – Clackamas River Watershed

Clifton Deal, East Multnomah County Soil & Water Conservation District
Linda Dobson, City of Portland, Bureau of Environmental Services
Craig Dye, Clean Water Services
Bill Fujii, Oregon Water Resources Dept.
Rebecca Geisen, City of Portland, Bureau of Water
Rick Gruen, Clackamas County Soil & Water Conservation District
Chris Hathaway, Lower Columbia River Estuary Partnership
Todd Heidgerken, Tualatin Valley Water District
Jim Johnson, Oregon Dept. of Agriculture, Land Use & Water Planning Division
Dale Jutila, Clackamas River Water
Nancy Kraushaar, Cities of Clackamas County - Oregon City
Sue Marshall, Citizen – Tualatin River Watershed
Carrie Pak, City of Gresham, Dept. of Environmental Services – Stormwater Division
Andy Schaedel, Oregon Dept. of Environmental Quality, Water Quality, NW Region
Dorothy Sperry, Port of Portland
R. Ken Squires, Oak Lodge Sanitary District
Jennifer Thompson, U.S. Fish & Wildlife Service
Ela Whelan, Water Environment Services of Clackamas County
David Winship, Cities of Washington County – City of Beaverton
Tom Wolf, Oregon Council Trout Unlimited

WRPAC Alternates

Rob Burkhart, Oregon DEQ
Julie DiLeone, East Multnomah County Soil and Water Conservation District
Greg DiLoreto, Tualatin Valley Water District
Mary Gibson, Port of Portland
Lowell Hanna, Citizen – Clackamas River Watershed
Lynne Kennedy, City of Gresham Environmental Services – Water Resources Program
Dave Kliewer, City of Portland Bureau of Environmental Services
Clair Klock, Clackamas County Soil & Water Conservation District
Joel Komarek, Cities of Clackamas County - Lake Oswego
Debrah Marriott, Lower Columbia River Estuary Partnership
John Marshall, U.S. Fish & Wildlife Service
Mike McKillip, Cities of Washington County – City of Tualatin
Walt Mintkeski, Oak Lodge Sanitary District
John Nagy, Water Environment Services of Clackamas County
April Olbrich, Citizen – Tualatin River Watershed
Kendra Smith, Clean Water Services
Lorna Stickel, City of Portland Bureau of Water

METRO
People places • open spaces
Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy, and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 24 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal, and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

METRO REPRESENTATIVES
Metro Council President
David Bragdon

Metro Councilors
Rod Park, deputy council president, District 1
Brian Newman, District 2
Carl Hosticka, District 3
Susan McClain, District 4
Rex Burkholder, District 5
Rod Monroe, District 6

Auditor
Alexis Dow

Chief Operating Officer
Michael Jordan

Planning Department Director
Andy Cotugno

Fish and Wildlife Program Project Staff
Long Range Planning staff
Chris Deffebach, Long Range Planning Manager
Lori Hennings, Associate Regional Planner
Justin Houk, Associate Regional Planner
Paul Ketcham, Principal Regional Planner
Carol Krigger, Associate Regional Planner
Malu Wilkinson, Associate Regional Planner

Other contributing staff
Jesse Beason, Temporary Public Involvement Assistant
Sherrie Blackledge, Administrative Assistant
Nancy Chase, Senior Real Estate Negotiator
Paulette Copperstone, Program Assistant II
Paul Garrahan, Assistant Attorney
Sue Gemmell, Senior Graphic Design Specialist
Alan Holsted, Program Supervisor
Heather Nelson Kent, Regional Parks and Greenspaces Planning and Education Manager
Janice Larson, Creative Services Manager
Kelli Larson, Intern
Jeff Tucker, Regional Parks and Greenspaces Finance Manager
Gina Whitehill-Baziuk, Public Involvement Manager
Kathleen Wilson, Administrative Assistant
Karen Withrow, Associate Public Affairs Coordinator

Consulting Services, ECO Northwest

LIST OF MAPS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

Appendix 1. Non-regulatory approaches.

Appendix Table 1A. Potential non-regulatory programs.

Appendix 1B. Potential non-regulatory costs, resources, and other information.

Appendix 2. Maps for economic analyses.

Appendix 3. Data tables for social analyses.

Appendix Table 3A. SINGLE FAMILY RESIDENTIAL acres potentially affected by development status. (Does not include 6,188 acres of parks that are zoned SFR).

Appendix Table 3B. MULTI-FAMILY RESIDENTIAL acres potentially affected by development status. (Does not include 769 acres of parks that are zoned MFR).

Appendix Table 3C. MIXED-USE CENTERS acres potentially affected by development status. (Does not include 115 acres of parks that are zoned MUC).

Appendix Table 3D. COMMERCIAL acres potentially affected by development status. (Does not include 1,299 acres of parks that are zoned COM).]

Appendix Table 3E. INDUSTRIAL acres potentially affected by development status. (Does not include 1,066 acres of parks that are zoned IND).

Appendix Table 3F. PARKS AND OPENSPACE acres potentially affected by development status.

Appendix Table 3G. RURAL acres potentially affected by development status. (Does not include 4,288 acres of parks that are zoned RUR).

Appendix 4. Data tables for environmental analyses.

Appendix Table 4A. Criterion 1: Conserves existing watershed health and restoration opportunities. Measures the amount of habitat that falls within vacant and developed urban lands (excluding Title 3 WQRA and parks) for each treatment class. Full data can be found in the introductory section.

Appendix Table 4B. Criterion 2: Retains multiple functions provided by forest canopy cover. Measures the acreage of forest canopy cover that falls within each treatment category under each of the six program options. The criterion excludes WQRA and parks because such areas currently receive some protection.

Appendix Table 4C. Criterion 3a: Retains riparian corridor continuity. Measures the acreage of fish and wildlife habitat within 150 feet of streams that falls within each treatment category under each of the six program options. This criterion includes WQRA because they are important connectivity components.

Appendix Table 4D. Criterion 3c: Potential for disproportionate habitat loss by subwatershed. Measures the amount of acres in Metro's jurisdiction, the acres of habitat, and percent of the subwatershed in habitat for each of Metro's 27 subwatersheds. The data are sorted by the percent of the site in habitat and impact areas.

Appendix Table 4E. Criterion 4: Conserves habitat quality and biodiversity provided by large habitat patches. Measures the acreage of large habitat patches (wildlife model scores from 6-9 points) that falls within each treatment category under each of the six program options.

CHAPTER ONE: INTRODUCTION

The natural environment is an important aspect of the uniqueness of the Metro region. Metro's policies have consistently placed a high level of importance on the protection of the natural environment as a means of maintaining the high quality of life citizens of this region expect. Healthy streams and upland areas provide habitat for many animals, fish such as salmon, and clean water for people, fish, and wildlife.

Residents of this region consistently say that contact with nature is important, and they value the natural biological diversity that is part of the Willamette Valley.[1] As Oregonians, state symbols are part of the cultural identity of residents in the Metro region. The Western Meadowlark was selected as Oregon's state bird by schoolchildren in 1927 (Marshall et al. 2003). It is currently a state-listed Species of Concern, and has been nearly lost from the Metro region due to loss of native grasslands and urban development. However, some birds still winter over in the region, and bird-watchers often seek them out in areas such as the agricultural lands around the Tualatin River. The state fish, Chinook salmon, has five runs in or near this region, and all five are federally listed as Threatened or Endangered. Contact with nature and the rich diversity of species and habitats native to this region are important parts of the region's cultural heritage; to the extent that these resources are lost, so is a part of our culture, heritage, and natural history.

Much work has already been accomplished to protect and restore fish and wildlife habitat in the region. Metro and other organizations have purchased close to 11,000 habitat acres, thousands of volunteers work to restore habitat and remove invasive species, and most cities and counties have existing habitat protection programs. Metro's efforts are not isolated and build on the tremendous work that is going on in the region. However, Metro's habitat inventories and science review, as well as compliance with federal policies such as the Endangered Species Act and Clean Water Act, demonstrate that additional habitat protection is needed. Metro's goal is to provide more consistent, effective protection to fish and wildlife habitat across the region.

Metro's approach to fish and wildlife habitat protection

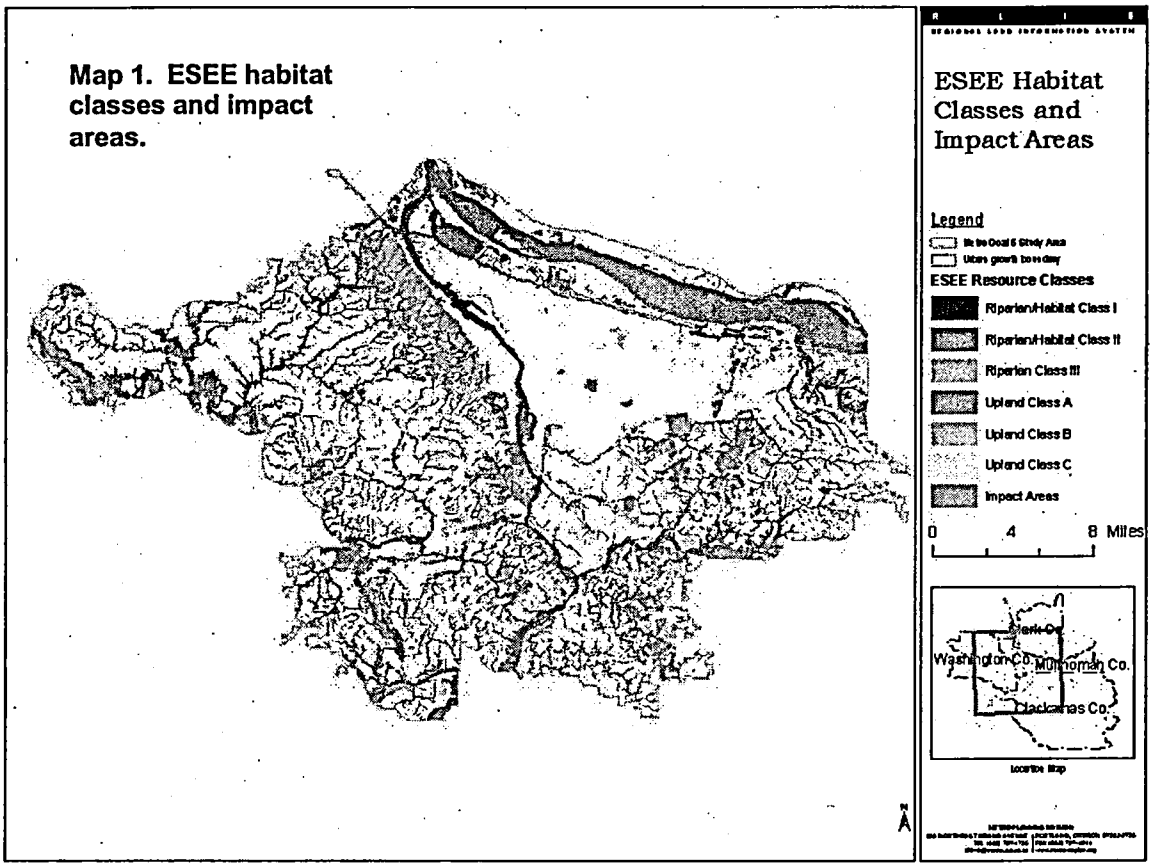
The Metro Council and its local partners are conducting a three-step planning process to conserve, protect, and restore urban streams, waterways, and upland areas that provide important fish and wildlife habitat. State land-use planning laws and broad citizen concern about the need to protect and restore habitat guide this work.

Based on a scientific assessment of functional habitat values, the Metro Council identified regionally significant fish and wildlife habitat in August 2002, completing the first step of the planning process. Metro is currently completing the second step of the planning process: assessing the Economic, Environmental, Social, and Energy (ESEE) tradeoffs of protecting or not protecting regionally significant fish and wildlife habitat.

[1] May 2001 Davis and Hibbits phone survey commissioned by Metro, an October 2001 Moore Information survey sponsored by KGW-TV and the Portland Tribune, and an informal "SurveyPoint" poll available by phone and on Metro's website in 2001.

Metro's ESEE analysis is divided into two phases. The first phase was completed in fall 2003 with the release of the discussion draft ESEE Phase I Report that describes the general regional tradeoffs of allowing, limiting, or prohibiting conflicting uses in fish and wildlife habitat areas.[2] Map 1 shows the habitat and impact areas under consideration in the ESEE analysis.

Map 1. ESEE habitat classes and impact areas.



Key points from ESEE Phase I

Metro's approach for conducting a region-wide ESEE consequences analysis focused on achieving the goals of the 2040 Growth Concept. The goals in the Growth Concept, the Future Vision, the Regional Framework Plan (implemented through the Urban Growth Management Functional Plan), and Metro's Vision Statement for Protecting Fish and Wildlife Habitat all specify that the region should manage growth while protecting the natural environment, maintaining a high quality of life, and providing affordable housing options.

A key step in the ESEE analysis is to identify conflicting uses that "exist, or could occur" within regionally significant fish and wildlife habitat sites and identified impact areas. According to the Goal 5 rule, a conflicting use is a "land use, or other activity reasonably and customarily subject to land use regulations that could adversely affect a significant Goal 5 resource." Identifying

[2] Metro's Phase I Economic, Social, Environmental, and Energy Analysis (ESEE) Discussion Draft Report, September, 2003.

conflicting uses is important to focus the ESEE analysis on various land uses and related disturbance activities that may negatively impact riparian corridors and upland wildlife habitat. Metro identified conflicting uses from a regional perspective by examining generalized regional zones and by considering Metro's 2040 Growth Concept. Metro analyzed the distribution of its fish and wildlife habitat inventory among generalized regional zones, 2040 design type priorities, and impact areas.

The Goal 5 rule describes a process in which the ESEE consequences of allowing, limiting, and prohibiting conflicting uses are weighed with the need to preserve natural resources. These tradeoffs are described below. Metro considered the tradeoffs from a regional perspective. Some of the tradeoffs are different when considering local priorities and concerns; for example, from a regional perspective conflicting uses could be relocated or intensified in one area to account for resource protection in another. This solution may not address the needs of a city to provide jobs or housing within its jurisdiction, or to protect locally significant resources.

Economic tradeoffs

- Habitat lands have economic value for their urban development potential. Commercial and industrial lands in regionally significant areas and lands with high employment potential have the highest value for urban development. Residential, lower density retail, and employment areas have lower value for urban development. Urban development value is not assigned to rural areas and parks.
- Habitat lands also have economic value for the ecosystem services they provide such as flood control and water quality protection. Lands with the highest riparian and wildlife values provide the highest level of ecosystem services.
- Competition between the use of habitat land for ecosystem services and urban development is minimal because the overlap between the highest value habitat and the highest value urban development land is relatively small.
- Much of the vacant buildable land throughout the region is not part of the highest class of regionally significant fish and wildlife habitat.
- The majority of the highly valued habitat land is outside intensely developed urban areas and, thus, has lower urban development value.
- Lower-value habitat and urban development value areas are important for their cumulative contribution to the region's economy and habitat health.
- Habitat identified as having a low urban development value at the regional level may have high urban development value from a local perspective. This could further complicate development and protection decisions.
- By concentrating development in defined urban centers, some of the region's development needs can be met. However, accommodating demand for industrial land and single-family residential property will need special attention because these needs cannot be met fully in centers.

Social tradeoffs

- The social benefits of preserving habitat areas are diverse and cross-cultural. Habitat areas are an integral part of the area's cultural heritage, regional identity, education, recreation, and public health.
- Public values must be balanced with personal and financial private property interests.

- The needs of future generations must be considered when determining how the land is used today.
- Consideration must be given to the additional time and resources needed for compliance and enforcement of new requirements.
- Preservation of land for habitat use within the urban area may result in the shifting of jobs and housing away from locations where people prefer to live and work, there are social consequences.

Environmental tradeoffs

- Development on highly valued habitat land has a greater ecological impact than development on less valuable habitat land.
- Protection of both streamside and upland habitat is important to watershed health. Lower-valued upland wildlife areas can play a critical role in connecting habitat areas and supporting biodiversity.
- Trees are very important because they provide habitat, absorb pollution, and reduce water-related impacts by slowing and holding runoff.
- When development activity disturbs streams, the environmental impacts affect the immediate property and also are felt downstream.
- Protection of higher and lower-valued habitat supports healthy watersheds and creates restoration opportunities that, over time, can further improve the watershed.
- Some of the highest value habitat areas are located outside the urban area. If development needs cannot be accommodated within the existing urban area, conflict between habitat protection and urban development will increase as the urban areas expands.

Energy tradeoffs

- Trees and other vegetation can reduce energy use because they cool and clean the air and water naturally.
- If protection results in additional expansion of the urban growth boundary to accommodate development needs, increased auto use could result in increased fuel (energy) use.
- Building in urban centers can reduce auto and energy use.

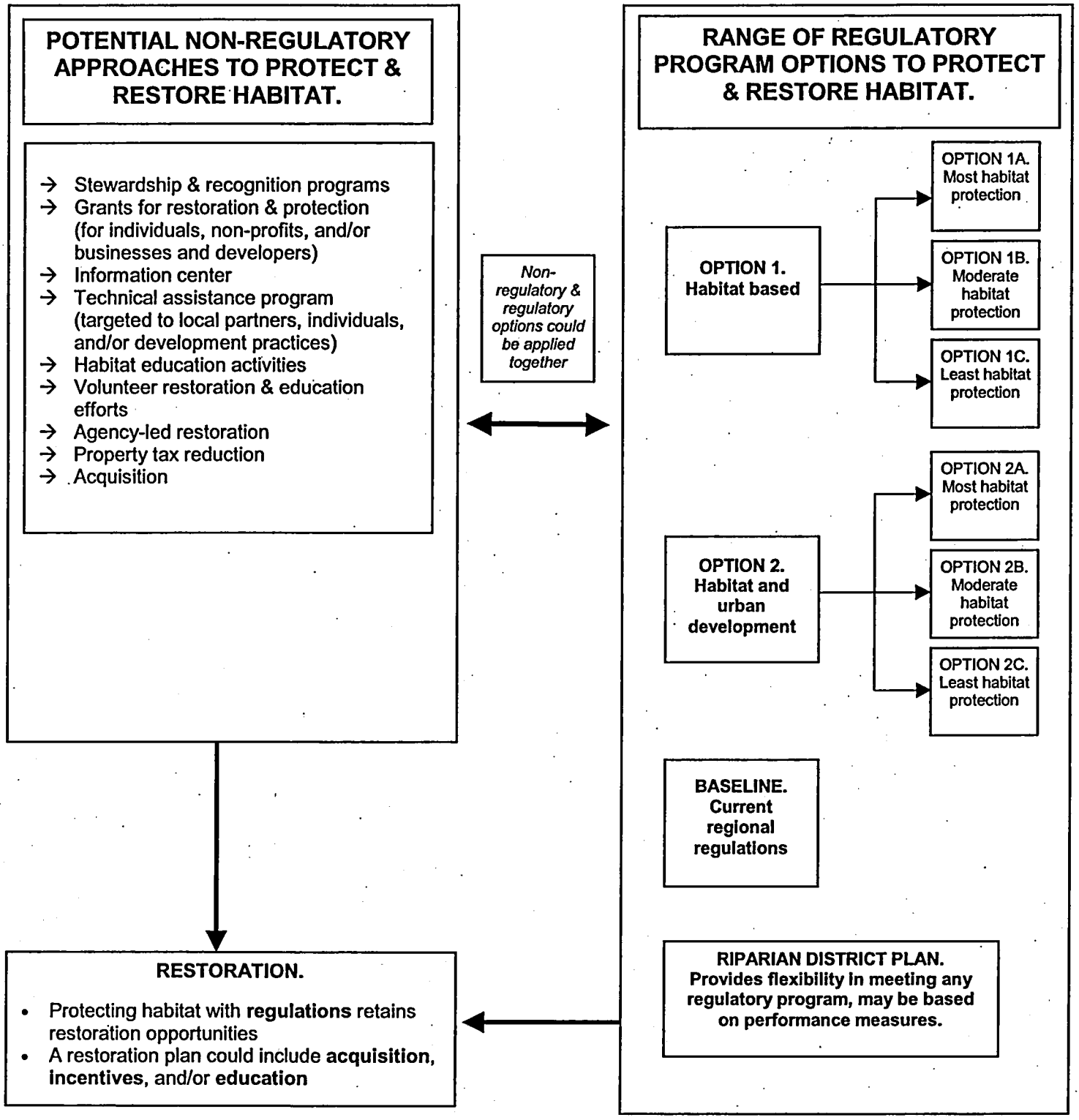
The results of the Phase I analysis showed that neither allowing all habitat land to be developed nor prohibiting development on all habitat land will satisfy the competing land use interests. Metro Council accepted the findings of the Phase I report and directed staff to evaluate six regulatory options that varied habitat protection levels.

Phase II ESEE analysis

This ESEE Phase II report describes several potential non-regulatory approaches to habitat protection and includes Metro's evaluation of the performance of the six program options identified by the Metro Council in October 2003. The Program Option Chart (Figure 1-1) illustrates the six regulatory and various non-regulatory program approaches studied in the Phase II ESEE analysis. Program options are defined by applying a range of hypothetical allow, limit, and prohibit regulatory treatments to regional resources and impact areas within Metro's jurisdiction. Non-regulatory approaches are described as possible components to program options. The results identified in this report will provide information to the Metro Council, local partners, and citizens in the region as the Council chooses a direction for program development

in May 2004. The Metro Council is scheduled to consider a fish and wildlife program by December 2004 designed to protect the nature of the region for generations to come.

FIGURE 1-1: PROGRAM OPTION CHART



Format of report

This Phase II ESEE analysis includes four major chapters.

Chapter 2 focuses on non-regulatory approaches for protecting and restoring fish and wildlife habitat. A brief summary of existing efforts in the Metro region is included, followed by several potential approaches, most of which could build on existing programs. A cursory estimate of cost and effectiveness of the non-regulatory approaches is included.

Chapter 3 focuses on existing and potential regulations to protect fish and wildlife habitat. A summary of Metro's *Local Plan Analysis* (August 2002) describes the existing local Goal 5 protection plans. Due to inconsistencies of local plans, Metro uses Title 3 Stream and Floodplain Protection as a baseline for comparing the six regulatory program options. The baseline regulations are described, followed by a description of the regulatory options.

Chapter 4 includes the analysis of tradeoffs for the ESEE factors as well as other criteria including meeting federal guidelines and the increment of additional protection.

Chapter 5 summarizes Metro's analysis of the six regulatory program options, describes how the non-regulatory and regulatory tools could complement each other, and identifies the next steps in program development.

CHAPTER TWO: NON-REGULATORY TOOL OPTIONS

Introduction

A program to protect and restore fish and wildlife habitat can protect more habitat if it includes both regulatory and non-regulatory components. These approaches complement each other, as shown in the table below: non-regulatory tools can address habitat issues that are not covered under land use regulations (e.g., pesticide use) as well as decrease the social/economic impact of regulations (e.g., funds for restoration activities, technical assistance for habitat friendly development). An effective regional protection program could use regulations to establish baseline levels of protection and non-regulatory tools to support and in some cases exceed the baseline. Further, regulations could provide jurisdictions flexibility to meet protection standards under a variety of different circumstances. Regulatory and non-regulatory habitat protection tools can offer varying levels of protection, and can be applied to different resources in the urban area. Choosing the right tool for the right resource, location and situation is important, and will require additional analysis and the input and recommendations of the public and the Metro Council.

Table 2-1. Comparison of regulatory and non-regulatory approaches to protect and restore habitat.

Non-regulatory approaches	Regulatory approaches
1. Uncertain protection (acquisition provides certainty but requires funding and depends on willing sellers)	1. Certainty of protection (with adequate enforcement capability)
2. Restoration can be achieved with a variety of approaches (incentives are necessary)	2. Preserves restoration opportunities but does not achieve restoration (mitigation may be required but unlikely to increase overall ecological function)
3. Depends on willing landowners and good stewardship	3. Property rights concerns (takings, real or perceived)
4. Can apply to non-land use activities (e.g., gardening, landscaping, remodeling, etc.)	4. Triggered by land use action (e.g., building permit application)
5. Application is limited by dollars and the number of willing landowners	5. Addresses entire system to the same degree

Metro's Parks and Greenspaces Department, along with other local partners, commissioned a study of incentives for natural area protection in 2002 (*Incentives Report*).[3] The Metro Council has considered the *Incentives Report*, and the information that relates to fish and wildlife habitat protection has been incorporated into the Phase II ESEE analysis. The study included three parts: a study of 18 candidate incentives, landowner interviews, and implementation strategies for three promising programs. Potential non-regulatory approaches for protection and tools for restoration are described and evaluated based on cost and effectiveness. A summary of non-regulatory tools currently being used in the Metro region is also included. Any new or expanded non-regulatory tool would require funding at some level; potential funding sources will be considered when Metro develops a program to protect fish and wildlife habitat.

[3] Local partners include: City of Portland, City of Oregon City, and the Tualatin Hills Parks and Recreation District. *Tools for natural area protection*, February 2002.

Existing non-regulatory tools for habitat protection and restoration

Numerous non-regulatory programs focused on protecting fish and wildlife habitat exist in the Metro region. In 2003, Metro compiled and summarized the efforts of 31 groups[4] that focus habitat protection and restoration efforts within the UGB, providing a snapshot of current efforts.[5] Funding levels fluctuate and organizations come and go, but Metro's survey provides a picture of how much has been accomplished in the current environment with non-regulatory tools. Table 2-2, below, describes a few of the non-regulatory programs in the region.

Since there are so many different types of programs in the region, Metro's study of non-regulatory tools categorized habitat protection and restoration programs in the following ways:

- **Restoration and enhancement.** The watershed councils operating in the Metro area have identified many restoration and enhancement priorities, which have been implemented and funded by several types of government agencies and private organizations. Much of the grant money that flows into the region is used for restoration and enhancement, but the grants are highly competitive and are inadequate to meet the demand. For example, Metro's grant program with the US Fish and Wildlife Service funded only about 35 percent of the grant proposals over the past three years, leaving about $1.7 million of unfunded requests. These grant sources are also volatile and may change due to economic and political forces.
- **Education and outreach.** Some programs are focused on assisting private citizens and businesses in "green" consumer choices.[6] Other education efforts focus on living with wildlife, acquiring skills in watershed protection, and monitoring of fish and wildlife habitat. Outreach tools include articles in newsletters and on websites as well as brochures and books that inform the public and landowners about stewardship issues. In addition to informing the public about fish and wildlife habitat issues, education and outreach are often used to promote restoration and other habitat protection programs.
- **Land acquisition programs.** These programs are very effective in habitat protection and restoration and are usually applied to privately owned lands. Land may be purchased outright or with a conservation easement from willing landowners.

A summary of the known accomplishments from the organizations surveyed is described below. More information may be found in Appendix 1A.

---

[4] The 31 groups investigated included: city governments, environmental services districts, park districts, soil and water conservation districts, watershed councils, federal programs, Metro, and non-profit organizations.

[5] See Appendix 1 - Case studies of non-regulatory approaches in the Metro region.

[6] Including programs such as: alternatives methods of pest control, "Naturescaping," and "Green Building" construction methods.

Table 2-2. Examples of existing non-regulatory programs in the Metro region.

Focus	Programs
Restoration and enhancement	• *Oregon Watershed Enhancement Board (OWEB) General Grant Program.* Grants to carry out on the ground watershed restoration projects to restore aquatic habitat, improve water quality, and improve biodiversity. Projects include planting, culvert replacement, habitat improvements, wetland restoration, and others. (2002 total of $3,028,000 for Clackamas, Multnomah, and Washington counties; 31 projects). • *Metro/USFWS Greenspaces Grant Program.* Provides funding for urban projects that emphasize environmental education, habitat enhancement and watershed health. • *East Multnomah Soil & Water Conservation District grants.* Provides awards for conservation and restoration projects, ranging from $200-2,500, mostly on rural lands (funding is sponsored by the Fish and Wildlife Foundation). • *Wildlife Habitat Incentives Program (WHIP).* Implemented through Natural Resources Conservation Service (NRCS) to help landowners develop and improve wildlife habitat on their land. In Oregon approximately $350,000 (for the entire state) is targeted for salmon habitat, riparian habitat, and promotion of biodiversity. • *Environmental Quality Incentives Program (EQIP).* Provides payments through the NRCS to farmers and ranchers for assistance implementing conservation practices on their lands (including filter strips, manure management practices and others). Authorized by the 2002 Farm Bill, pays up to 74% of the costs of the implemented practice.
Education and outreach	• *Metro's Natural Gardening and Landscaping Program.* Metro offers free natural gardening seminars and workshops in spring and fall. Also includes a demonstration garden, summer garden tour, and educational materials. • *Downspout Disconnect Program.* City of Portland program that provides property owners with funds and technical expertise to disconnect downspouts to reduce flow into the stormsewer system. • *Eco Biz Program.* City of Portland program, started to recognize auto repair and service facilities that minimize their environmental impacts. Currently being extended to landscaping business. • *Metro's Green Streets Handbook.* A resource for designing environmentally sound streets that can help protect streams and wildlife habitat. • *Eco-roof Program.* Portland provides sewer rate discounts to developers that build greenroofs minimizing stormwater runoff. Also provides an eco-roof floor area bonus, in which each square foot of eco-roof equals an additional three square feet of building area in the downtown. • *G-Rated Incentive Program.* Portland program that encourages innovations in residential and commercial development and redevelopment for green building design practices. Provides up to $20,000 for commercial projects and $3,000 for residential projects.
Land acquisition programs	• *Metro Openspaces Acquisition Program.* Funded through $135 million bond measure approved by voters in 1995. Focuses on targeted natural areas and regional trails. • *Three Rivers Land Conservancy Acquisition Program.* Works to encourage donation of conservation easements to protect targeted open space in the Metro region. • *Johnson Creek Willing Seller Program.* Portland program allows landowners in Johnson Creek floodplain to sell their property to the City at fair market value. After acquisition, properties are restored to natural floodplain function. Funded largely with dollars from FEMA after the 1996 flood. • *Sherwood program.* Requires system development charge (SDC) for development in floodplains, fee waived if flood area is donated to the city.

Restoration and enhancement

On the ground restoration and enhancement programs and projects were conducted by all of the organizations surveyed, with the exception of the Federal programs that fund many of the efforts. The Americorps program provides much needed labor; the U.S. Fish and Wildlife Service (USFWS) provides $300,000 per year to fund environmental education, conservation and restoration grant projects; and the Natural Resources Conservation Service (NRCS) cost-share program implements restoration projects on rural lands in the region. Environmental service districts[7] conduct much of the revegetation efforts, planting a substantial portion of the trees and plants in the year surveyed. Much of this work is accomplished through Portland's Bureau of Environmental Services (BES) "Revegetation Program." BES provides their services as a contractor outside of the city projects, contracting with organizations like Metro.

Watershed Councils and Park Districts also carry out projects in restoration and enhancement. Watershed councils frequently work in partnership with environmental service districts and other organizations. City governments and non-profits make extensive use of volunteers to conduct habitat restoration. Over 15,000 volunteers worked on restoration and enhancement efforts in the Metro region in 2002, contributing 49,150 hours of labor to remove 76 tons, 30 truckloads, and 382 cubic yards of debris and restoring 162 acres of land.[8] The Soil and Water Conservation Districts in the Metro region support restoration and enhancement efforts by helping landowners to revise land management practices to reduce erosion and non-point pollution of streams and rivers.

Education and outreach

Education and outreach programs are an important component of fish and wildlife habitat protection. Most of the organizations surveyed by Metro include some type of education and outreach in their work programs. Hands on education is very popular, and significant amounts of volunteer time and resources are spent on this aspect of fish and wildlife habitat protection and restoration. A majority of habitat education programs included in Metro's study were conducted by non-profits. The Audubon Society of Portland surpassed all other organizations in attendance and number of classes due to the popularity of their bird and animal oriented classes. Also significant was the contribution by the environmental service districts, providing classes for school children and adults.

Park districts also provide educational programs. The Tualatin Hills Nature Park provides many adults and children with a hands-on experience in one of Washington County's oak savannahs. Portland Parks takes many school children to Hoyt Arboretum, Powell Butte, and Forest Park. Metro provides classes at regional parks[9], natural gardening, and recycling programs. Watershed Councils often work to educate residents as well; one example is the Slough School education program conducted by the Columbia Slough Watershed Council (funded by grants from OWEB and the Metropolitan Greenspaces Program).

---

[7] Washington County's Clean Water Services (CWS), Clackamas County's Water Environmental Services (WES), and Portland's Bureau of Environmental Services (BES).

[8] See Appendix 1.

[9] 10,000 people annually, including 7,000 children.

The organizations reviewed for this study used a number of tools to reach out to the public. More than 406,000 newsletters, 106,000 brochures and other promotional materials were distributed throughout the region in one year about environmental health in the Metro region. As is the case almost everywhere, the Internet is a fast growing outreach tool. A partial sample[10] of web-based outreach organizations reported 120,500 website hits and 15,000 electronically mailed newsletters during the sample year. Technical support to landowners interested in revising management practices on their properties was limited, and is mostly provided by the soil and water conservation districts which focus efforts on rural and agricultural areas.

Land acquisition

Land acquisition programs are used by a select set of organizations. The high cost of land limits the ability of many smaller organizations to purchase land. Primarily city governments, Metro, federal programs, and a few non-profit organizations utilize acquisition programs. Since 1995, all of the programs combined have succeeded in protecting 10,925 acres of land in the Metro region that is explicitly managed for fish and wildlife habitat protection (Table 2-3 below).[11] Close to 80 percent of the land that Metro has purchased is located outside of the urban growth boundary. Much of the restoration and enhancement work, as well as education and outreach activities, occur on these lands.

Table 2-3. Acres of land purchased for fish and wildlife habitat (as of August 2003).

Organization	Outright purchase or donation	Conservation easements	Total
Metro	7,872	81	7,953
Cities/Environmental Service Districts/Parks	2,035	4	2,039
Non-profits	769	164	933
Total	10,757	168	**10,925**

Metro's 1995 Open Spaces Bond Measure provided an impetus for acquisition to other organizations. The Open Spaces land acquisition program has acquired 7,953 acres, of those acres a little over 80 acres are conservation easements. In addition, through their own programs (bond measures or system development charge funds) Gresham, Portland, and Lake Oswego have acquired 1,254 acres of parks and open spaces. Since 1995 Portland Parks and Tualatin Hills Park and Recreation Districts have acquired 621.3 acres of habitat land, some through land donations and the rest funded by system development charges.

The City of Portland currently operates a willing seller floodplain acquisition program targeted to the Johnson Creek floodplain. The program was established after the floods of 1996, and used funds from the Federal Emergency Management Agency (FEMA) and the Department of Housing and Urban Development (HUD). More than 106 acres of floodplain have been acquired, although the major sources of funding have been used up. The City of Portland Bureau

[10] Not including Metro's website.
[11] As of August 2003.

of Environmental Services (BES) contributes $300,000 of Capital Improvement Project money to the program each year.

The Three Rivers Land Conservancy (TRLC) and the Wetlands Conservancy have acquired 769 acres inside the urban area to protect wetlands, riparian areas, and uplands that meet strict criteria in their value added to fish and wildlife habitat restoration and enhancement. TRLC also has a conservation easement program that has grown to 164 acres in the past decade. These lands are still privately owned but are strictly managed for their natural resource values in perpetuity.

Summary

While there is substantial evidence of non-regulatory approaches accomplishing habitat protection, restoration, and education in the Metro region, these efforts have not been successful in preventing a decline in overall ecosystem health. As described and catalogued in Metro's *Technical Report for Goal 5* and *Riparian Corridor and Wildlife Habitat Inventories*, the amount and quality of fish and wildlife habitat has been in steady decline over time. Most non-regulatory programs are dependent on unsteady sources of grant funding, volunteerism, and good stewardship, often without recognition or reward. Each program conducts important work, but even taken as a whole over the past decade only a small portion of the habitat in the region received the attention needed. There is a much greater need for restoration dollars; technical assistance for landowners, developers, and local jurisdictions; and permanent protection for critical habitats than is currently available.

Potential non-regulatory tools for protection and restoration

Non-regulatory tools are a key component of a strategy to protect fish and wildlife habitat. Incentives, education, and acquisition strategies are popular among landowners and can be used in situations where regulations do not apply. For example, regulations only come into effect when a land use action is taken. Non-regulatory strategies can apply to other activities such as landscaping and reducing pesticide/herbicide use. Non-regulatory tools for habitat protection include acquisition (outright purchase and conservation easements), property tax relief, and good stewardship agreements.

Restoration is a critical component of an effective fish and wildlife habitat protection program. Without active restoration efforts, ecological conditions will likely deteriorate further, even if most habitat lands are protected through regulations. Mitigation for the negative environmental impacts of development may be included as part of a regulatory program. However, actions to restore habitat to a condition better than exists today cannot be required as part of a regulatory program; restoration could be included as a major part of a non-regulatory approach. Regulations can protect land that can then be restored through non-regulatory approaches to provide better functioning habitat.

Based on the results of the *Incentives Report* and Metro's analysis of existing non-regulatory tools for habitat protection and restoration, the following potential non-regulatory tools are examined:

- Stewardship and recognition programs
- Financial incentives (grants, incentives for green streets, property tax reduction)
- Education (information center, technical assistance, other education activities)
- Volunteer activities
- Agency-led restoration
- Acquisition (outright purchase, conservation easements, revolving acquisition fund)

A brief examination of potential costs and effectiveness of potential non-regulatory programs is included in Table 2-5 at the end of this chapter.

Stewardship and recognition programs

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

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

Landowner recognition programs on their own generally provide no permanent protection of resources because participation is voluntary. However, administrative costs may be relatively low compared to funding for programs such as acquisition that provide definitive permanent protection. This tool is most likely to be effective when integrated with other tools as part of an overall conservation strategy.

Potential programs

1. ***Yearly report.*** Develop a report (printed and/or on website) to publicize innovative examples of restoration, protection and habitat friendly development in the Metro region.
2. ***Stewardship recognition program.*** Develop a Regional Fish and Wildlife Habitat Stewardship program that recognizes landowners for restoring and protecting habitat on their land and habitat friendly development practices. Sponsor a yearly award ceremony, provide certificates, and encourage media coverage.
3. ***Stewardship agreements.*** Develop signed voluntary stewardship agreements between a property owner and Metro or another sponsor for habitat protection. Most likely to be effective when used in conjunction with small grants and long-term monitoring.

Financial incentives

Achieving restoration on private and public lands typically requires some type of financial incentive to induce property owners to conduct activities such as planting of native vegetation, removal of invasive species, and other habitat improvements.

Grants

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

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

As part of a regional habitat friendly development program, Metro could develop a *Habitat-oriented Development Program* similar to Metro's Transit-oriented Development (TOD) Program to encourage construction of new developments or redevelopment that protects and restores fish and wildlife habitat. This would require funds to provide the incentives for developers to practice habitat friendly development. For example, 1000 feet of a stream in the Tryon Creek watershed will be daylighted (removed from pipes) through incentives provided to a housing redevelopment project.[12]

Potential programs

A small grant program could be targeted to residential or individual landowners, or targeted towards development and business practices. Grants could also be aimed at Watershed Councils or other non-profit groups.

1. ***Small grant program for restoration.*** Develop a small grant program to accomplish restoration on private or public property within the identified regionally significant fish and wildlife habitat areas. With larger grants require long-term monitoring.
2. ***Habitat friendly development grants.*** Provide grants to encourage habitat friendly development, similar to Metro's grant programs to encourage and support Transit-Oriented Development (TOD) and regional and town center planning.

[12] *Oregonian*, "Developer keeps at creek crusade" 10/3/2003.

3. ***Wildlife crossing/culvert replacement grants.*** Provide grants to encourage culvert replacement and wildlife crossings around the region.

Incentives for green streets

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

Property tax reduction

Providing landowners with a reduction in property taxes in exchange for habitat protection or restoration is not a new idea. There are many federal programs that encourage landowners to do just that; however, most of these programs are applicable to farm or forest land. There are two state programs that could be applicable within the urban area; the *Riparian Lands Tax Incentive Program* and the *Wildlife Habitat Conservation and Management Program.* Both of these programs would require county or city action to be implemented. The riparian tax incentive program allows for a tax exemption for property within 100 feet of a stream provided the land is protected and managed for habitat value. The program is limited to 200 stream miles per county. The wildlife habitat program allows designated habitat land to be taxed at a special, reduced rate as long as it is protected and managed for habitat value. This program is not limited by acres and can be applied to riparian or upland habitat.

Property tax reduction is a useful tool to provide motivated landowners with an incentive to manage their land for habitat values, and can also serve as a mechanism to achieve some restoration if a habitat management plan includes requirements for enhancement of existing habitat. However, property tax reductions would reduce jurisdictional revenues. Once enrolled in the program, these properties could also be targeted by agencies that conduct restoration activities such as Metro, Portland's Bureau of Environmental Services, or Clean Water Services in Washington County for greater public benefit. Habitat protection and restoration may be most effective ecologically if this tool is applied strategically, for example in a specific stream reach or headwater area. This tool could serve as an important incentive to encourage landowners to work in a coordinated fashion to leverage ecological improvements in a specific area. If used on a "first-come, first-served" basis there may be a scattered approach and less ecological benefit overall. A downside to using property tax relief as a tool for habitat protection is that a landowner can leave the program at any time, the only penalty being payment of back taxes, similar to opting out of a farm or forest tax deferral program.

Education

Information center for fish and wildlife habitat protection

One of the biggest challenges with any incentive/non-regulatory program is getting information into the hands of people who can use it. An "information center" that includes technical assistance, recognition programs, and potentially small grant funds could serve as a "one-stop

shop" providing landowners and others with information and referrals needed to protect and restore fish and wildlife habitat. A center could also include assistance to landowners and others on regulatory compliance and provide coordination between multiple agencies. Metro has some experience providing information to the public – the Recycling Information Center has assisted people with recycling questions since 1981. Other Metro information programs that benefit the environment include Natural Gardening, Soils for Salmon, and Greenspaces education programs and grants. A similar system could be developed to provide landowners and others the information they need to protect fish and wildlife habitat. An alternative to a fully-fledged information center is a permanent hotline residents could call for information on habitat protection and restoration.

Potential programs

1. ***Hotline.*** Provide a permanent hotline for fish and wildlife habitat protection and restoration, include number on all brochures, handbooks, and other educational materials. The hotline could serve as a referral service to other experts in the region.
2. ***Information center.*** Develop an information center, similar to the Recycling Information Center but on a much smaller scale. Citizens could call and talk to a person about habitat protection and restoration or development questions.

Habitat education

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

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

Potential programs

1. ***Brochure.*** Provide an educational brochure about protecting and restoring habitat to be mailed once per year to landowners with significant habitat (also include on website).
2. ***Coordinate with other organizations.*** Distribute information about regionally significant fish and wildlife habitat through education programs provided by other organizations.
3. ***Expand existing education programs.*** Add to existing workshops and classes. Develop a program similar to "Naturescapeing" or "Natural Gardening" on habitat protection and restoration.
4. ***Curriculum for schools.*** Develop a curriculum for schools; work with teachers to implement.

Technical assistance

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

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

Potential programs

1. ***Local partners.*** Provide assistance to staff from local jurisdictions and other organizations to enable them to assist property owners. If a regulatory program is chosen, provide assistance to local jurisdiction staff to aid in implementation.
2. ***Individual property owners.*** a) Develop and distribute materials focused on habitat protection, restoration and enhancement. b) Dedicate staff to assist property owners in habitat protection and restoration activities on a demand basis. c) Dedicate staff for a one-on-one outreach effort to property owners with high quality habitat, include workshops 1-2 times per year.
3. ***Development and business practices.*** a) Develop and distribute a manual on habitat-friendly development and green business practices. b) Dedicate staff to assist developers/businesses in habitat protection/restoration on a demand basis. c) Dedicate staff to proactively seek out developers/business owners to achieve habitat friendly development and restoration, include workshops 1-2 times per year.

Volunteer activities

Much habitat restoration has already been accomplished in the region through the efforts of volunteers. There are many groups that coordinate activities, including SOLV (the statewide Oregon non-profit organization founded in 1969 by Governor Tom McCall), Watershed Councils, Riverkeepers, and Friends' organizations. For example, the Friends of Forest Park organizes major efforts throughout the year to remove English ivy from the park and Friends of Trees organizes more than a dozen native planting events in natural areas each year. Metro currently works with volunteers to both educate (volunteer naturalists) and restore habitat. Involving volunteers in habitat restoration projects both helps to accomplish work and provides a forum for education and awareness of the fish and wildlife in the region. Metro could expand current efforts and partner with non-profit groups and public agencies to coordinate restoration

activities to encourage restoration in areas that are designated as regionally significant fish and wildlife habitat.

Potential programs

1. ***Focus existing programs.*** Encourage existing volunteer organizations to focus restoration efforts in regionally significant fish and wildlife habitat areas.
2. ***Provide funding.*** Provide funds to existing volunteer organizations to conduct restoration on public lands with regionally significant fish and wildlife habitat.

Agency-led restoration

Several government agencies currently sponsor and conduct restoration. For example, Metro carries out restoration activities on its own properties to enhance existing habitat value. Metro is currently working with public landowners in the Clackamas River basin on a program to halt the spread of and hopefully eradicate Japanese knotweed – a tenacious non-native plant that overtakes riparian areas. Some agencies, such as the City of Portland's Bureau of Environmental Services, conduct restoration on private lands if they are invited to do so. Agency sponsored restoration could be used in conjunction with other incentive and regulatory programs to accomplish regional restoration goals.

Potential programs

1. ***Provide funding for public lands.*** Provide funds to agencies that conduct restoration to focus efforts in regionally significant habitat areas.
2. ***Provide funding for private lands.*** Provide funds to agencies to conduct restoration for private property owners with regionally significant habitat in exchange for habitat protection.

Acquisition

The most certain way to protect habitat is to acquire it. There are various ways to acquire land such as outright purchase, development rights, and property transfers. These programs address social concerns of fairness as well as real and perceived takings, since they conform to a market-based approach for habitat conservation.

Metro began focusing attention on fish and wildlife habitat protection in the early 1990's, identifying natural areas of regional significance and eventually developing the Greenspaces Master Plan to protect a system of regionally significant natural areas. Metro's $135 million bond measure passed in 1995 to primarily purchase open space and develop regional trails. The bond measure identified 14 target areas and six trail and greenway projects. These came from the Greenspaces Master Plan that identified "regionally significant" natural areas following an exhaustive inventory. Sites were selected based on the following criteria:

- Immediacy or threat of development
- Accessibility to residents of the region
- Protection of large contiguous blocks (patch size)
- Expanding on existing regionally significant areas that are protected

If additional funding to purchase habitat land was secured, an acquisition program could focus on regionally significant fish and wildlife habitat, targeted to achieve specific goals. The goals could include protection of Habitats of Concern, floodplains, regional connector habitat, strategically located high-value habitat, and key restoration opportunities. Table 2-4 below shows the acres of undeveloped resource land in Metro's fish and wildlife habitat inventory. This helps to describe the magnitude of land that falls within the resource inventory. For example, Riparian Class I contains over 11,000 acres of undeveloped resource land. Based on the cost of land purchased through Metro's 1995 Open Spaces Bond Measure, land costs inside the UGB average about $45,000/acre and outside the UGB average about $8,600/acre. Due to the expense, acquisition clearly is not a tool that could be used alone to protect even this most ecologically valuable habitat.

Table 2-4. Acres of undeveloped habitat land.

Habitat classification	Total undeveloped habitat land
Riparian Class I	11,614
Riparian Class II	5,365
Riparian Class III	682
Wildlife Class A	8,643
Wildlife Class B	8,211
Wildlife Class C	4,711
Total	**39,226**

Outright purchase

A fee simple purchase of habitat land provides permanent protection but depends on willing sellers. Property is purchased for market prices and thus an acquisition program must be well funded to be effective on a large scale. For example, Metro's Open Spaces acquisition program was funded through a $135 million bond measure approved by voters in May 1995. As of July 15, 2003, Metro had acquired more than 7,935 acres of land for regional natural areas and regional trails and greenways, in 251 separate property transactions at a cost of $1.2 million.[13] These properties protect 70 miles of stream and river frontage.

Regional Revolving Land Purchase Fund

Sometimes valuable riparian and wildlife habitat is located on only a portion of a property, and the rest of the parcel is either already developed (e.g., a house) or could be developed in the future. If these parcels are purchased through an acquisition program two concerns arise. First, if the property has a house or other existing use, Metro or another purchasing agency would then be in the position of either renting the useable portion of the property or retiring it from the marketplace and shouldering high maintenance costs. Second, the overall purchase cost of such a parcel would be high, and would effectively reduce available funds for other targeted habitat acquisitions. A program could be developed to purchase habitat land, place development restrictions or conservation easements to protect the habitat areas, and then sell or exchange (via land swaps) the remainder of the land for development or continued use. Funds from the sale could then be used to protect additional land. Such a program could maximize the use of conservation dollars by protecting only the habitat areas on a parcel of land, rather than the entire parcel.

[13] Part of the $135 million bond measure went to local jurisdictions for local parks and greenspaces purchases.

Conservation easement

A conservation easement is a legal agreement between a landowner and a land trust or government agency that permanently limits use of the land in order to protect its habitat values. It allows landowners to continue to own and use their land and to sell it or pass it on to heirs. Conservation easements offer great flexibility. An easement on a property containing rare wildlife habitat might prohibit any development, for example, while one on a farm might allow continued farming. An easement may apply to just a portion of the property, and need not require public access. Conservation easements can be donated or purchased. If the donation benefits the public by permanently protecting important conservation resources and meets other federal tax code requirements, it can qualify as a tax-deductible charitable donation. The amount of the donation is the difference between the land's value with the easement and its value without the easement. Conservation easements could be used effectively to target dollars for protecting critical habitat areas. A few organizations currently use conservation easements in the region. A strategy could be developed to collaborate with groups that currently use this tool to protect portions of the regionally significant habitat identified in Metro's inventory.

Metro currently has eight easements acquired through the open spaces program (81.1 acres total). One is a flood easement, the other seven are conservation easements. The flood easement is not included in acreage numbers, but the other seven are included. Three easements were donated (59.11 acres), three were purchased (15.89 acres), and one was acquired through an exchange of a 25-year agricultural lease on one acre of property - easement is on 6.1 acres.

Conservation easements have some drawbacks. The legal agreements are complex and time-consuming, and the level of effort (both time and dollars) is often comparable to an outright purchase. Additionally, some property owners would prefer to sell their land outright rather than be encumbered with a conservation easement. Finally, after a conservation easement is in place, it requires resources and staff time to monitor it to ensure it is being followed, and to enforce in instances where its requirements have been disregarded.

Summary

There are many types of non-regulatory tools that could be used to protect and restore fish and wildlife habitat in the region. All of these tools require some type of funding, whether to pay for staff or provide direct dollars to purchase or restore land. Many of the non-regulatory tools could be implemented at either the local or regional level. Table 2-5 on the following pages describes some of the implementation issues and costs associated with the non-regulatory tools identified in this analysis.

Acquisition is the most effective non-regulatory tool to achieve definitive habitat protection. Acquisition achieves permanent protection and also preserves land to be restored at a later date. However, the high cost of purchasing land, especially within the urban growth boundary, the dependence of an acquisition program on willing sellers, and the fact that much of the habitat is on partially developed land limits the effectiveness of such a program.

Many of the other non-regulatory habitat protection and restoration tools considered here are most effective when used in combination with each other and/or along with a regulatory

program. A regulatory program can provide the incentive and motivation to develop innovative solutions to land development while protecting habitat. Grants and technical assistance are the tools that could be most effective in protecting and restoring habitat, in the absence of an acquisition program. A stewardship recognition program could help promote grants and serve to educate others about innovative practices. Coordinating with existing agencies and volunteer groups that conduct restoration as well as providing funds to focus efforts could be effective in enhancing regionally significant habitat.

Table 2-5. Potential non-regulatory programs for fish and wildlife habitat protection.

What	Effectiveness	Partnerships	Cost*
Stewardship & recognition programs 1. *Accomplishments report* to publicize innovative examples of restoration, protection, and habitat friendly development in region. 2. *Stewardship program* to recognize landowners for restoring and protecting habitat on their land and habitat friendly-development/business practices, include a yearly award ceremony. 3. *Voluntary stewardship agreements* between a property owner and either Metro or another sponsor for habitat protection.	• Limited acreage of total habitat covered • Long-term protection uncertain • Monitoring may increase effectiveness • Relies on willing participants • More effective when used with cost-sharing, grants and technical assistance to encourage more successful projects	Could be implemented by Metro, a local partner, or Watershed Councils.	Low to Medium
Grants for restoration & protection 1. *Residential owner.* Small grant program to accomplish restoration on private or public properties within resource area. 2. *Development activities and business practices.* Provide grants to: • businesses for habitat restoration • developers to encourage habitat friendly development or redevelopment • cities and counties for wildlife crossing and culvert replacement projects	• Effectiveness depends on funding, technical assistance and education, and long-term monitoring • Provides on-the-ground protection and restoration accomplishments • Grants to developers could effectively encourage innovative practices • Limited acreage of total habitat covered • Could increase effectiveness of regulations	A grant program could be implemented at the local or regional level. Partner with Watershed Councils and other groups.	Medium to High
Information center 1. *Hotline* for fish and wildlife habitat protection and restoration. (Calls would be returned periodically). 2. *Call center* for fish and wildlife habitat protection and restoration, referral to other agencies. (Immediate response).	• Effectiveness depends on publicity, technical expertise, and longevity • Depends on extensive marketing campaign and longevity	Could be implemented at the regional level and/or through partnerships.	Low to Medium
Habitat education activities 1. *Educational brochure* on maintaining and enhancing fish and wildlife habitat to be mailed once per year to landowners with significant habitat (also include on website). 2. *Coordinate* with existing organizations that provide habitat-oriented classes, distribute information on regionally significant resources. 3. *Add to Metro's existing workshops and classes* (e.g., Parks Dept. nature classes, tours, and birdwatching events; Solid Waste Dept. "Naturescaping" and "Natural Gardening" classes). 4. *Curriculum* for schools, work with teachers to implement.	• A long-term commitment is required to change behaviors and practices • Over time an education program can reach a large number of people • Could provide consistent message and economy of scale across the region	Could be implemented by Metro, local partners, Watershed Councils, or other non-profits.	Low to Medium
Technical assistance program *Focused on local partners* 1. Assistance to local jurisdiction staff and other organizations to enable them to assist property owners in their jurisdictions 2. Provide assistance to local jurisdiction staff to aid in implementation	• Level of commitment and longevity of program would be key to effectiveness • Technical assistance supports stewardship programs and grants	Could be implemented at the regional level and/or through a partnership with other jurisdictions and	Low to Medium

What	Effectiveness	Partnerships	Cost*
of a regulatory program (if one is chosen) *Focused on residential, individual owners* 3. Develop and distribute materials focused on habitat protection, restoration & enhancement 4. Dedicate staff to assist property owners in habitat protection/ restoration activities on a demand basis 5. Dedicate staff for a one-on-one outreach effort to property owners with high quality habitat, include workshops 1-2 times/year *Focused on development and business activities* 6. Develop and distribute a manual on habitat-friendly development and green business practices 7. Dedicate staff to assist developers/businesses in habitat protection/restoration activities on a demand basis 8. Dedicate staff to proactively seek out developers/business owners to achieve habitat friendly development, restoration; include workshops	• Technical assistance could increase the effectiveness of a regulatory program • Most effective with high staff to client ratio; no single agency could address needs of so many properties without adequate staff • Knowledgeable staff is critical to providing effective technical assistance	agencies (e.g., Portland's Office of Sustainable Development).	
Volunteer activities 1. *Partner* with existing volunteer organizations to focus restoration efforts in regionally significant habitat areas. 2. *Provide funds* to existing volunteer organizations (e.g., SOLV) to conduct restoration on public lands with regionally significant habitat.	• Substantial restoration work currently conducted with volunteer efforts • Supports education efforts by training volunteers • Easier access on public lands	Coordinate with existing programs, such as Watershed Councils, friends' groups, SOLV.	Low to High
Agency-led restoration activities 1. *Restoration on public lands.* Provide funds to agencies (e.g., Metro, Portland Bureau of Environmental Services, Clean Water Services) that conduct restoration to focus on regionally significant habitat. 2. *Restoration on private lands.* Provide funds to agencies for restoration on private lands in exchange for habitat protection.	• A trained and experienced staff with monitoring capability could lead to effective restoration work • Maintenance and monitoring of the restoration site over time is necessary to accomplish effective long-term restoration	Implemented at regional and local partner level.	Medium to High
Property tax relief (Programs exist under Oregon state law) 1. Riparian Lands Tax Incentive Program 2. Wildlife Habitat Conservation and Management Program	• Limited landowner enrollment • Requires ongoing management plan with Oregon Department Fish & Wildlife • Landowners can opt out of program with payment of back taxes	Counties implement, Metro could facilitate implementation; encourage application in urban area.	Medium
Acquisition 1. Outright purchase 2. Conservation easement 3. Revolving acquisition fund	• Most effective in long-term preservation • Properties may require maintenance • Conservation easements complex to negotiate • Revolving acquisition fund could make effective use of limited dollars	Could be implemented at federal, regional, or local level or by a non-profit.	High

***About cost:** High (grants, restoration, acquisition); Medium (dedicated staff); Low (materials only, some staff)

CHAPTER THREE: EXISTING REGULATORY ENVIRONMENT AND REGULATORY PROGRAM OPTIONS

Existing regional and local environmental regulations already cover a portion of the region's habitat land. Since 1998, cities and counties have implemented Metro's protection standards for flood management and water quality (Title 3) along streams and floodplains. Approximately 30 percent of the habitat area currently covered by Title 3 regulations achieves some, but not all, of the habitat protection needed in these areas. Very few of the wildlife areas in Metro's habitat inventory are covered by consistent regional standards.

In addition to implementing Title 3, some cities and counties have adopted local regulations to protect habitat. Regulations vary in the amount of habitat area they cover and in the level of protection they provide. None of them regulate all regionally significant fish and wildlife habitat. This chapter includes:

- a summary of Metro's analysis of local Goal 5 programs,
- a description of the baseline regulations (Title 3) for purposes of analysis, and
- a description of the six regulatory program options to protect fish and wildlife habitat.

Local Goal 5 programs

Metro conducted a review of local jurisdiction's plans for habitat protection from 1999 to 2002, resulting in the *Local Plan Analysis: A review of Goal 5 protection in the Metro region (August 2002)*. 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 completed more recently.

The Goal 5 rule requires a three-step process, as described in the Introduction to this report. However, local governments may also choose to utilize the State "safe harbor" approach rather than conduct 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

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, Metro's code required an analysis of the consistency and/or adequacy of

local natural resource protection prior to conducting a regional ESEE analysis and a regional protection program. The key findings from the *Local Plan Analysis* are reviewed below.

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.

Inconsistencies

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. 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.

Inadequacies

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.[14] 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).[15]

Figure 1 compares the minimum widths recommended in the scientific literature[16] 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

[14] This is why Metro is using Title 3 protection as a baseline for analysis purposes in the evaluation of the six program options, described later in this report.

[15] *(See Local Plan Analysis* section on inconsistencies – program decisions for more detail on local jurisdictions' programs.*)*

[16] See Metro's *Technical Report for Goal 5* (2002).

functions.[17] 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[18]. The 50-foot buffer provided by the State Safe Harbor on smaller fish-bearing streams and by Metro's 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 3-1, habitat protection in the Metro region does not comport with the scientific knowledge of what is needed for full fish and wildlife habitat protection.

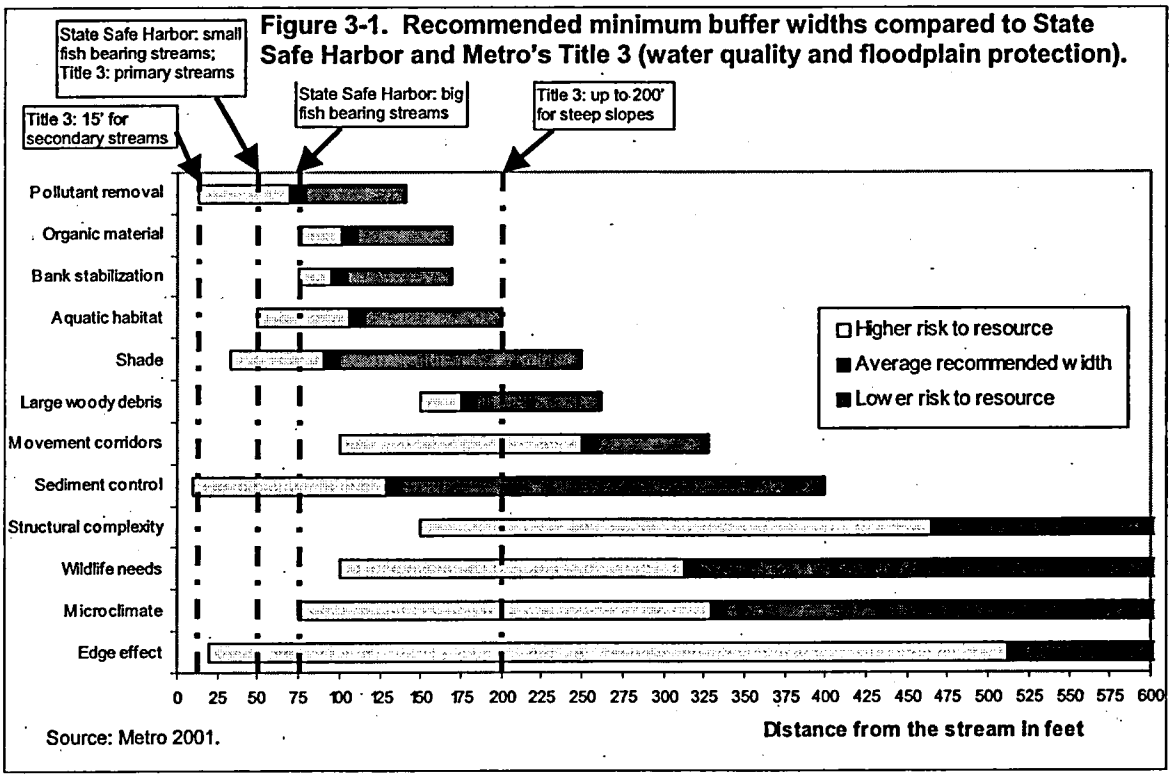


Figure 3-1. Recommended minimum buffer widths compared to State Safe Harbor and Metro's Title 3 (water quality and floodplain protection).

[17] These 12 functions were identified in Metro's *Technical Report for Goal 5* that included a review of the scientific literature related to fish and wildlife habitat.

[18] 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.

As described in the *Local Plan Analysis*, local protection of upland wildlife habitat is limited throughout the region. Only eight jurisdictions[19] 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[20] recommend protection of large areas and retention of native vegetation. However, based on Metro's review of local regulations, protection of these areas in the region does not meet the scientific recommendations. Tree protection ordinances occur most frequently. However, ordinances that specifically protect upland habitat by limiting development are more effective but less common. For example, 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.

[19] 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.

[20] See Metro's *Technical Report for Goal 5* (2002).

Comparison of three local programs with Metro's baseline regulations

For purposes of the Phase II ESEE Analysis, Metro chose three local Goal 5 programs as examples to compare the extent of the regional fish and wildlife habitat inventory covered by local environmental zones. These local zones also overlap, in many cases, with Title 3 water quality resource areas and flood management areas (see Figure 3-1 above). The extent of this overlap, as well as additional habitat areas covered by local environmental zones, is shown in Figures 3-2 to 3-4 for the cities of Wilsonville, Lake Oswego, and Portland.

The City of Wilsonville's Significant Resource Overlay Zone (SROZ) Ordinance as well as other ordinance requirements[21] exceed Metro's Title 3 baseline for water quality resource areas and flood management areas. Wilsonville's SROZ ordinance, combined with additional lands covered by Title 3 flood management restrictions, applies to 76 percent (927 acres) of regionally significant habitat. Twenty-four percent (296 acres) of regionally significant habitat is not covered by the SROZ ordinance or the Title 3 baseline (Figure 3-2). Wilsonville's SROZ ordinance prohibits development within the overlay zone and impact area unless an applicant submits a significant resource impact report and mitigates for habitat loss.

Figure 3-2. How existing habitat protection in Wilsonville addresses 1,222 acres of regionally significant habitat

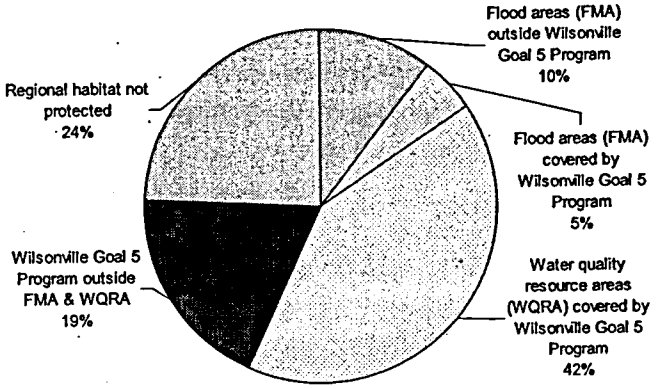
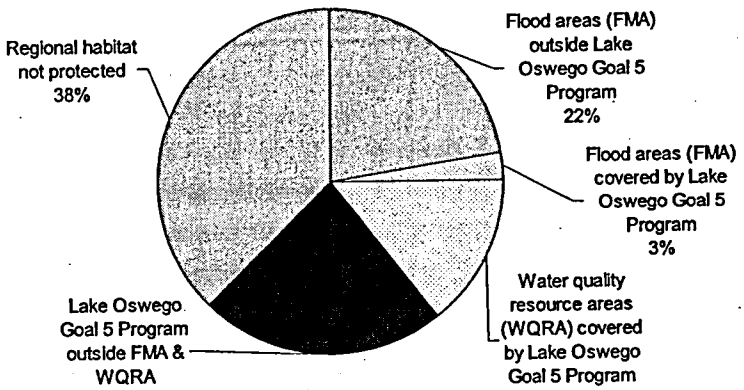


Figure 3-3. How existing habitat protection in Lake Oswego addresses 2,603 acres of regionally significant habitat



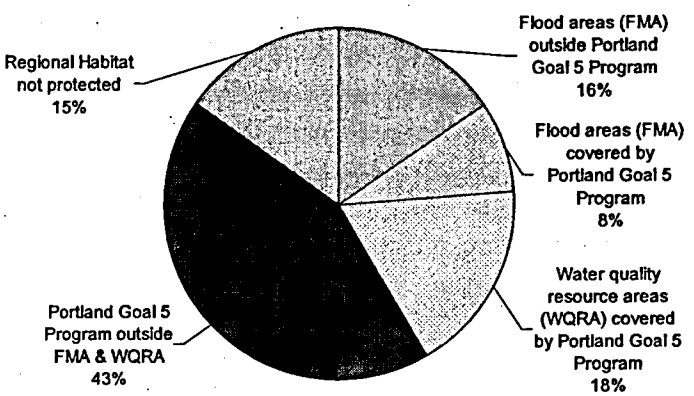
The City of Lake Oswego's Sensitive Lands Overlay District as well as other ordinance requirements exceed Metro's Title 3 baseline for water quality resource areas and flood management areas.[22] Lake Oswego's Sensitive Lands Overlay District, combined with additional lands covered by Title 3 flood management areas, applies to 1,627 acres (62

[21] Significant Resource Overlay Zone Section 4.139 of the Zoning Ordinance; see also Planning and Development Ordinance Section 4.172 (Floodplain Regulations), Section 4.171.06 (Protection of Natural Features and other resources); Section 4.6 (Tree Preservation and Protection).

[22] Sensitive Lands Overlay District (Section 48.17 of the Development Code); see also Section 17 (Floodplain Standards), Section 55 (Tree Ordinance), Section 48.17.600 (Mitigation)

percent) of regionally significant habitat. There are 976 acres comprising 38 percent of regionally significant habitat that are not covered by the Sensitive Lands Overlay District or Title 3 flood management restrictions. (Figure 3-3). The Sensitive Lands Overlay District includes resource protection and conservation overlay zones to protect stream corridors, wetlands, and tree groves, and establishes mitigation requirements for habitat loss. Significant isolated tree groves and tree groves associated with wetlands or streams receive additional protection.

Figure 3-4. How existing habitat protection in Portland addresses 28,659 acres of regionally significant habitat



The City of Portland's Environmental Overlay Zone Regulations as well as other ordinance requirements exceed Metro's Title 3 baseline for water quality resource areas and flood management areas.[23] Portland's Environmental Overlay zones, combined with additional lands covered by Title 3 flood management restrictions, applies to 24,296 acres (85 percent) of regionally significant habitat. There are 4,374 acres comprising 15 percent of regionally significant habitat that are not covered by Portland's environmental overlay zones or Title 3 flood management restrictions (Figure 3-4). Portland's environmental overlay zones include the protection zone and the conservation zone. The protection zone applies to the most significant habitat, and strictly limits development in these areas; the conservation zone applies to significant habitat and allows development as long as adverse impacts are avoided, minimized, and mitigated.

In summary, this comparison shows that at least some local programs currently exceed the minimum standards of Title 3 water quality resource areas and flood management areas. As a result, a portion of regionally significant habitat not covered by the Title 3 baseline receives protection by local programs. While it would be helpful to know the increment of local protection beyond the Title 3 baseline, the difficulties of measuring the extent of this coverage and the level of protection provided under all local government plans is well established in Metro's *Local Plan Analysis*.

[23] Environmental Zones (Section 33.430 of the Zoning Code); see also Greenway Zone (Section 33.440 of the Zoning Code), Open Space Zone (Section 33.100 of the Zoning Code), Flood Hazard Areas (Section 24.50 of the Building Code).

Baseline for analysis (Title 3)

This section describes the starting point for this Phase II ESEE analysis – a baseline from which to measure ESEE tradeoffs of the increment of additional protection posed by each option.

As described in the previous section, local jurisdictions have adopted diverse Goal 5 protection programs. Metro's Title 3 (Water Quality and Flood Management Plan) provides a level of fish and wildlife habitat protection that is consistent across the region. For this reason, Title 3 serves as a proxy for measuring existing levels of protection and is the baseline for this analysis. Habitat outside of Title 3 management areas receives no additional regionally consistent protection. Although many local jurisdictions do provide protection beyond Title 3, none of them regulate all regionally significant habitat lands within their jurisdictions'. A comparison of several local Goal 5 programs was made in the previous section.

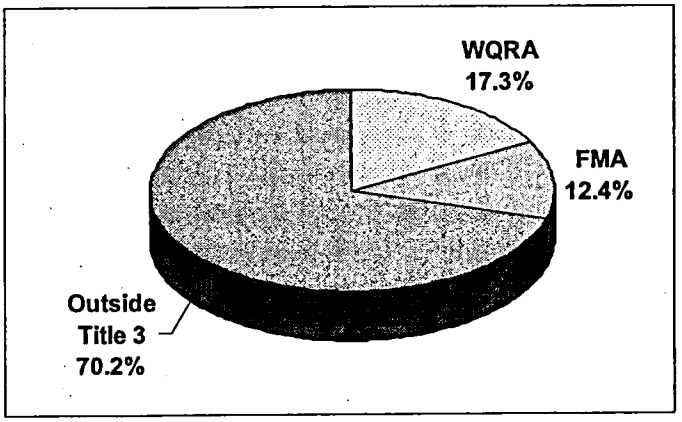
The water quality resource areas (WQRA) and flood management areas (FMA) established in Title 3 protect some of the regionally significant Goal 5 fish and wildlife habitat. Table 3-1 below shows Title 3 coverage of fish and wildlife habitat and impact areas. Figures 3-5 and 3-6 graphically illustrate this information.

Table 3-1: Title 3 coverage of fish and wildlife habitat and impact areas (within Metro's jurisdiction)

Fish and wildlife habitat class	Acres within WQRA	Acres within FMA	Total WQRA/ FMA	Acres Outside Title 3	Total Acres	% WQRA/ FMA of Total Acres
Class I RC/WH	13,144	6,803	19,947	7,929	27,876	21%
Class II RC/WH	1,893	1,948	3,841	4,051	7,893	4%
Class III RC/WH	177	2,543	2,720	1,711	4,432	3%
Class A WH	214	108	322	19,359	19,682	0%
Class B WH	69	18	87	12,802	12,889	0%
Class C WH	42	92	134	7,328	7,463	0%
Impact Areas	1,067	419	1,486	14,235	15,721	2%
Total	***16,606***	***11,931***	***28,537***	***67,415***	***95,956***	***30%***

Habitat location (i.e., within WQRAs, within FMAs, outside Title 3), development status (vacant vs. developed), and conflicting land use (e.g., industrial development vs. single-family residential) are important factors for assessing the ESEE tradeoffs of additional protection proposed by the six program options.

Figure 3-5. Proportion of habitat and impact areas covered by Title 3 (within Metro's jurisdiction).



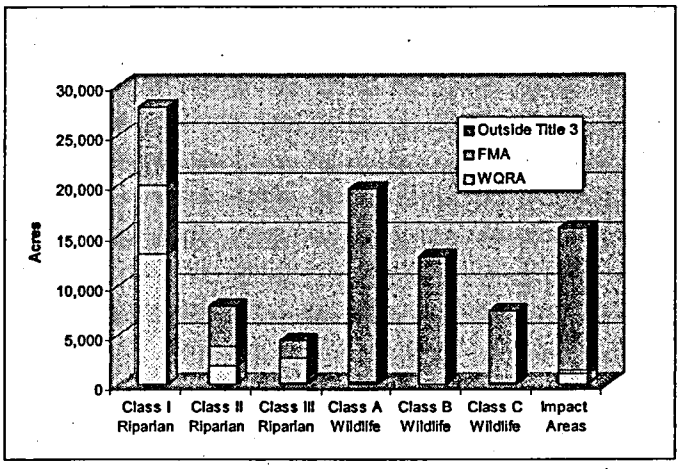
Habitat location

Figure 3-5 shows that approximately 30 percent of habitat and impact areas are

currently covered by Title 3 (28,537 acres). Title 3 achieves some, but not all, of the habitat protection needed in these areas. Most of the protection occurs in Class I-III riparian/wildlife corridors (see Figure 3-6); almost none of the upland wildlife habitat is covered by Title 3.

Title 3 performance standards differ in WQRAs and FMAs. Water quality resource areas vary in width from 15 feet to 50 feet from the water feature, and up to 200 feet in steeply sloped areas. New development is ***not allowed*** in these areas unless there is no practical alternative for locating it. In flood management areas, however, new development is ***allowed*** subject to the base zone or existing flood hazard overlay zones and Title 3 development standards (e.g., balance cut and fill). FMAs include the 100-year floodplain, flood area and floodway, and the 1996 flood inundation area.

Figure 3-6. Title 3 coverage of habitat classes and impact areas (within Metro's jurisdiction).

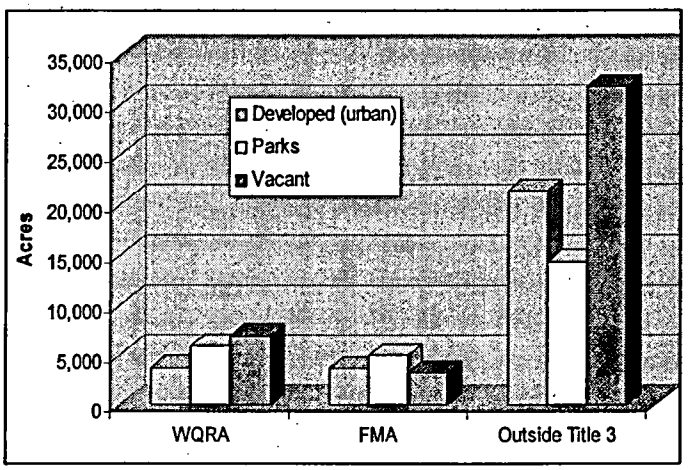


The increment of additional protection would be greater in the FMAs than in the WQRAs if disturbance areas are limited by a Goal 5 program because Title 3 does not currently limit disturbance area size in FMAs. The increment of additional protection would be greatest in habitat and impact areas outside Title 3, where it is assumed for this analysis that habitat is not currently protected.

Development status

Development status also plays a part in assessing the increment of additional protection. As described in the Phase I ESEE analysis, development status refers to whether habitat land is developed or vacant. Figure 3-7 shows development status of habitat land and impact areas inside Metro's jurisdiction.

Figure 3-7. Development status of habitat and impact areas (within Metro's jurisdiction).



Developed habitat is land with improvements (e.g., buildings, roads) and specific land uses (e.g., residential, industrial). Two subsets are included in this category: developed urban and parks. An example of habitat categorized as developed urban is dense forest canopy over a developed residential subdivision. Thirty percent of habitat and impact areas (28,734 acres) is developed with urban uses. Parks are categorized as developed land because they generally are not available for urban development. Approximately 28 percent (26,841 acres) of the habitat and

impact areas are in park status or zoned Parks and Openspaces (POS). Generally, the impact of additional protection would be less in developed habitat land than in vacant habitat land, at least in the short term because the regulations would apply to new land use development and would not affect existing development. Over time as redevelopment occurs, however, new regulations would apply.

Vacant land is defined as land without buildings, improvements or identifiable land use. Metro's vacant lands inventory includes vacant portions of developed tax lots that are one-half acre or larger. Vacant land also has two subsets: constrained (by Title 3 WQRA and FMA) and buildable (vacant land outside Title 3). Forty-four percent of habitat and impact areas is vacant (41,965 acres). The impact of additional protection will be greatest on vacant habitat land outside Title 3 areas. Factors other than Title 3 can affect the ability to develop vacant land, such as utility corridors.

Conflicting land uses

Phase I of the ESEE analysis examined conflicting uses; that is, a land use that could adversely affect regionally significant fish and wildlife habitat. Conflicting uses were identified using Metro's seven regional zones – a compilation of local jurisdictions' zones. Zoning plays a part in assessing ESEE tradeoffs. For example, the increment of additional protection on land zoned for parks would likely be less than habitat land zoned for urban uses (e.g., industrial). Some uses that would conflict with habitat protection may occur in a variety zones such as roads, public utilities, and regionally significant public facilities (major medical facilities and educational institutions). These special uses will be considered in the program development phase.

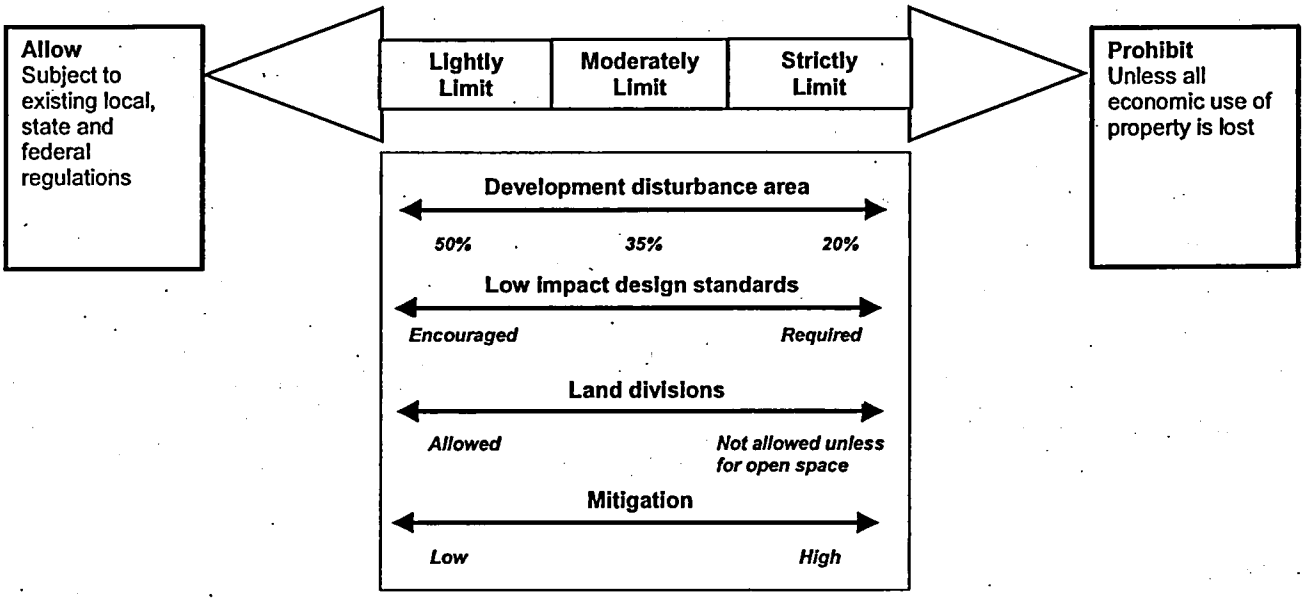
The ESEE analysis considers current regulations, development status and regional zoning in assessing the consequences of limiting, allowing or prohibiting development in fish and wildlife habitat areas. In summary, 30 percent of the fish and wildlife habitat inventory overlaps with Title 3 water quality and flood management areas; 70 percent is outside Title 3. The increment of additional protection is influenced by where the habitat is located (in WQRA/FMA vs. outside Title 3), development status of the habitat (developed vs. vacant), and conflicting land uses (regional zones). Title 3 standards focus on streams, floodplains and wetlands; upland wildlife habitat is not covered for the most part. Developed land will experience the impacts of program options through the eventual redevelopment and expansion of existing land uses. Vacant land not covered by Title 3 will experience the most immediate impact of regulatory program options. The extent of the effects varies further by the nature of the land use. The next section describes the six regulatory program options.

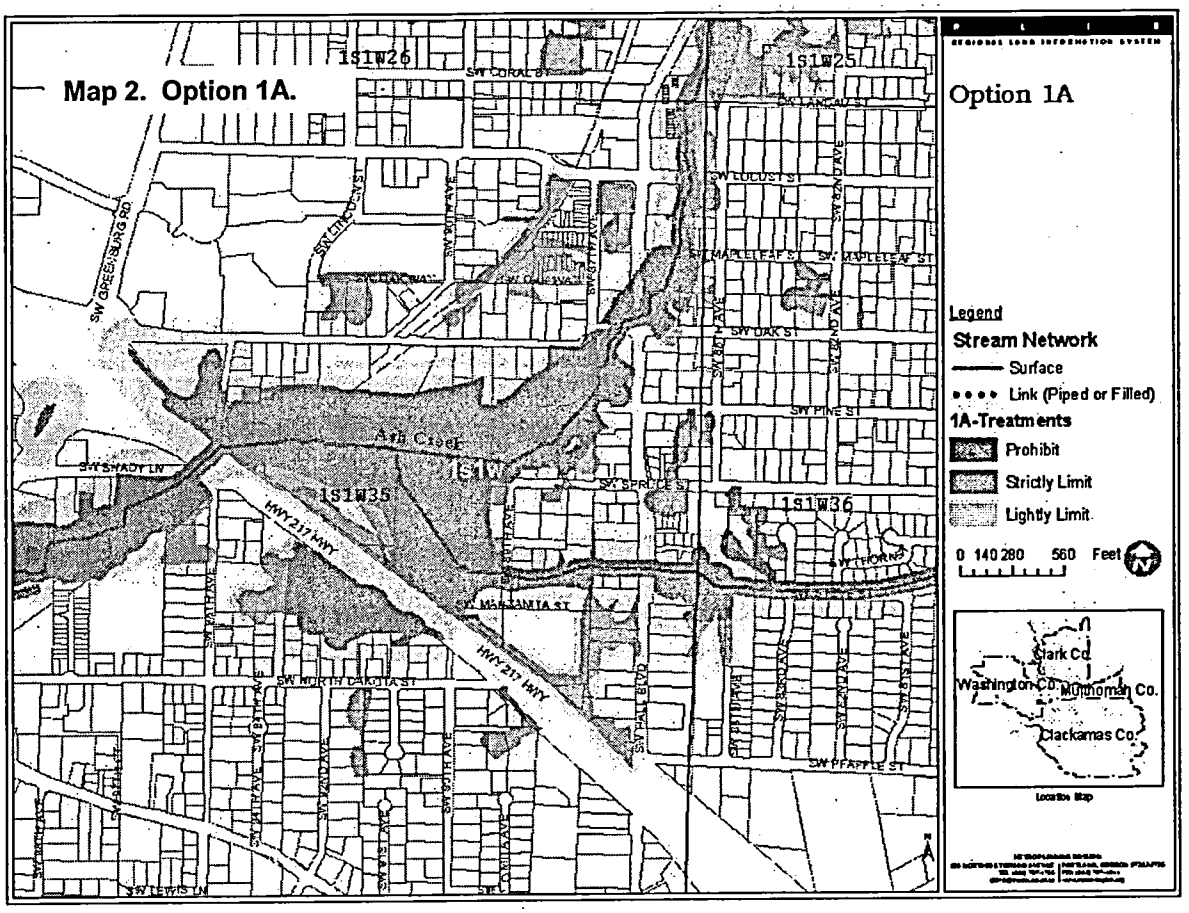
Regulatory program options

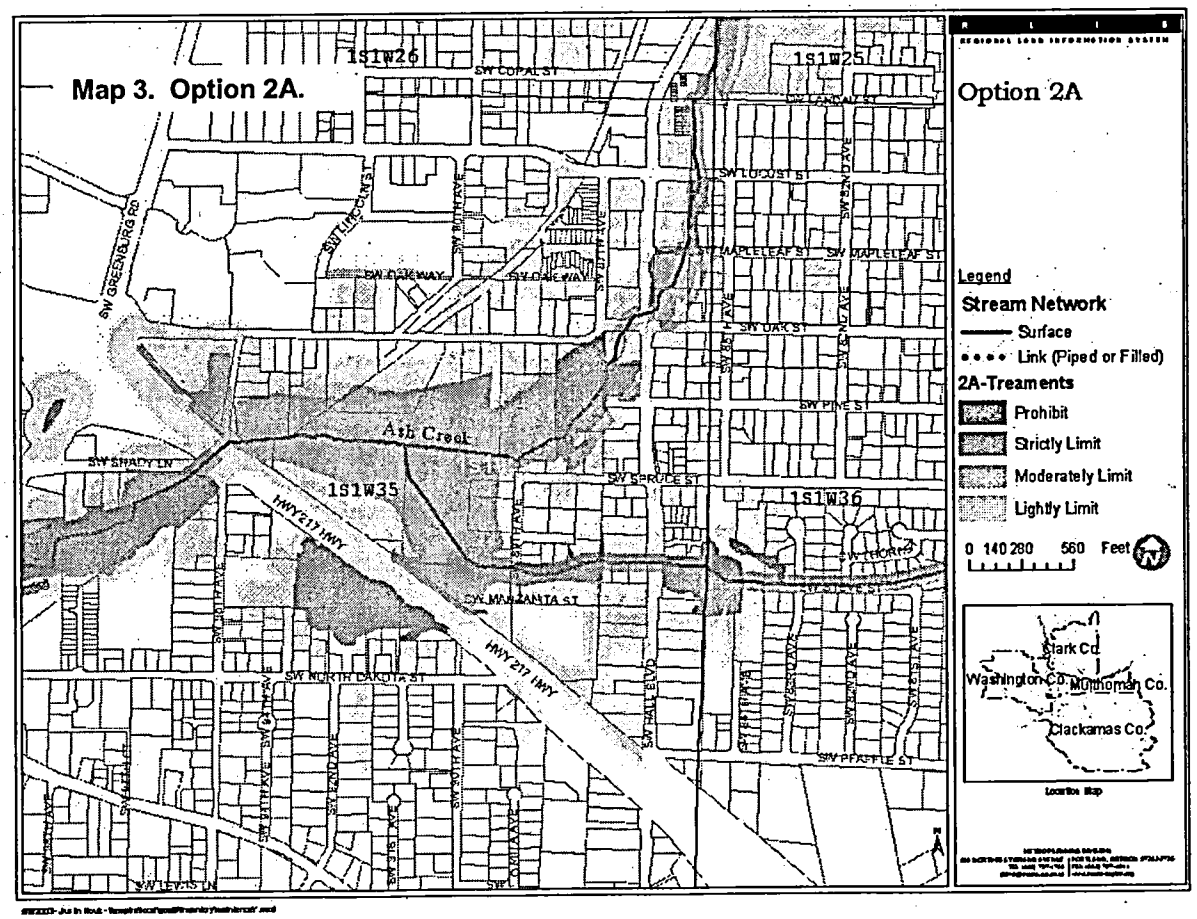
The Goal 5 rule requires Metro and local governments to develop a program to protect regionally significant resources based on ESEE decisions to allow, limit, or prohibit conflicting uses in significant resource sites. The six regulatory program options described in this section were developed to support Metro Council's decision. Maps 2-7 on the following pages depict the regulatory options for a specific geographic area that includes a regional center and several habitat types. These maps profile the differences among the options due to habitat types and urban development values.

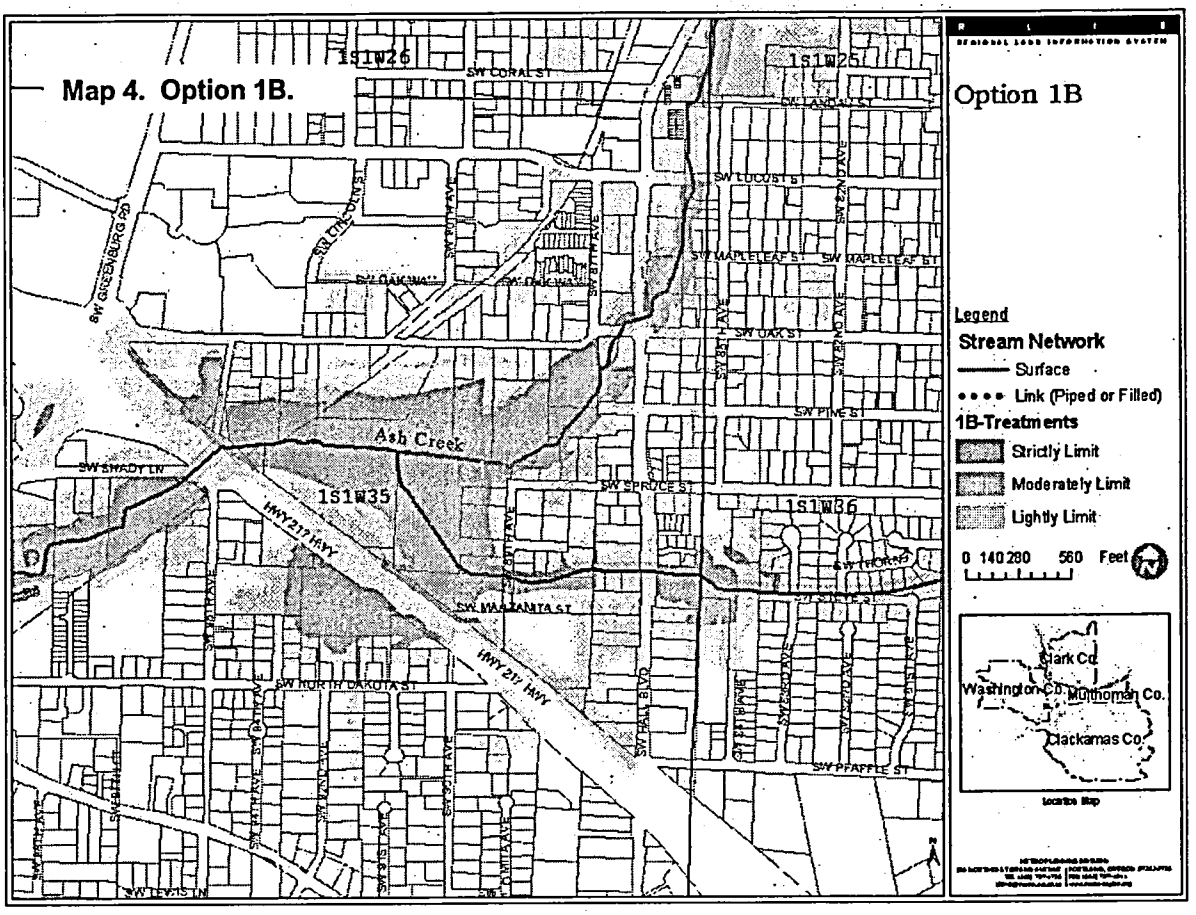
In each of the six options, allow, limit or prohibit "treatments" are assigned to each of the fish and wildlife habitat classes and impact areas. This results in a range of scenarios that provide varying levels of habitat protection. Figure 3-8 below shows the range of treatments (from least to most). In this analysis, the limit category has been expanded to three levels (lightly limit, moderately limit, strictly limit) to provide a continuum of protection approaches. The information in Figure 3-8 represents ***potential targets*** for protecting fish and wildlife habitat while allowing some level of development to occur. The definition of limit levels will be developed in the third step of the Goal 5 process – the program phase.

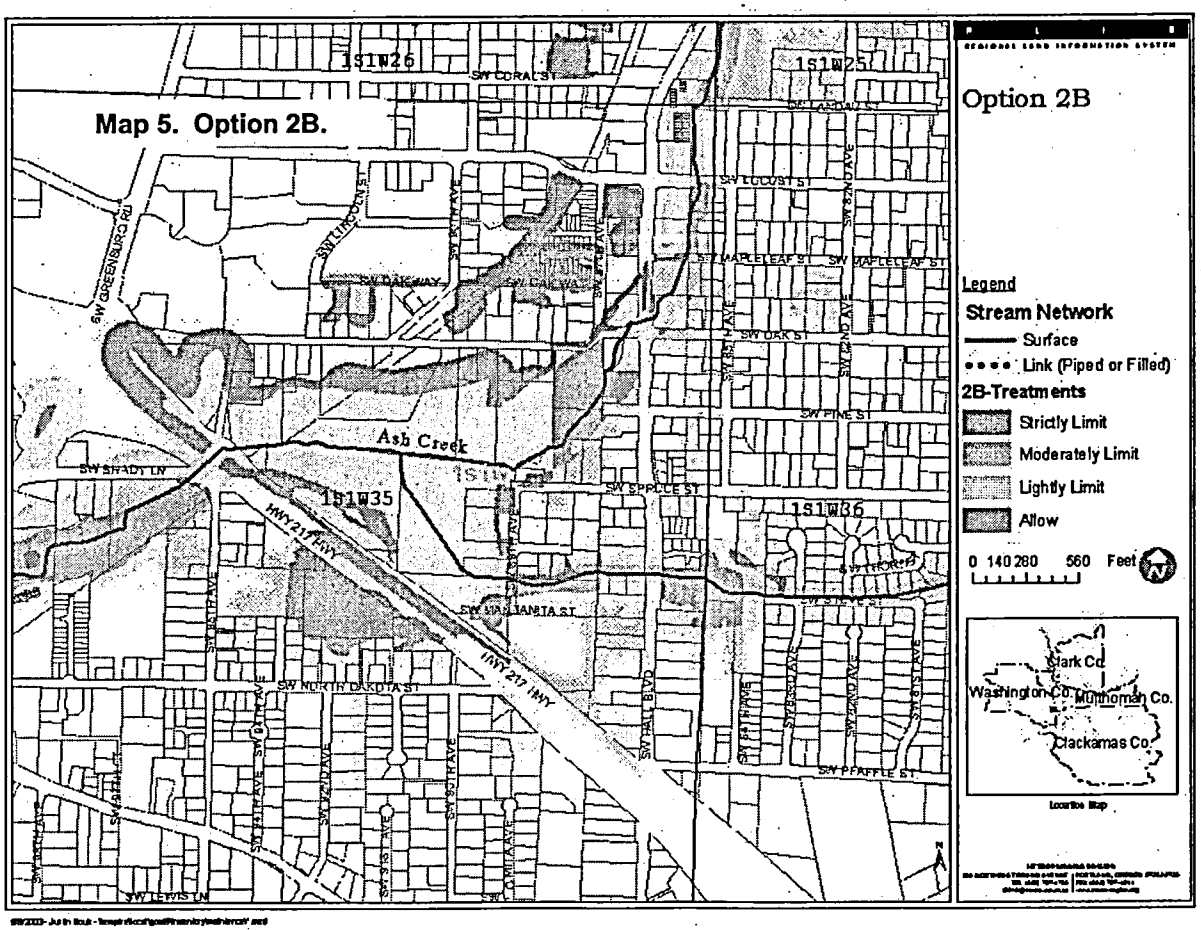
Figure 3-8. Allow, limit and prohibit treatments.
Range of Limit Treatments

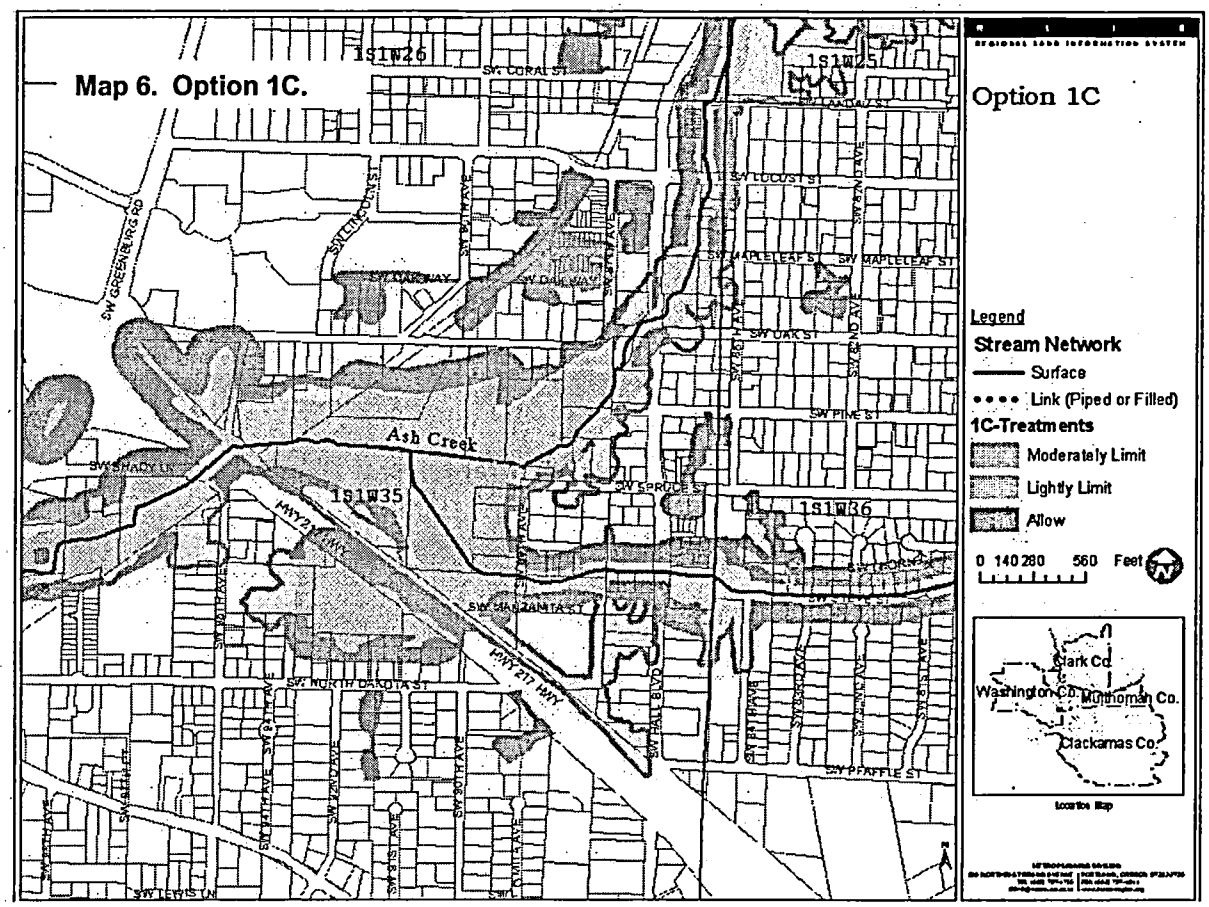


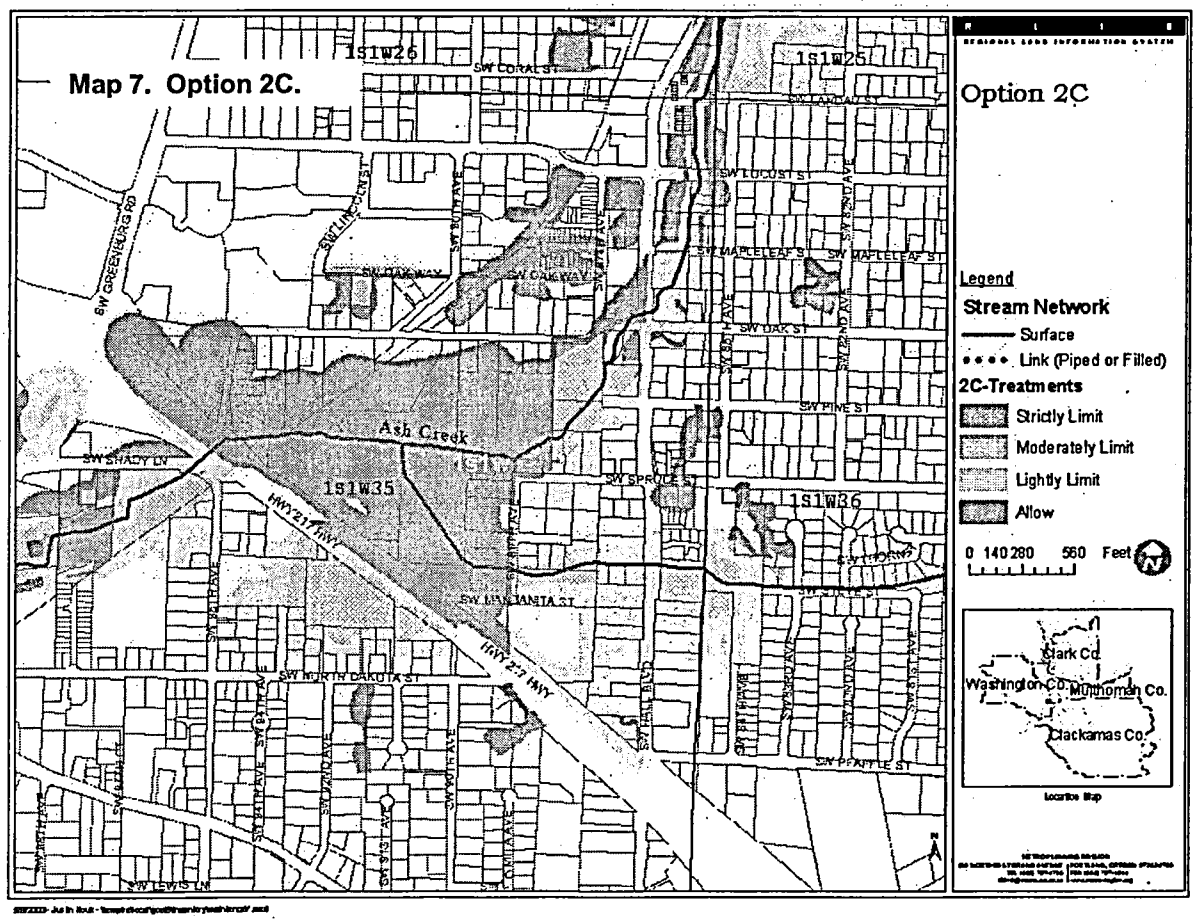

Map 2. Option 1A.
1S1W26
1S1W25
1S1W35
1S1W36
Ash Creek
SW CORAL ST
SW LOCUST ST
SW MAPLELEAF ST
SW OAK ST
SW PINE ST
SW SPRUCE ST
SW MANZANITA ST
SW PFAFFLE ST
SW NORTH DAKOTA ST
SW LEWIS LN
SW SHADY LN
SW GREENBURG RD
SW LINCOLN ST
SW LAKEWAY
HWY 217 HWY
SW HALL BLVD
SW 68TH AVE
SW 70TH AVE
SW 72ND AVE
SW 74TH AVE
SW 76TH AVE
SW 78TH AVE
SW 80TH AVE
SW 82ND AVE
SW 84TH AVE
SW 85TH AVE
SW 87TH AVE
SW 88TH AVE
SW 90TH AVE
SW 92ND AVE
SW 94TH AVE
SW 95TH AVE
SW 97TH AVE
SW 98TH AVE
SW 99TH AVE
SW 100TH AVE
SW 102ND AVE
SW 103RD AVE
SW 104TH AVE
SW 105TH AVE
SW 106TH AVE
SW 107TH AVE
SW 108TH AVE
SW 109TH AVE
SW 110TH AVE
SW 111TH AVE
SW 112TH AVE
SW 113TH AVE
SW 114TH AVE
SW 115TH AVE
SW 116TH AVE
SW 117TH AVE
SW 118TH AVE
SW 119TH AVE
SW 120TH AVE
SW 121ST AVE
SW 122ND AVE
SW 123RD AVE
SW 124TH AVE
SW 125TH AVE
SW 126TH AVE
SW 127TH AVE
SW 128TH AVE
SW 129TH AVE
SW 130TH AVE
SW 131ST AVE
SW 132ND AVE
SW 133RD AVE
SW 134TH AVE
SW 135TH AVE
SW 136TH AVE
SW 137TH AVE
SW 138TH AVE
SW 139TH AVE
SW 140TH AVE
SW 141ST AVE
SW 142ND AVE
SW 143RD AVE
SW 144TH AVE
SW 145TH AVE
SW 146TH AVE
SW 147TH AVE
SW 148TH AVE
SW 149TH AVE
SW 150TH AVE
SW 151ST AVE
SW 152ND AVE
SW 153RD AVE
SW 154TH AVE
SW 155TH AVE
SW 156TH AVE
SW 157TH AVE
SW 158TH AVE
SW 159TH AVE
SW 160TH AVE
SW 161ST AVE
SW 162ND AVE
SW 163RD AVE
SW 164TH AVE
SW 165TH AVE
SW 166TH AVE
SW 167TH AVE
SW 168TH AVE
SW 169TH AVE
SW 170TH AVE
SW 171ST AVE
SW 172ND AVE
SW 173RD AVE
SW 174TH AVE
SW 175TH AVE
SW 176TH AVE
SW 177TH AVE
SW 178TH AVE
SW 179TH AVE
SW 180TH AVE
SW 181ST AVE
SW 182ND AVE
SW 183RD AVE
SW 184TH AVE
SW 185TH AVE
SW 186TH AVE
SW 187TH AVE
SW 188TH AVE
SW 189TH AVE
SW 190TH AVE
SW 191ST AVE
SW 192ND AVE
SW 193RD AVE
SW 194TH AVE
SW 195TH AVE
SW 196TH AVE
SW 197TH AVE
SW 198TH AVE
SW 199TH AVE
SW 200TH AVE
SW 201ST AVE
SW 202ND AVE
SW 203RD AVE
SW 204TH AVE
SW 205TH AVE
SW 206TH AVE
SW 207TH AVE
SW 208TH AVE
SW 209TH AVE
SW 210TH AVE
SW 211TH AVE
SW 212TH AVE
SW 213TH AVE
SW 214TH AVE
SW 215TH AVE
SW 216TH AVE
SW 217TH AVE
SW 218TH AVE
SW 219TH AVE
SW 220TH AVE
SW 221ST AVE
SW 222ND AVE
SW 223RD AVE
SW 224TH AVE
SW 225TH AVE
SW 226TH AVE
SW 227TH AVE
SW 228TH AVE
SW 229TH AVE
SW 230TH AVE
SW 231ST AVE
SW 232ND AVE
SW 233RD AVE
SW 234TH AVE
SW 235TH AVE
SW 236TH AVE
SW 237TH AVE
SW 238TH AVE
SW 239TH AVE
SW 240TH AVE
SW 241ST AVE
SW 242ND AVE
SW 243RD AVE
SW 244TH AVE
SW 245TH AVE
SW 246TH AVE
SW 247TH AVE
SW 248TH AVE
SW 249TH AVE
SW 250TH AVE
SW 251ST AVE
SW 252ND AVE
SW 253RD AVE
SW 254TH AVE
SW 255TH AVE
SW 256TH AVE
SW 257TH AVE
SW 258TH AVE
SW 259TH AVE
SW 260TH AVE
SW 261ST AVE
SW 262ND AVE
SW 263RD AVE
SW 264TH AVE
SW 265TH AVE
SW 266TH AVE
SW 267TH AVE
SW 268TH AVE
SW 269TH AVE
SW 270TH AVE
SW 271ST AVE
SW 272ND AVE
SW 273RD AVE
SW 274TH AVE
SW 275TH AVE
SW 276TH AVE
SW 277TH AVE
SW 278TH AVE
SW 279TH AVE
SW 280TH AVE
SW 281ST AVE
SW 282ND AVE
SW 283RD AVE
SW 284TH AVE
SW 285TH AVE
SW 286TH AVE
SW 287TH AVE
SW 288TH AVE
SW 289TH AVE
SW 290TH AVE
SW 291ST AVE
SW 292ND AVE
SW 293RD AVE
SW 294TH AVE
SW 295TH AVE
SW 296TH AVE
SW 297TH AVE
SW 298TH AVE
SW 299TH AVE
SW 300TH AVE
SW 301ST AVE
SW 302ND AVE
SW 303RD AVE
SW 304TH AVE
SW 305TH AVE
SW 306TH AVE
SW 307TH AVE
SW 308TH AVE
SW 309TH AVE
SW 310TH AVE
SW 311TH AVE
SW 312TH AVE
SW 313TH AVE
SW 314TH AVE
SW 315TH AVE
SW 316TH AVE
SW 317TH AVE
SW 318TH AVE
SW 319TH AVE
SW 320TH AVE
SW 321ST AVE
SW 322ND AVE
SW 323RD AVE
SW 324TH AVE
SW 325TH AVE
SW 326TH AVE
SW 327TH AVE
SW 328TH AVE
SW 329TH AVE
SW 330TH AVE
SW 331ST AVE
SW 332ND AVE
SW 333RD AVE
SW 334TH AVE
SW 335TH AVE
SW 336TH AVE
SW 337TH AVE
SW 338TH AVE
SW 339TH AVE
SW 340TH AVE
SW 341ST AVE
SW 342ND AVE
SW 343RD AVE
SW 344TH AVE
SW 345TH AVE
SW 346TH AVE
SW 347TH AVE
SW 348TH AVE
SW 349TH AVE
SW 350TH AVE
SW 351ST AVE
SW 352ND AVE
SW 353RD AVE
SW 354TH AVE
SW 355TH AVE
SW 356TH AVE
SW 357TH AVE
SW 358TH AVE
SW 359TH AVE
SW 360TH AVE
SW 361ST AVE
SW 362ND AVE
SW 363RD AVE
SW 364TH AVE
SW 365TH AVE
SW 366TH AVE
SW 367TH AVE
SW 368TH AVE
SW 369TH AVE
SW 370TH AVE
SW 371ST AVE
SW 372ND AVE
SW 373RD AVE
SW 374TH AVE
SW 375TH AVE
SW 376TH AVE
SW 377TH AVE
SW 378TH AVE
SW 379TH AVE
SW 380TH AVE
SW 381ST AVE
SW 382ND AVE
SW 383RD AVE
SW 384TH AVE
SW 385TH AVE
SW 386TH AVE
SW 387TH AVE
SW 388TH AVE
SW 389TH AVE
SW 390TH AVE
SW 391ST AVE
SW 392ND AVE
SW 393RD AVE
SW 394TH AVE
SW 395TH AVE
SW 396TH AVE
SW 397TH AVE
SW 398TH AVE
SW 399TH AVE
SW 400TH AVE
SW 401ST AVE
SW 402ND AVE
SW 403RD AVE
SW 404TH AVE
SW 405TH AVE
SW 406TH AVE
SW 407TH AVE
SW 408TH AVE
SW 409TH AVE
SW 410TH AVE
SW 411TH AVE
SW 412TH AVE
SW 413TH AVE
SW 414TH AVE
SW 415TH AVE
SW 416TH AVE
SW 417TH AVE
SW 418TH AVE
SW 419TH AVE
SW 420TH AVE
SW 421ST AVE
SW 422ND AVE
SW 423RD AVE
SW 424TH AVE
SW 425TH AVE
SW 426TH AVE
SW 427TH AVE
SW 428TH AVE
SW 429TH AVE
SW 430TH AVE
SW 431ST AVE
SW 432ND AVE
SW 433RD AVE
SW 434TH AVE
SW 435TH AVE
SW 436TH AVE
SW 437TH AVE
SW 438TH AVE
SW 439TH AVE
SW 440TH AVE
SW 441ST AVE
SW 442ND AVE
SW 443RD AVE
SW 444TH AVE
SW 445TH AVE
SW 446TH AVE
SW 447TH AVE
SW 448TH AVE
SW 449TH AVE
SW 450TH AVE
SW 451ST AVE
SW 452ND AVE
SW 453RD AVE
SW 454TH AVE
SW 455TH AVE
SW 456TH AVE
SW 457TH AVE
SW 458TH AVE
SW 459TH AVE
SW 460TH AVE
SW 461ST AVE
SW 462ND AVE
SW 463RD AVE
SW 464TH AVE
SW 465TH AVE
SW 466TH AVE
SW 467TH AVE
SW 468TH AVE
SW 469TH AVE
SW 470TH AVE
SW 471ST AVE
SW 472ND AVE
SW 473RD AVE
SW 474TH AVE
SW 475TH AVE
SW 476TH AVE
SW 477TH AVE
SW 478TH AVE
SW 479TH AVE
SW 480TH AVE
SW 481ST AVE
SW 482ND AVE
SW 483RD AVE
SW 484TH AVE
SW 485TH AVE
SW 486TH AVE
SW 487TH AVE
SW 488TH AVE
SW 489TH AVE
SW 490TH AVE
SW 491ST AVE
SW 492ND AVE
SW 493RD AVE
SW 494TH AVE
SW 495TH AVE
SW 496TH AVE
SW 497TH AVE
SW 498TH AVE
SW 499TH AVE
SW 500TH AVE
SW 501ST AVE
SW 502ND AVE
SW 503RD AVE
SW 504TH AVE
SW 505TH AVE
SW 506TH AVE
SW 507TH AVE
SW 508TH AVE
SW 509TH AVE
SW 510TH AVE
SW 511TH AVE
SW 512TH AVE
SW 513TH AVE
SW 514TH AVE
SW 515TH AVE
SW 516TH AVE
SW 517TH AVE
SW 518TH AVE
SW 519TH AVE
SW 520TH AVE
SW 521ST AVE
SW 522ND AVE
SW 523RD AVE
SW 524TH AVE
SW 525TH AVE
SW 526TH AVE
SW 527TH AVE
SW 528TH AVE
SW 529TH AVE
SW 530TH AVE
SW 531ST AVE
SW 532ND AVE
SW 533RD AVE
SW 534TH AVE
SW 535TH AVE
SW 536TH AVE
SW 537TH AVE
SW 538TH AVE
SW 539TH AVE
SW 540TH AVE
SW 541ST AVE
SW 542ND AVE
SW 543RD AVE
SW 544TH AVE
SW 545TH AVE
SW 546TH AVE
SW 547TH AVE
SW 548TH AVE
SW 549TH AVE
SW 550TH AVE
SW 551ST AVE
SW 552ND AVE
SW 553RD AVE
SW 554TH AVE
SW 555TH AVE
SW 556TH AVE
SW 557TH AVE
SW 558TH AVE
SW 559TH AVE
SW 560TH AVE
SW 561ST AVE
SW 562ND AVE
SW 563RD AVE
SW 564TH AVE
SW 565TH AVE
SW 566TH AVE
SW 567TH AVE
SW 568TH AVE
SW 569TH AVE
SW 570TH AVE
SW 571ST AVE
SW 572ND AVE
SW 573RD AVE
SW 574TH AVE
SW 575TH AVE
SW 576TH AVE
SW 577TH AVE
SW 578TH AVE
SW 579TH AVE
SW 580TH AVE
SW 581ST AVE
SW 582ND AVE
SW 583RD AVE
SW 584TH AVE
SW 585TH AVE
SW 586TH AVE
SW 587TH AVE
SW 588TH AVE
SW 589TH AVE
SW 590TH AVE
SW 591ST AVE
SW 592ND AVE
SW 593RD AVE
SW 594TH AVE
SW 595TH AVE
SW 596TH AVE
SW 597TH AVE
SW 598TH AVE
SW 599TH AVE
SW 600TH AVE
SW 601ST AVE
SW 602ND AVE
SW 603RD AVE
SW 604TH AVE
SW 605TH AVE
SW 606TH AVE
SW 607TH AVE
SW 608TH AVE
SW 609TH AVE
SW 610TH AVE
SW 611TH AVE
SW 612TH AVE
SW 613TH AVE
SW 614TH AVE
SW 615TH AVE
SW 616TH AVE
SW 617TH AVE
SW 618TH AVE
SW 619TH AVE
SW 620TH AVE
SW 621ST AVE
SW 622ND AVE
SW 623RD AVE
SW 624TH AVE
SW 625TH AVE
SW 626TH AVE
SW 627TH AVE
SW 628TH AVE
SW 629TH AVE
SW 630TH AVE
SW 631ST AVE
SW 632ND AVE
SW 633RD AVE
SW 634TH AVE
SW 635TH AVE
SW 636TH AVE
SW 637TH AVE
SW 638TH AVE
SW 639TH AVE
SW 640TH AVE
SW 641ST AVE
SW 642ND AVE
SW 643RD AVE
SW 644TH AVE
SW 645TH AVE
SW 646TH AVE
SW 647TH AVE
SW 648TH AVE
SW 649TH AVE
SW 650TH AVE
SW 651ST AVE
SW 652ND AVE
SW 653RD AVE
SW 654TH AVE
SW 655TH AVE
SW 656TH AVE
SW 657TH AVE
SW 658TH AVE
SW 659TH AVE
SW 660TH AVE
SW 661ST AVE
SW 662ND AVE
SW 663RD AVE
SW 664TH AVE
SW 665TH AVE
SW 666TH AVE
SW 667TH AVE
SW 668TH AVE
SW 669TH AVE
SW 670TH AVE
SW 671ST AVE
SW 672ND AVE
SW 673RD AVE
SW 674TH AVE
SW 675TH AVE
SW 676TH AVE
SW 677TH AVE
SW 678TH AVE
SW 679TH AVE
SW 680TH AVE
SW 681ST AVE
SW 682ND AVE
SW 683RD AVE
SW 684TH AVE
SW 685TH AVE
SW 686TH AVE
SW 687TH AVE
SW 688TH AVE
SW 689TH AVE
SW 690TH AVE
SW 691ST AVE
SW 692ND AVE
SW 693RD AVE
SW 694TH AVE
SW 695TH AVE
SW 696TH AVE
SW 697TH AVE
SW 698TH AVE
SW 699TH AVE
SW 700TH AVE
SW 701ST AVE
SW 702ND AVE
SW 703RD AVE
SW 704TH AVE
SW 705TH AVE
SW 706TH AVE
SW 707TH AVE
SW 708TH AVE
SW 709TH AVE
SW 710TH AVE
SW 711TH AVE
SW 712TH AVE
SW 713TH AVE
SW 714TH AVE
SW 715TH AVE
SW 716TH AVE
SW 717TH AVE
SW 718TH AVE
SW 719TH AVE
SW 720TH AVE
SW 721ST AVE
SW 722ND AVE
SW 723RD AVE
SW 724TH AVE
SW 725TH AVE
SW 726TH AVE
SW 727TH AVE
SW 728TH AVE
SW 729TH AVE
SW 730TH AVE
SW 731ST AVE
SW 732ND AVE
SW 733RD AVE
SW 734TH AVE
SW 735TH AVE
SW 736TH AVE
SW 737TH AVE
SW 738TH AVE
SW 739TH AVE
SW 740TH AVE
SW 741ST AVE
SW 742ND AVE
SW 743RD AVE
SW 744TH AVE
SW 745TH AVE
SW 746TH AVE
SW 747TH AVE
SW 748TH AVE
SW 749TH AVE
SW 750TH AVE
SW 751ST AVE
SW 752ND AVE
SW 753RD AVE
SW 754TH AVE
SW 755TH AVE
SW 756TH AVE
SW 757TH AVE
SW 758TH AVE
SW 759TH AVE
SW 760TH AVE
SW 761ST AVE
SW 762ND AVE
SW 763RD AVE
SW 764TH AVE
SW 765TH AVE
SW 766TH AVE
SW 767TH AVE
SW 768TH AVE
SW 769TH AVE
SW 770TH AVE
SW 771ST AVE
SW 772ND AVE
SW 773RD AVE
SW 774TH AVE
SW 775TH AVE
SW 776TH AVE
SW 777TH AVE
SW 778TH AVE
SW 779TH AVE
SW 780TH AVE
SW 781ST AVE
SW 782ND AVE
SW 783RD AVE
SW 784TH AVE
SW 785TH AVE
SW 786TH AVE
SW 787TH AVE
SW 788TH AVE
SW 789TH AVE
SW 790TH AVE
SW 791ST AVE
SW 792ND AVE
SW 793RD AVE
SW 794TH AVE
SW 795TH AVE
SW 796TH AVE
SW 797TH AVE
SW 798TH AVE
SW 799TH AVE
SW 800TH AVE
SW 801ST AVE
SW 802ND AVE
SW 803RD AVE
SW 804TH AVE
SW 805TH AVE
SW 806TH AVE
SW 807TH AVE
SW 808TH AVE
SW 809TH AVE
SW 810TH AVE
SW 811TH AVE
SW 812TH AVE
SW 813TH AVE
SW 814TH AVE
SW 815TH AVE
SW 816TH AVE
SW 817TH AVE
SW 818TH AVE
SW 819TH AVE
SW 820TH AVE
SW 821ST AVE
SW 822ND AVE
SW 823RD AVE
SW 824TH AVE
SW 825TH AVE
SW 826TH AVE
SW 827TH AVE
SW 828TH AVE
SW 829TH AVE
SW 830TH AVE
SW 831ST AVE
SW 832ND AVE
SW 833RD AVE
SW 834TH AVE
SW 835TH AVE
SW 836TH AVE
SW 837TH AVE
SW 838TH AVE
SW 839TH AVE
SW 840TH AVE
SW 841ST AVE
SW 842ND AVE
SW 843RD AVE
SW 844TH AVE
SW 845TH AVE
SW 846TH AVE
SW 847TH AVE
SW 848TH AVE
SW 849TH AVE
SW 850TH AVE
SW 851ST AVE
SW 852ND AVE
SW 853RD AVE
SW 854TH AVE
SW 855TH AVE
SW 856TH AVE
SW 857TH AVE
SW 858TH AVE
SW 859TH AVE
SW 860TH AVE
SW 861ST AVE
SW 862ND AVE
SW 863RD AVE
SW 864TH AVE
SW 865TH AVE
SW 866TH AVE
SW 867TH AVE
SW 868TH AVE
SW 869TH AVE
SW 870TH AVE
SW 871ST AVE
SW 872ND AVE
SW 873RD AVE
SW 874TH AVE
SW 875TH AVE
SW 876TH AVE
SW 877TH AVE
SW 878TH AVE
SW 879TH AVE
SW 880TH AVE
SW 881ST AVE
SW 882ND AVE
SW 883RD AVE
SW 884TH AVE
SW 885TH AVE
SW 886TH AVE
SW 887TH AVE
SW 888TH AVE
SW 889TH AVE
SW 890TH AVE
SW 891ST AVE
SW 892ND AVE
SW 893RD AVE
SW 894TH AVE
SW 895TH AVE
SW 896TH AVE
SW 897TH AVE
SW 898TH AVE
SW 899TH AVE
SW 900TH AVE
SW 901ST AVE
SW 902ND AVE
SW 903RD AVE
SW 904TH AVE
SW 905TH AVE
SW 906TH AVE
SW 907TH AVE
SW 908TH AVE
SW 909TH AVE
SW 910TH AVE
SW 911TH AVE
SW 912TH AVE
SW 913TH AVE
SW 914TH AVE
SW 915TH AVE
SW 916TH AVE
SW 917TH AVE
SW 918TH AVE
SW 919TH AVE
SW 920TH AVE
SW 921ST AVE
SW 922ND AVE
SW 923RD AVE
SW 924TH AVE
SW 925TH AVE
SW 926TH AVE
SW 927TH AVE
SW 928TH AVE
SW 929TH AVE
SW 930TH AVE
SW 931ST AVE
SW 932ND AVE
SW 933RD AVE
SW 934TH AVE
SW 935TH AVE
SW 936TH AVE
SW 937TH AVE
SW 938TH AVE
SW 939TH AVE
SW 940TH AVE
SW 941ST AVE
SW 942ND AVE
SW 943RD AVE
SW 944TH AVE
SW 945TH AVE
SW 946TH AVE
SW 947TH AVE
SW 948TH AVE
SW 949TH AVE
SW 950TH AVE
SW 951ST AVE
SW 952ND AVE
SW 953RD AVE
SW 954TH AVE
SW 955TH AVE
SW 956TH AVE
SW 957TH AVE
SW 958TH AVE
SW 959TH AVE
SW 960TH AVE
SW 961ST AVE
SW 962ND AVE
SW 963RD AVE
SW 964TH AVE
SW 965TH AVE
SW 966TH AVE
SW 967TH AVE
SW 968TH AVE
SW 969TH AVE
SW 970TH AVE
SW 971ST AVE
SW 972ND AVE
SW 973RD AVE
SW 974TH AVE
SW 975TH AVE
SW 976TH AVE
SW 977TH AVE
SW 978TH AVE
SW 979TH AVE
SW 980TH AVE
SW 981ST AVE
SW 982ND AVE
SW 983RD AVE
SW 984TH AVE
SW 985TH AVE
SW 986TH AVE
SW 987TH AVE
SW 988TH AVE
SW 989TH AVE
SW 990TH AVE
SW 991ST AVE
SW 992ND AVE
SW 993RD AVE
SW 994TH AVE
SW 995TH AVE
SW 996TH AVE
SW 997TH AVE
SW 998TH AVE
SW 999TH AVE
SW 1000TH AVE
Option 1A
Legend
Stream Network
Surface
Link (Piped or Filled)
1A-Treatments
Prohibit
Strictly Limit
Lightly Limit
0 140 280 560 Feet
N
Clark Co.
Washington Co.
Multnomah Co.
Clackamas Co.
Location Map


Map 3. Option 2A.
1S1W26
1S1W25
1S1W35
1S1W36
Ash Creek
SW CORAL ST
SW LOCUST ST
SW MAPLELEAF ST
SW OAK ST
SW PINE ST
SW SPRUCE ST
SW MANZANITA ST
SW PFAFFLE ST
SW NORTH DAKOTA ST
SW LEWIS LN
SW SHADY LN
SW GREENBURG RD
SW LINCOLN ST
SW LAKEWAY
HWY 217 HWY
SW HALL BLVD
Option 2A
Legend
Stream Network
Surface
Link (Piped or Filled)
2A-Treatments
Prohibit
Strictly Limit
Moderately Limit
Lightly Limit
0 140 280 560 Feet
N
Clark Co.
Washington Co.
Multnomah Co.
Clackamas Co.
Location Map


Map 4. Option 1B.
1S1W26
1S1W25
1S1W35
1S1W36
SW CORAL ST
SW LAUREL ST
SW LOCUST ST
SW MAPLELEAF ST
SW OAK ST
SW PINE ST
SW SPRUCE ST
SW THORN ST
SW MARIANITA ST
SW NORTH DAKOTA ST
SW PFAFFLE ST
SW LEWIS LN
SW SHADY LN
SW GREENBURG RD
SW LINCOLN ST
SW OAKWAY
SW EARLY WAY
Ash Creek
HWY 217 HWY
Option 1B
Legend
Stream Network
Surface
Link (Piped or Filled)
1B-Treatments
Strictly Limit
Moderately Limit
Lightly Limit
0 140 280 560 Feet
Clark Co.
Washington Co.
Multnomah Co.
Clackamas Co.
Location Map


Map 5. Option 2B.
1S1W26
1S1W25
1S1W35
1S1W36
SW CORAL ST
SW LAUREL ST
SW LOCUST ST
SW MAPLELEAF ST
SW OAK ST
SW PINE ST
SW SPRUCE ST
SW THORN ST
SW MARIANITA ST
SW NORTH DAKOTA ST
SW PFAFFLE ST
SW LEWIS LN
SW SHADY LN
SW GREENBURG RD
SW LINCOLN ST
SW OAKWAY
SW EARLY WAY
Ash Creek
HWY 217 HWY
Option 2B
Legend
Stream Network
Surface
Link (Piped or Filled)
2B-Treatments
Strictly Limit
Moderately Limit
Lightly Limit
Allow
0 140 280 560 Feet
Clark Co.
Washington Co.
Multnomah Co.
Clackamas Co.
Location Map


Map 6. Option 1C.
1S1W26
1S1W25
1S1W35
1S1W36
Ash Creek
HWY 217 HWY
SW CORAL ST
SW LOCUST ST
SW MAPLELEAF ST
SW OAK ST
SW PINE ST
SW SPRUCE ST
SW HAZELIA ST
SW NORTH DAKOTA ST
SW PFAFFLE ST
SW LEWIS LN
SW SHADY LN
SW GREENBURG RD
SW OAK WAY
SW HALL BLVD
Option 1C
Legend
Stream Network
Surface
Link (Piped or Filled)
1C-Treatments
Moderately Limit
Lightly Limit
Allow
0 140 280 560 Feet
Clark Co.
Washington Co.
Multnomah Co.
Clackamas Co.
Location Map


Map 7. Option 2C.
1S1W26
1S1W25
1S1W35
1S1W36
Ash Creek
HWY 217 HWY
SW CORAL ST
SW LOCUST ST
SW MAPLELEAF ST
SW OAK ST
SW PINE ST
SW SPRUCE ST
SW HAZELIA ST
SW NORTH DAKOTA ST
SW PFAFFLE ST
SW LEWIS LN
SW SHADY LN
SW GREENBURG RD
SW OAK WAY
SW HALL BLVD
Option 2C
Legend
Stream Network
Surface
Link (Piped or Filled)
2C-Treatments
Strictly Limit
Moderately Limit
Lightly Limit
Allow
0 140 280 560 Feet
Clark Co.
Washington Co.
Multnomah Co.
Clackamas Co.
Location Map

Habitat-based options (1A, 1B, 1C)

The three habitat-based options (Options 1A, 1B, and 1C) use habitat quality as the basis for varying protection regardless of land uses or urban development values. This approach recognizes fish and wildlife habitat as fixed assets in the urban landscape and orients urban development patterns around habitat areas based on the ecological values present.

Ecological values were measured during Metro's Goal 5 inventory process and were based on landscape features (e.g., trees, woody vegetation, wetlands, etc.) and the ecological functions they provide (e.g., shade, streamflow moderation, wildlife migration, nesting and roosting sites, etc.). The inventory was then classified into six categories for the ESEE analysis (Class I-III riparian/wildlife corridors and Class A-C upland wildlife habitat) to distinguish higher value habitat from lower value habitat. Class I riparian/wildlife corridors and Class A upland wildlife habitat are the highest valued habitats.

This approach recognizes that all habitat lands have development value, so as the ecological value decreases, the recommended treatment becomes less restrictive of development. In these options, the two high value habitat types (Class I riparian and Class A wildlife) would receive the same level of regulatory protection in industrial areas as they would in residential areas.

Table 3-2: Habitat-based options (1A, 1B, 1C)

Fish & Wildlife Habitat Classification	Option 1A *Treatment*	Option 1B *Treatment*	Option 1C *Treatment*
Class I Riparian/Wildlife	P	SL	ML
Class II Riparian/Wildlife	P	ML	LL
Class III Riparian/Wildlife	SL	LL	A
Class A Upland Wildlife	P	SL	ML
Class B Upland Wildlife	SL	ML	LL
Class C Upland Wildlife	SL	LL	A
Impact Areas	LL	LL	A

Note: P = Prohibit; SL = Strictly Limit; ML = Moderately Limit; LL = Lightly Limit; A = Allow

Figure 3-9: Habitat-based program options

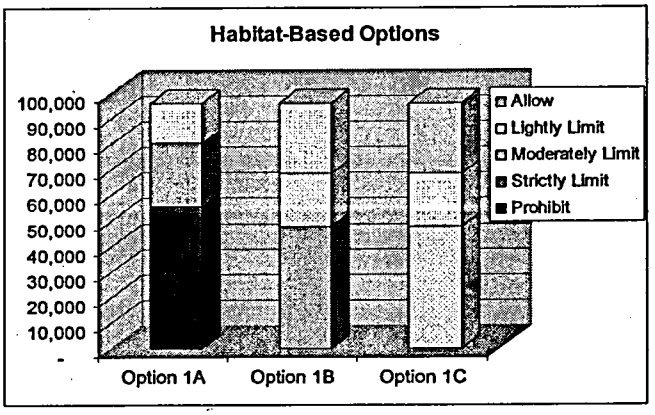


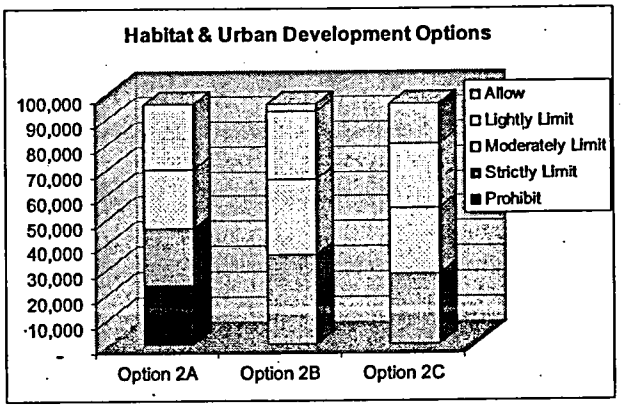
Table 3-2 shows allow, limit and prohibit (ALP) treatments for each option. Figure 3-9 shows habitat and impact area acreage affected by ALP treatments under the three options. In Option 1A, the highest value habitat (Class I and II riparian and Class A wildlife) receives the highest level of protection, while lower valued habitat (Class III riparian and Class B and C wildlife) receives lower levels of protection. In Options 1B and 1C, habitats receive decreasingly lower levels of protection. In Option 1C, the lowest value habitat areas do not receive any protection. Impact areas would face little or no regulatory requirements.

Habitat and urban development-based options (2A, 2B, 2C)

The three habitat and urban development-based options (2A, 2B, and 2C) further reduce the level of habitat protection in areas that have high, medium, or low urban development value. Urban development values were categorized as high, medium or low. Areas without urban development value – parks and open space (both inside and outside the UGB) and rural areas outside the UGB – were not assigned a value. In the recent expansion areas, interim design types were used to determine urban development value. Areas receiving a high score in any of the three measures are called "high urban development value", areas receiving no high scores but at least one medium score are called "medium urban development value", and areas receiving all low scores are called "low urban development value." High priority 2040 Growth Concept design types include the central city, regional centers and regionally significant industrial areas. Medium priority 2040 Growth Concept design types include town centers, main streets, station communities, other industrial areas and employment centers. Inner and outer neighborhoods and corridors are considered low priority 2040 Growth Concept design types. Some land uses such as major medical facilities and educational institutions (regionally significant public facilities) do not fall into a specific design type, and further exploration of their placement in urban development value categories is an issue to be considered in the program phase.

Tables 3-3, 3-4 and 3-5 show the allow, limit and prohibit (ALP) treatments for each option. Habitat protection levels are adjusted based on urban development value in these options. For example, a Class I riparian corridor located within a regional center or industrial area (high urban development value) would receive less protection than one that passes through an inner or outer neighborhood (low urban development value) in all three tables. Figure 3-10 shows habitat and impact area acreage affected by ALP treatments under the three options.

Figure 3-10: Habitat and urban development-based program options



Option 2A provides the highest level of protection for high valued riparian habitat and less protection for wildlife and other habitat areas. Commercial and industrial areas, which are important to the region, have less protection than other areas in Option 2A. In Options 2B and 2C, the level of protection on the most highly valued habitat decreases, while the levels of protection in the high value urban development areas decrease even more. In Option 2C,the most highly valued urban development areas have no habitat protection, regardless of habitat quality. In all three habitat and urban development-based options, rural areas and parks and open spaces receive more protection than other areas due to their relatively low urban development value. Impact areas would face little or no regulatory requirements in these options.

Table 3-3. Habitat and urban development-based program option (2A) and ALP treatments.

Fish & Wildlife Habitat Classification	HIGH Urban Development Value	MEDIUM Urban Development Value	LOW Urban Development Value	Other Areas*
	Treatment	*Treatment*	*Treatment*	*Treatment*
Class I Riparian/Wildlife	SL	SL	P	P
Class II Riparian/Wildlife	ML	ML	SL	SL
Class III Riparian/Wildlife	LL	LL	LL	ML
Class A Upland Wildlife	LL	ML	ML	SL
Class B Upland Wildlife	LL	LL	ML	ML
Class C Upland Wildlife	LL	LL	LL	ML
Impact Areas	LL	LL	LL	LL

*Other areas include parks and open space within Metro's jurisdiction and areas outside the UGB with no design type.

Table 3-4: Habitat and urban development-based program option (2B) and ALP treatments.

Fish & Wildlife Habitat Classification	HIGH Urban Development Value	MEDIUM Urban Development Value	LOW Urban Development Value	Other Areas*
	Treatment	*Treatment*	*Treatment*	*Treatment*
Class I Riparian/Wildlife	LL	ML	SL	SL
Class II Riparian/Wildlife	LL	LL	ML	ML
Class III Riparian/Wildlife	A	LL	LL	ML
Class A Upland Wildlife	LL	ML	ML	SL
Class B Upland Wildlife	LL	LL	ML	ML
Class C Upland Wildlife	A	LL	LL	ML
Impact Areas	A	LL	LL	LL

*Other areas include parks and open space within Metro's jurisdiction and areas outside the UGB with no design type.

Table 3-5: Habitat and urban development-based program option (2C) and ALP treatments

Fish & Wildlife Habitat Classification	HIGH Urban Development Value	MEDIUM Urban Development Value	LOW Urban Development Value	Other Areas*
	Treatment	*Treatment*	*Treatment*	*Treatment*
Class I Riparian/Wildlife	A	LL	ML	SL
Class II Riparian/Wildlife	A	LL	LL	ML
Class III Riparian/Wildlife	A	A	A	ML
Class A Upland Wildlife	A	LL	ML	SL
Class B Upland Wildlife	A	LL	LL	ML
Class C Upland Wildlife	A	A	A	ML
Impact Areas	A	A	LL	LL

*Other areas include parks and open space within Metro's jurisdiction and areas outside the UGB with no design type.

Habitat acreage by allow, limit and prohibit treatments in program options

Table 3-6 below compares all six options and shows the number of acres that would be covered by each option and treatment type. For example, in Option 1A, 55,450 habitat acres would receive a prohibit treatment (almost 70 percent of habitat acres), whereas 23,084 acres in Option 2A (27 percent of habitat acres) would receive a prohibit treatment. The acreage in this table is for habitat areas and impact areas within Metro's jurisdictional boundary. Approximately 80,200 acres are fish and wildlife habitat; impact areas cover approximately 15,720 acres.

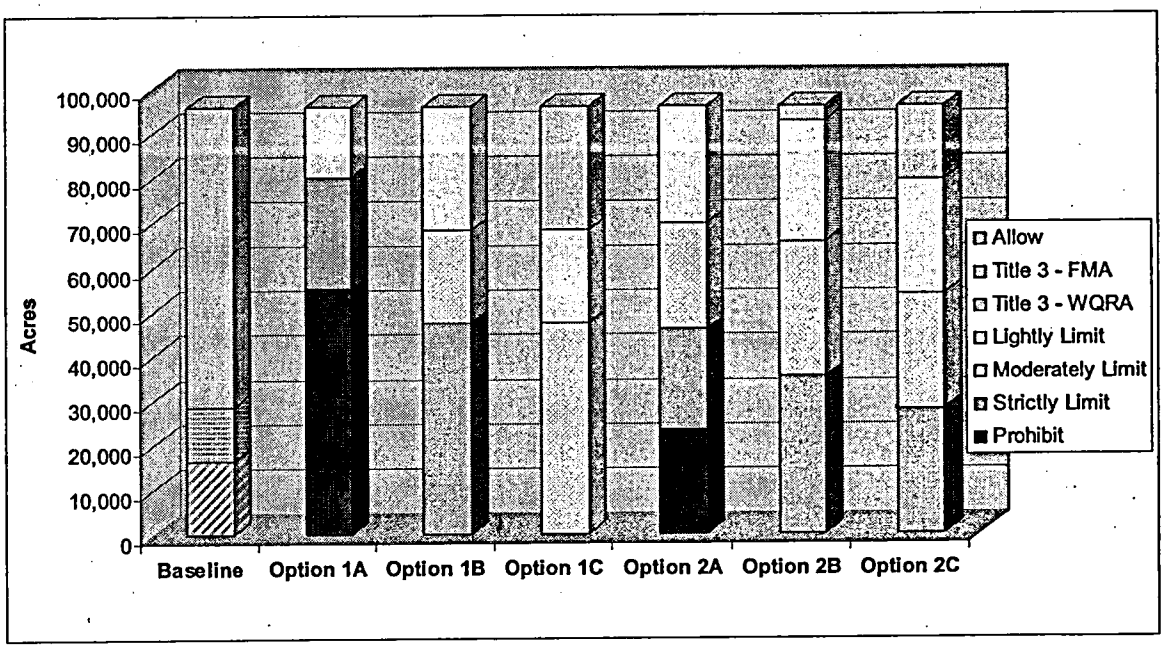
Table 3-6: Habitat and impact area acreage within Metro's jurisdictional boundary by allow, limit and prohibit treatments

Treatment	Option1A	Option 1B	Option 1C	Option 2A	Option 2B	Option 2C
Prohibit	55,450	0	0	23,084	0	0
Strictly Limit	24,784	47,557	0	22,775	35,212	27,872
Moderately Limit	0	20,782	47,557	23,965	30,352	25,983
Lightly Limit	15,721	27,616	20,782	26,131	27,323	25,727
Allow	0	0	27,616	0	3,069	16,374
Total	*95,956*	*95,956*	*95,956*	*95,956*	*95,956*	*95,956*

Figure 3-11 graphically illustrates the information in Table 3-6. The bar on the far left represents Title 3 protection of fish and wildlife habitat. Title 3 acreage is distributed within each of the bars representing the six options. However, these bars do not show in which treatment category this acreage occurs. For example, the 28,540 acres of Title 3 management areas may fall into any one of the treatment categories depending on the program option.

A comparison of the option bars shows that Option 1A provides the greatest habitat protection among the options with a total of 55,450 acres (Class I and II riparian/wildlife, Class A wildlife) covered by a prohibit treatment, and 15,721 acres (Class III riparian/wildlife, Class A and B wildlife) covered by a strictly limit treatment. The bars representing Option 2A-C show more variation in treatment than the habitat-based options, which is a result of considering urban development values. Option 1C provides the least habitat protection among these three options, considering the larger acreage in allow and lightly limit and lack of any habitat in strictly limit.

Figure 3-11: Comparison of options by allow, limit and prohibit treatments



These six program options are evaluated based on their economic, social, environmental and energy consequences in Chapter 4. Most of the data used in this analysis is shown in Table 3-7 (on the following two pages).

Table 3-7: Fish and wildlife habitat classes and impact areas by development status and development value (Inside Metro's jurisdiction)

Fish & Wildlife Habitat Class & Urban Development Value	Option 1A	Option 1B	Option 1C	Option 2A	Option 2B	Option 2C	Developed (urban)			Developed (parks)			Total Devel. Habitat Acres	Vacant			Total Vacant Habitat Acres	Total Devel. & Vacant Habitat Acres
							Inside Title 3 WQRA	*Inside Title 3 FMA*	*Outside WQRA/ FMA*	*Inside Title 3 WQRA*	*Inside Title 3 FMA*	*Outside WQRA/ FMA*		*Inside Title 3 WQRA*	*Inside Title 3 FMA*	*Outside WQRA/ FMA*		
Class I Riparian/Wildlife Corridors																		
High	P	SL	ML	SL	LL	A	175	71	36	0	0	0	282	592	516	833	1,942	2,224
Medium	P	SL	ML	SL	ML	LL	254	66	140	0	0	0	460	1,274	288	545	2,107	2,567
Low	P	SL	ML	P	SL	ML	968	272	1,003	0	0	0	2,243	2,281	796	2,020	5,097	7,340
Other Areas	P	SL	ML	P	SL	SL	432	239	179	5,449	3,999	2,045	12,342	1,718	556	1,128	3,402	15,744
Total Acres							***1,829***	***648***	***1,357***	***5,449***	***3,999***	***2,045***	***15,327***	***5,866***	***2,156***	***4,527***	***12,549***	***27,876***
Class II Riparian/Wildlife Corridors																		
High	P	ML	LL	ML	LL	A	104	99	70	0	0	0	273	42	310	316	668	941
Medium	P	ML	LL	ML	LL	LL	184	39	186	0	0	0	409	123	128	434	686	1,095
Low	P	ML	LL	SL	ML	LL	607	102	793	0	0	0	1,502	227	262	875	1,364	2,866
Other Areas	P	ML	LL	SL	ML	ML	126	46	140	266	708	515	1,801	213	254	721	1,188	2,990
Total Acres							***1,021***	***286***	***1,189***	***266***	***708***	***515***	***3,986***	***606***	***954***	***2,347***	***3,907***	***7,893***
Class III Riparian/Wildlife Corridors																		
High	SL	LL	A	LL	A	A	22	918	127	0	0	0	1,066	0	6	41	48	1,114
Medium	SL	LL	A	LL	LL	A	42	487	321	0	0	0	851	2	4	125	131	982
Low	SL	LL	A	LL	LL	A	78	914	452	0	0	0	1,444	4	14	333	351	1,795
Other Areas	SL	LL	A	ML	ML	ML	25	152	57	3	45	123	405	1	3	133	137	541
Total Acres							***167***	***2,471***	***956***	***3***	***45***	***123***	***3,766***	***7***	***27***	***632***	***666***	***4,432***
Class A Wildlife Habitat																		
High	P	SL	ML	LL	LL	A	11	7	50	0	0	0	67	5	17	185	207	275
Medium	P	SL	ML	ML	ML	LL	12	0	88	0	0	0	101	6	0	365	372	473
Low	P	SL	ML	ML	ML	ML	20	2	2,031	0	0	0	2,054	25	2	4,726	4,753	6,807
Other Areas	P	SL	ML	SL	SL	SL	17	36	468	80	42	8,307	8,952	38	1	3,138	3,176	12,127
Total Acres							***60***	***45***	***2,637***	***80***	***42***	***8,308***	***11,173***	***74***	***21***	***8,414***	***8,508***	***19,682***
Class B Wildlife Habitat																		
High	SL	ML	LL	LL	LL	A	1	2	56	0	0	0	58	1	1	357	359	417
Medium	SL	ML	LL	LL	LL	LL	1	0	206	0	0	0	208	7	1	801	809	1,016
Low	SL	ML	LL	ML	ML	LL	15	2	2,674	0	0	0	2,690	15	3	3,094	3,112	5,802
Other Areas	SL	ML	LL	ML	ML	ML	2	1	640	16	4	1,481	2,144	11	4	3,494	3,509	5,653
Total Acres							***19***	***4***	***3,576***	***16***	***4***	***1,481***	***5,100***	***34***	***10***	***7,746***	***7,789***	***12,889***
Class C Wildlife Habitat																		
High	SL	LL	A	LL	A	A	3	6	109	0	0	0	118	4	38	421	462	580
Medium	SL	LL	A	LL	LL	A	2	1	313	0	0	0	317	10	4	809	822	1,139
Low	SL	LL	A	LL	LL	A	4	2	1,348	0	0	0	1,354	7	15	1,715	1,737	3,091
Other Areas	SL	LL	A	ML	ML	ML	1	5	256	9	21	892	1,184	3	0	1,465	1,468	2,653
Total Acres							***10***	***15***	***2,026***	***9***	***21***	***892***	***2,973***	***23***	***56***	***4,410***	***4,489***	***7,463***

Note: WQRA/FMA = Water Quality Resource Area/Flood Management Areas
P = Prohibit; SL = Strictly Limit; ML = Moderately Limit; LL = Lightly Limit; A = allow
Source: Metro 2003

Table 3-7 (cont.): Fish and wildlife habitat classes and impact areas by development status and development value (inside Metro's jurisdiction)

Fish & Wildlife Habitat Class & Development Value	Option 1A	Option 1B	Option 1C	Option 2A	Option 2B	Option 2C	Developed (urban)			Developed (parks)			Total Devel. Habitat Acres	Vacant			Total Vacant Habitat Acres	Total Devel. & Vacant Habitat Acres
							Inside Title 3 WQRA	*Inside Title FMA*	*Outside WQRA/ FMA*	*Inside Title 3 WQRA*	*Inside Title 3 FMA*	*Outside WQRA/ FMA*		*Inside Title 3 WQRA*	*Inside Title 3 FMA*	*Outside WQRA/ FMA*		
Impact Areas																		
High	LL	LL	A	LL	A	A	76	123	698	0	0	0	897	39	48	391	478	1,375
Medium	LL	LL	A	LL	LL	A	154	34	1,429	0	0	0	1,617	109	5	709	824	2,440
Low	LL	LL	A	LL	LL	LL	402	45	6,596	0	0	0	7,043	96	12	1,524	1,631	8,674
Other Areas	LL	LL	A	LL	LL	LL	52	6	801	103	143	1,005	2,109	37	2	1,084	1,123	3,232
Total Acres							***684***	***208***	***9,523***	***103***	***143***	***1,005***	***11,665***	***280***	***68***	***3,708***	***4,056***	***15,721***
Grand Total							***3,792***	***3,678***	***21,265***	***5,926***	***4,962***	***14,368***	***53,990***	***6,890***	***3,293***	***31,783***	***41,965***	***95,956***

Note: WQRA/FMA = Water Quality Resource Area/Flood Management Areas
RC/WH = riparian corridor, wildlife habitat; WH = upland wildlife habitat
P = Prohibit; SL = Strictly Limit; ML = Moderately Limit; LL = Lightly Limit; A = allow
Source: Metro 200

CHAPTER FOUR: ANALYSIS OF REGULATORY PROGRAM OPTIONS

Six regulatory options are under consideration for land classified as regionally significant habitat, as described in Chapter Three. Five potential regulatory treatments are applied in each of the options, ranging from allowing conflicting uses to prohibiting conflicting uses in habitat areas. The potential consequences of applying these treatments to fish and wildlife habitat are considered and evaluated with 19 criteria identified by the Metro Council in October 2003. The criteria are based on the results of the Phase I ESEE analysis. Seventeen criteria are derived from the economic, social, environmental, and energy tradeoffs and two additional criteria consider how well the six regulatory options would assist in meeting the requirements of the federal Endangered Species Act and the Clean Water Act. Table 4-1 below describes the evaluation criteria.

Table 4-1. Evaluation criteria.

Economic factors	Description
1. Supports the regional economy by providing development opportunities (such as residential, commercial, industrial)	The regional economy depends on urban development. Metro identified priorities for urban development based on land value, employment potential and regional growth management priorities (2040 Growth Concept).
2. Supports economic values associated with ecosystem services (such as flood control, clean water, recreation and amenity values).	Stream corridors and upland wildlife habitat provide have economic value. Higher value habitat provides more ecosystem services.
3. Promotes recreational use and amenities	Focuses on the recreational benefits – both active and passive – of retaining habitat. Options that protect more high quality habitat will help protect the recreational amenity values.
4. Distribution of economic tradeoffs	Highlights land uses (regional zoning) and ownership classes (public vs. private) that would bear a disproportional share of impacts.
5. Minimizes need to expand the urban growth boundary (UGB) and increase development costs.	Describes the effects of program options on the need to expand the urban growth boundary (UGB).
Social factors	
6. Minimizes impact on property owners	Potential regulations have different impacts on residential, business and rural property owners. Options that provide more habitat protection have more impact on property owners.
7. Minimizes impact on location and choices for housing and jobs	Applying regulations to protect habitat may affect the urban land supply and relates to people's basic needs for housing and jobs.
8. Preserves habitat for future generations	Species diversity, environmental quality and the potential economic benefits derived from fish and wildlife habitat are important for people today as well as future generations.
9. Maintains cultural heritage and sense of place	Fish and wildlife habitat provides important values such as cultural heritage (salmon) and regional identity (people move here to enjoy the proximity to the natural environment).
10. Preserves amenity value of resources (quality of life, property values, views)	Fish and wildlife habitat provides amenity values such as quality of life, increased property values and regional attractiveness.
Environmental factors	
11. Conserves existing watershed health and restoration opportunities	Preserving habitat protects existing ecosystem functions (such as clean, cold, reliable water sources) that promote a healthy watershed and retains lower quality habitat for future restoration opportunities.

12. Retains multiple habitat functions provided by forest areas	Forest cover is important to maintain healthy fish and wildlife habitat and a diversity of species in the region. Forested areas may be found in developed areas (such as neighborhoods) and on vacant land. Trees are more likely to be lost in vacant areas than in existing neighborhoods.
13. Promotes riparian corridor connectivity and overall habitat connectivity	Habitat connectivity is important to fish and wildlife. Stream corridor connectivity allows fish to travel safely to upstream areas. Many fish and wildlife species must make seasonal journeys to meet basic needs for food, shelter and breeding.
14. Conserves habitat quality and biodiversity provided by large habitat areas	Large habitats are more valuable to native wildlife than smaller ones because more wildlife species are retained over time. Animals sensitive to human disturbance still have a place to live.
15. Supports biodiversity through conservation of sensitive habitats and species	Some habitats once common are now scarce (such as wetlands, native meadows, white oaks, healthy urban streams). Sensitive species depend on these rare habitats; their loss could significantly impact biodiversity.
Energy Factors	
16. Promotes compact urban form	A compact urban form conserves energy by reducing auto travel times and need for roads.
17. Promotes green infrastructure	Trees and other vegetation reduce energy demand by decreasing water and air temperature, flooding, and air pollution associated with energy use.
Other criteria	
18. Assists in protecting fish and wildlife protected by the federal Endangered Species Act	The Endangered Species Act's ultimate goal is to recover species and conserve the ecosystems upon which they depend so they no longer need regulatory protection. Protecting slopes, wetlands, riparian functions, hydrologic conditions and areas of high habitat value may help species recover and prevent future listings.
19. Assists in meeting water quality standards required by the federal Clean Water Act	Protecting slopes and wetlands, habitat near streams, hydrologic conditions, and forested areas can assist local jurisdictions in meeting the standards of the federal Clean Water Act.

This chapter includes detailed analysis of the performance of the six regulatory program options against the criteria. It includes a ranking of the options for each criterion. All criteria are considered to be of equal weight.

Evaluation of economic criteria

This section of the Phase II ESEE analysis compares the potential economic tradeoffs of the six regulatory programs. Based on the analysis of economic consequences in Phase I, Metro developed five criteria to measure the performance of program options in addressing the potential economic impacts. These criteria are:

1. Supports urban development priorities.
2. Supports economic values of ecosystem services.
3. Supports recreational access and amenities.
4. Distributes economic tradeoffs.
5. Minimizes need to expand the urban growth boundary (UGB).

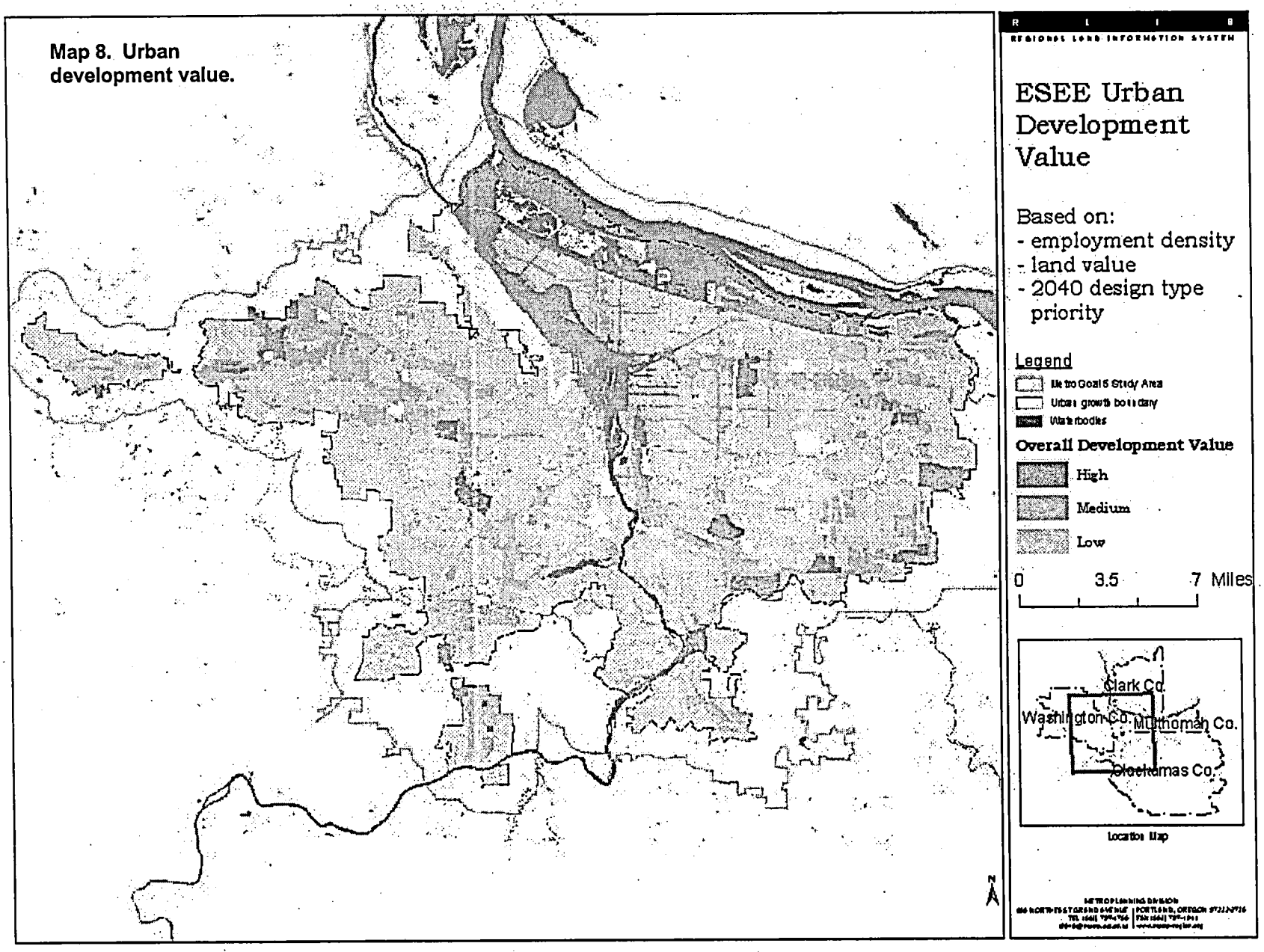
1. Supports urban development priorities.

This criterion uses the land rankings developed in Phase I of the ESEE analysis as a tool to identify where lands with high, medium or low development value are affected by allow, limit, or prohibit treatments under the six regulatory program options.

Not all land has the same economic importance for development. For example, land zoned for parks has less economic importance than land zoned for industrial uses. In Phase I of the ESEE analysis, a method was developed to rank the relative economic importance of land for development, or "development value." Urban lands were ranked into three categories – "high," "medium" and "low" – using three measures: land value, employment density and 2040 design types (based on Metro's 2040 Growth Concept). Land value and employment density describe relative economic importance based on the current land-use and labor demands. The 2040 design type hierarchy ranks land using development priorities as described by Metro's regional goals for future land use and development.

Lands that ranked high scored high on at least one of the three measures. Lands that ranked medium scored medium on at least one of the three measures. Lands that ranked low scored low on each of the three measures. A fourth category of lands, "other lands," describes primarily non-urban lands that are not ranked for development value. Approximately half of these lands are inside the UGB, half are outside. These lands include parks and open space, and agricultural and forestry land. Describing the economic consequences of program options using these measures provides information on current and future economic tradeoffs of protecting fish and wildlife habitat. Map 8 shows the urban development values.

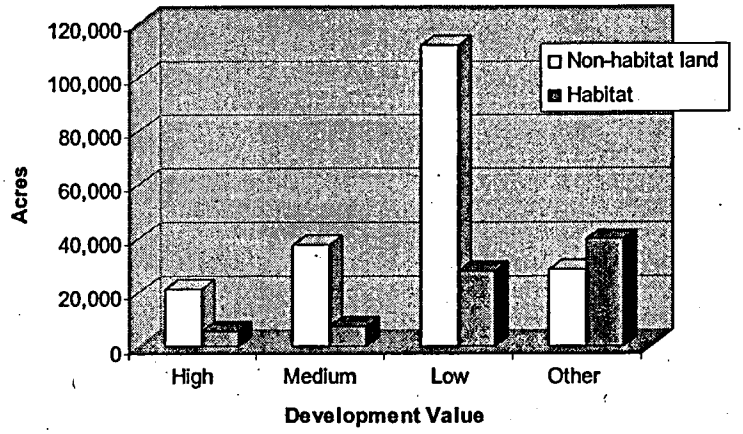
Map 8. Urban development value.



Potential impacts on urban development priorities

The economic analysis for this criterion evaluates urban development values on land containing fish and wildlife habitat. Comparing the acres of land that contain habitat with the total acres of land in Metro's jurisdiction provides insight into the relative magnitude of land affected by the six regulatory program options. Figure 4-1 illustrates the distribution of lands in Metro's jurisdiction (approximately 280,000 acres) by habitat status (non-habitat vs. habitat) and development value (high, medium, low).

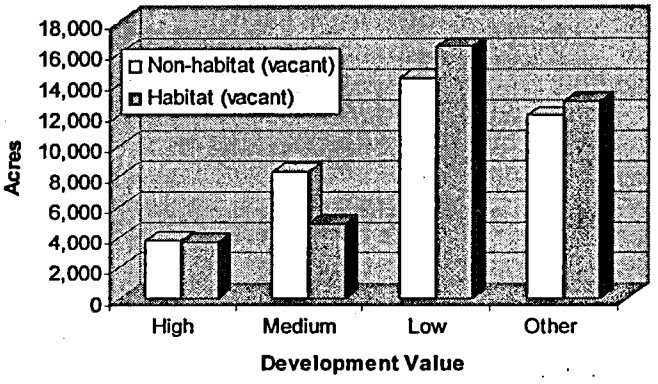
Figure 4-1: Non-habitat and habitat land by urban development value in Metro's jurisdiction.



This analysis assumes that Goal 5 treatments that protect habitat (i.e., prohibit or limit) would restrict urban use and development of these lands and/or increase development costs. About a quarter of the lands in Metro's jurisdiction with high, medium and low development values could potentially be affected by Goal 5 treatments and may have considerable negative consequences for the regional economy. Sixty-three percent of "other" lands in Metro's jurisdiction also contain fish and wildlife habitat. To the extent that program options protect habitat on these lands rather than on urban lands, negative impacts on urban development priorities may be limited.

Goal 5 treatments could impact half of all vacant land in Metro's jurisdiction. Figure 4-2 shows the breakdown of vacant lands in Metro's jurisdiction with and without fish and wildlife habitat. It describes a significant impact because in general, developing vacant land costs less and takes less time than redeveloping land, which makes this land more desirable for expanding urban development priorities. Also, because these lands are currently vacant and more easily developed, the negative impacts of reduced property value, increased development costs, and reduced employment associated with limit and prohibit treatments would begin in the short term.

Figure 4-2: Vacant non-habitat and habitat land by urban development value in Metro's jurisdiction.



Comparing Figure 4-1 with Figure 4-2 shows that a larger proportion of vacant land ranked high and low contain habitat compared with the average for all lands in Metro's jurisdiction.

Figure 4-3 Developed non-habitat and habitat by urban development value in Metro's jurisdiction.

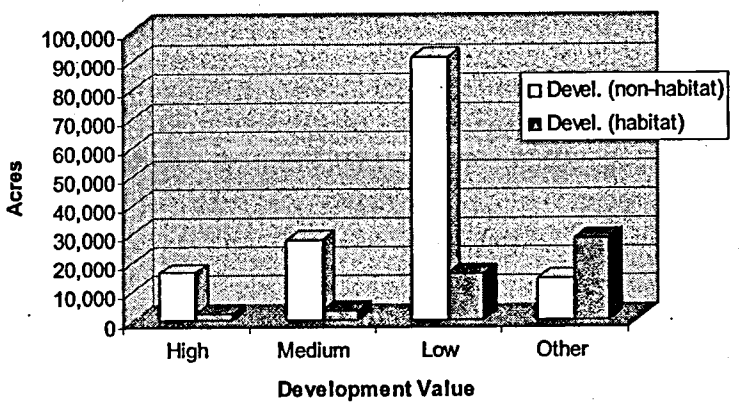


Figure 4-3 illustrates that most developed land in Metro's jurisdiction does not contain fish and wildlife habitat. Limit and prohibit treatments would affect development values on approximately 15 percent of the developed land in Metro's jurisdiction. Negative impacts on property value, development costs and employment would accrue over the long term as redevelopment takes place on these lands.

Protecting habitat acres that otherwise could be developed under current regulations may reduce the developable area of a parcel, which could also reduce the parcel's market value. This result is more likely with strictly limit and prohibit treatments and less likely with lightly limit and moderately limit treatments.

Protection may also require modifying development plans, such as changing access routes or altering a development's configuration. Such changes may increase development costs, which may also negatively impact property values. Limiting developable area or increasing development costs for commercial or industrial sites may also negatively impact the site's employment potential. To the extent that protection limits or prevents developing land uses consistent with the 2040 Growth Concept, these actions may negatively impact the region's long-term planning goals.

Program options with the greatest support for use and development of land would rank highest for this criterion. These options have the greatest number of acres affected by allow, lightly limit and moderately limit treatments. Program options that least support use and development of land would rank lowest. These options have the greatest number of acres affected by strictly limit and prohibit treatments.

Measuring the criterion

Table 4-2 shows the number of acres of habitat land and impact areas in the four urban development categories (high, medium, low and other) affected by allow, limit, and prohibit treatments for the six program options. Habitat acres considered developed, but in park status, are excluded from this table because they generally are not available for urban development.

Table 4-2: Acres of fish and wildlife habitat & impact areas by urban development priorities affected by program options (parks not included).

Treat-ment	Program Options	HIGH Urban Development Value			MEDIUM Urban Development Value			LOW Urban Development Value			Other Areas		
		Dev. urban	*Vacant inside Title 3*	*Vacant outside Title 3*	*Dev. urban*	*Vacant inside Title 3*	*Vacant outside Title 3*	*Dev. urban*	*Vacant inside Title 3*	*Vacant outside Title 3*	*Dev. urban*	*Vacant inside Title 3*	*Vacant outside Title 3*
Allow	Option 1A	0	0	0	0	0	0	0	0	0	0	0	0
	Option 1B	0	0	0	0	0	0	0	0	0	0	0	0
	Option 1C	2,081	135	853	2,785	134	1,643	9,841	148	3,572	1,354	45	2,683
	Option 2A	0	0	0	0	0	0	0	0	0	0	0	0
	Option 2B	2,081	135	853	0	0	0	0	0	0	0	0	0
	Option 2C	2,762	1,621	2,544	2,785	134	1,643	2,798	40	2,048	0	0	0
Lightly limit	Option 1A	897	87	391	1,617	114	709	7,043	108	1,524	859	39	1,084
	Option 1B	2,081	135	853	2,785	134	1,643	9,841	148	3,572	1,354	45	2,683
	Option 1C	331	355	673	617	260	1,235	4,192	507	3,970	955	483	4,215
	Option 2A	2,207	160	1,394	2,992	142	2,444	9,841	148	3,572	859	39	1,084
	Option 2B	681	1,486	1,691	3,402	394	2,878	9,841	148	3,572	859	39	1,084
	Option 2C	0	0	0	1,178	1,828	2,146	11,235	614	5,493	859	39	1,084
Moderately limit	Option 1A	0	0	0	0	0	0	0	0	0	0	0	0
	Option 1B	331	355	673	617	260	1,235	4,192	507	3,970	955	483	4,215
	Option 1C	349	1,132	1,018	561	1,568	911	4,296	3,104	6,746	1,372	2,312	4,266
	Option 2A	273	352	316	510	258	799	4,744	45	7,821	1,138	22	5,092
	Option 2B	0	0	0	561	1,568	911	6,246	534	8,696	1,450	489	5,814
	Option 2C	0	0	0	0	0	0	4,296	3,104	6,746	1,450	489	5,814
Strictly limit	Option 1A	1,243	50	819	1,375	28	1,734	5,488	58	5,143	1,138	22	5,092
	Option 1B	349	1,132	1,018	561	1,568	911	4,296	3,104	6,746	1,372	2,312	4,266
	Option 1C	0	0	0	0	0	0	0	0	0	0	0	0
	Option 2A	282	1,109	833	460	1,562	545	1,502	489	875	834	505	3,859
	Option 2B	0	0	0	0	0	0	2,243	3,077	2,020	1,372	2,312	4,266
	Option 2C	0	0	0	0	0	0	0	0	0	1,372	2,312	4,266
Prohibit	Option 1A	622	1,484	1,334	970	1,820	1,345	5,798	3,593	7,621	1,684	2,779	4,987
	Option 1B	0	0	0	0	0	0	0	0	0	0	0	0
	Option 1C	0	0	0	0	0	0	0	0	0	0	0	0
	Option 2A	0	0	0	0	0	0	2,243	3,077	2,020	850	2,274	1,128
	Option 2B	0	0	0	0	0	0	0	0	0	0	0	0
	Option 2C	0	0	0	0	0	0	0	0	0	0	0	0

Results

Figures 4-5 through 4-8 (at the end of this section) illustrate the findings in Table 4-2 for the four categories of urban development value: high, medium, low, and other lands. Program options that emphasize allow, lightly limit and moderately limit treatments rank higher for this criterion because, for the range of Goal 5 treatments, these would likely have the least negative impact on property values, employment and 2040 design types. Program options that rank higher for high and medium lands are not the same program options that rank higher for low and other lands. Low and other lands, however, account for more acres of land than high and medium lands.

Basic statistics

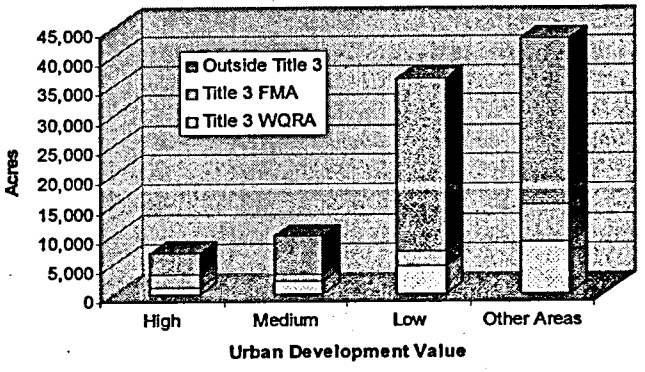
In total the analysis includes 95,956 acres of urban and non-urban fish and wildlife habitat and impact areas. This criterion would affect 53,015 acres of urban lands (ranked for development priority).

- 6,925 acres of land ranked high (habitat land – 5,550 acres; impact areas – 1,375 acres)
- 9,713 acres of land ranked medium (habitat land – 7,273 acres; impact areas – 2,440 acres)
- 36,376 acres of land ranked low (habitat land – 27,702 acres; impact areas – 8,674 acres)
- 42,940 acres of other areas, the non-urban lands that have not been ranked by high, medium, or low development value (habitat land – 39,708; impact areas – 3,232 acres)

Baseline protection (Title 3)

- Title 3 Water Quality and Flood Management Plan currently limits development in Water Quality Resource Areas, and requires specific design standards for development in Flood Management Areas. Any negative impacts of Goal 5 treatments on these lands represent marginal changes in development conditions rather than absolute changes compared with development conditions on the lands without Title 3 regulations. Some local regulations exceed Title 3 protection levels; therefore, the actual marginal changes in development conditions are less than if only Title 3 regulations were considered. However, for reasons stated in Chapter 3, it is not possible to measure the additional increment of land protection beyond the Title 3 baseline for all jurisdictions within the region.

Figure 4-4: Title 3 coverage of habitat & impact areas by urban development value.



- Figure 4-4 shows that Title 3 currently covers almost half of habitat lands with high development values.
- Approximately one-third of habitat lands with medium development values and one-fifth of lands with low urban development values currently receive Title 3 protection.

Potential economic tradeoffs vary by Goal 5 treatments

The extent to which the six program options support urban development priorities depends in part on the mix of allow, limit, and prohibit (ALP) treatments that comprise each program

option. The ALP treatments will affect the amount of land protected, prescribe mitigating habitat damage, and identify guidelines on development design and land division.

- *Protecting Habitat.* The proposed definition of allow, limit, and prohibit (ALP) treatments for protecting habitat range from no additional protection under allow treatments, to protecting 50 percent of a parcel's habitat under lightly limit treatments, and increasing 15 percent for each additional treatment to protecting 95 percent of habitat for prohibit treatments, as described in Chapter 3.

  The potential ALP treatments may have a significantly negative impact on urban development priorities. Even the lowest level of habitat protection may affect at least 50 percent of a parcel's habitat, which may have a commensurate reduction in buildable area. Reducing buildable area by this amount would negatively impact property values, increase development costs or both. For commercial or industrial parcels this restriction could also reduce employment, relative to employment levels without the Goal 5 protection. This level of protection could also inhibit or restrict land uses as described by the 2040 design types.

  Actual impacts on a given parcel would depend on the specifics of the parcel, including the percentage of the parcel that contains habitat. For example, a strictly limit or prohibit treatment on a parcel with 10 percent habitat cover may have less of an impact on urban development priorities than a lightly limit treatment on a parcel with 75 percent habitat cover.

- *Mitigation.* In addition to protecting significant amounts of habitat from development the potential ALP treatments also call for mitigating negative ecological impact of developing habitat lands. Mitigation requirements may increase with increasing protection.

  Mitigation requirements may increase the cost of developing lands that contain habitat, which would negatively impact the urban development priorities. The actual impacts on development costs would depend on the percentage of habitat cover, the negative impacts of development on habitat, and the specifics of the mitigation requirements.

- *Design Guidelines and Land Divisions.* The potential ALP treatments may include locating development as far away as possible from water features and minimizing fragmentation of wildlife habitat. Lightly limit and moderately limit treatments may encourage using low impact development techniques. These treatments may also encourage land divisions that designate habitat as open space. Planned densities will most likely not be affected under lightly and moderately limit treatments. Strictly limit treatments may require low impact development practices and require land divisions for dedicated open space. Prohibit treatments may not allow development.

  Potential ALP treatments that include design standards and land division restrictions may increase development costs. The actual impacts on development costs would depend on the details specific to the parcel and land use.

- *Allow Treatment.* The allow treatment would have no impact on development priorities beyond existing federal, state, or local regulations. Goal 5 would have no incremental or additional impact on lands affected by an allow treatment.
- *Impact Areas.* A majority lands categorized as impact areas are already developed (66 percent). (See Phase I ESEE report for information on impact areas.) These lands would receive allow or lightly limit treatments upon redevelopment.

Potential economic tradeoffs of treatments vary by the development status of lands

The development status of lands would influence the timing of the economic impacts of program options on urban development priorities.

- *Vacant lands outside Title 3.* These lands are currently vacant and are unconstrained by Title 3 (water quality and flood management). However, these lands could be constrained by federal, state, and local regulations, which apply beyond Title 3 boundaries. These lands would likely be developed first and experience the most immediate impacts of program options.
- *Vacant lands inside Title 3.* Development on these lands is constrained by current regulations aimed at protecting water quality and flood areas. Similar to vacant lands outside Title 3, vacant lands inside Title 3 would likely experience economic impacts of program options in the short run. The magnitude of Goal 5 impacts on these lands, however, would likely be less (depending on the strictness of Goal 5 treatments applied) because existing regulations limit development on these lands.
- *Developed urban lands.* Lands classified as developed urban would experience economic impacts of program options through redevelopment or expanding existing land uses. Current Title 3 regulations apply to redevelopment actions, so Goal 5 treatments could result in a marginal increase in development constraints depending on the treatment applied. These impacts would likely occur farther into the future compared with impacts on vacant lands inside and outside Title 3.

Comparison of program options

Lands with high urban development value (See Figure 4-5)

- Option 2C provides the greatest support for lands with high urban development value among the six program options. This result holds for developed lands, vacant lands outside Title 3 and vacant lands inside Title 3.
- In descending order of support for urban development priorities the remaining options rank: 2B, 1C, 2A, 1B, and 1A. Option 1C, which emphasizes habitat protection, performs better under this criterion than does Option 2A, which emphasizes urban development values.
- The ranking of the program options described above applies to developed urban lands and vacant lands outside Title 3. This ranking also reflects the outcome for vacant lands inside Title 3 except that Options 2A and 1B perform similarly rather than 2A dominating 1B.

Lands with medium urban development value (See Figure 4-6)

- Option 2C also performs best for lands with medium urban development value. This result also holds for the three development categories of land.
- The order of the remaining program options for medium value lands under this criterion reflects the order for high value lands except that Option 1C performs better than remaining options in the following order: 1C, 2B, 2A, 1B, 1A.

- The above ranking holds for developed urban and vacant lands outside Title 3. For vacant land inside Title 3 Options 2A and 1B perform comparably rather than 2A performing better than 1B as indicated above.

Lands with low urban development value (See Figure 4-7)

- Option 1C, which was designed to emphasize habitat protection, performs better than the other options under this criterion for lands with low urban development value. This result holds for the three development categories.
- In descending order of support for urban development priorities the remaining options rank: 2C, 2B, 1B, 2A, 1A.
- This ranking holds for developed urban and vacant lands outside Title 3. For vacant land inside Title 3, Options 2B and 1B perform comparably rather than Option 2B performing better 1B as indicated above.

Other lands (See Figure 4-8)

- As with lands ranked low, Option 1C also provides the greatest support for urban development values for other lands. This result holds for the three development categories.
- In descending order of support for urban development priorities, the remaining options rank: 1B, 2C and 2B are comparable, 2A and 1A.
- This ranking holds for developed urban and vacant lands outside Title 3. For vacant land inside Title 3, Option 1B performs similarly to Options 2C and 2B rather than Option 1B performing better than the other two.

Figure 4-5: Comparison of allow, limit, prohibit treatments for HIGH urban development value.

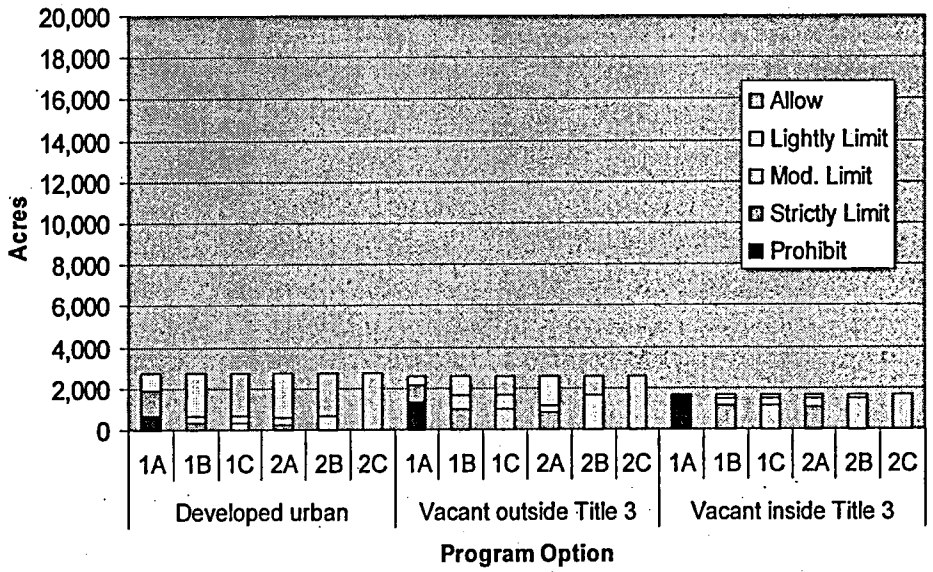


Figure 4-6: Comparison of allow, limit, prohibit treatments for MEDIUM urban development value.

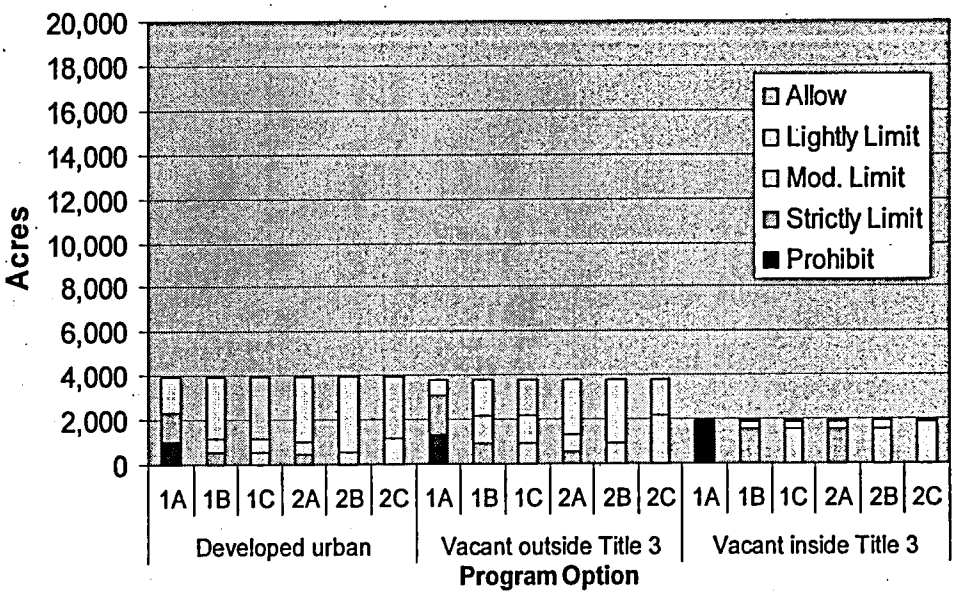


Figure 4-7: Comparison of allow, limit, prohibit treatments for LOW urban development value.

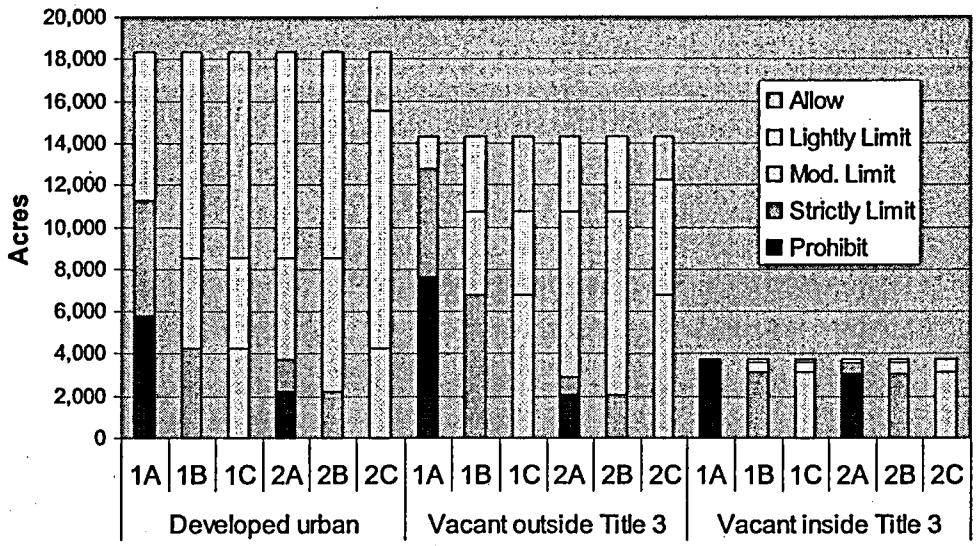
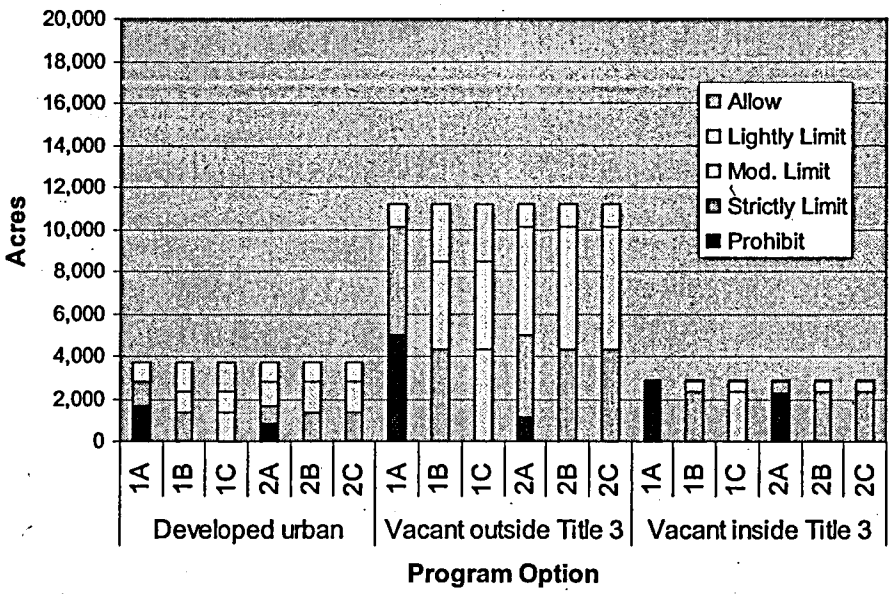


Figure 4-8: Comparison of allow, limit, prohibit treatments for OTHER areas (parks and open space, rural lands).



Summary

Table 4-3 summarizes the ranking of program options based on the outcome for lands with high urban development value. These lands contain the greatest concentration of high valued lands and lands with the highest employment density.

Table 4-3: Performance of options in meeting Economic Criterion 1: supports urban development priorities.

Rank	Option	Performance
1	2C	Option 2C provides the greatest support for urban-development priorities among the six options, as described by the impacts on lands ranked "high." It has the greatest number of acres affected by allow treatments, which have no negative impacts on development, and no acres affected by strictly limit or prohibit treatments.
2	2B	Options 2B and 1C are second to Option 2C in the number of allow acres. 2B has more acres affected by lightly limit than 1C. 2B has zero acres affected by moderately limit, 1C has the most acres affected by moderately limit of any option. For these reasons 2B dominates 1C.
3	1C	Option 1C dominates option 2A because 1C has acres affected by allow treatments. 2A has no allow acres.
4	2A	Option 2A has more lightly limit acres than 1B or 1A. Option 1B has more acres affected by moderately limit and strictly limit than 2A. Option 1A is the only option with acres affected by prohibit treatments.
5	1B	Option 1B dominates 1A because it has more acres affected by lightly limit treatments and no acres affected by prohibit treatments.
6	1A	Option 1A has the greatest negative impact from prohibit treatments and the greatest negative impact overall on urban-development priorities of the six options.

Note that the ranking of program options based on the *average* outcome for the *total acres* in the analysis differs from the ranking in Table 4-3. A summary based on the average for all acres weighs more heavily the impacts on lands ranked low and other lands, because these rankings contain more acres than do lands with high or medium rankings. The ranking of program options based on the average for all acres is: 1C, 2C, 2B, 1B, 2A, 1A.

2. Supports economic values of ecosystem service

The acres of habitat protected by program options help determine the extent to which the options retain ecosystem services and related economic values. Regionally significant fish and wildlife habitat is ranked into six classes based on the amounts and types of ecological functions and wildlife characteristics: Class I-III riparian/wildlife corridors and Class A-C upland wildlife habitat. Areas with more ecological functions and/or areas with functions closer to streams, wetlands, or floodplains rank higher than areas with fewer functions or with functions further away from water features.

Potential impacts on the value of ecosystem services

Metro's inventory and ranking focused on the ecological functions and wildlife characteristics that affect a habitat's biophysical health and wellbeing. Well-functioning habitats also produce ecosystem services that benefit society. Table 4-4 below lists the ecological functions and wildlife characteristics that were considered in ranking of riparian corridors and wildlife areas, the related ecosystem services that benefit society, and where these ecosystem services occur in the inventory classes.

Table 4-4: Ecological functions, wildlife characteristics and related ecosystem services that benefit society.

Ecological function	Ecosystem service	Where ecosystem services occur in Metro's habitat classes
Microclimate shade and cooling	Decreased summer temperatures, which helps reduce energy demand for cooling.	Class I-III riparian/wildlife corridors
Moderated stream flow and improved water storage	Reduced flood damage and flood management costs.	All habitat classes
Bank stabilization and sediment and pollution control	Improved water quality. Reduced demand for water filtration and treatment. Reduced landslides and related damage and clean-up costs.	Class I or II riparian/wildlife corridors
Large woody debris and channel dynamics	Reduced flood damage and flood-management costs.	Class I or II riparian/wildlife corridors
Well-functioning riparian areas in general	Increased amenity and intrinsic values associated with riparian areas.	All habitat classes
Habitats of concern and habitats for unique and sensitive species	Increased populations of salmon and other species and associated increases in commercial, recreational, spiritual and intrinsic values.	Class I riparian/wildlife corridors, Class A upland wildlife habitat
Well-functioning wildlife habitats in general	Increased amenity and intrinsic values associated with wildlife habitat.	All upland wildlife classes and Class I-II riparian/wildlife corridors

Source: ECONorthwest and Metro's inventory and ranking of riparian and wildlife resources.

The analysis of program options and their associated impacts on ecosystem services and related economic values assumes:

- Areas that provide more of the ecological functions and wildlife characteristics illustrated in Table 4-4 provide more ecosystem services and value to society than do areas that provide fewer functions and characteristics.
- Actions that enhance or protect ecosystem services also enhance or protect the economic values associated with those services. Actions that degrade these services will have the opposite effect.

This criterion emphasizes protecting habitats and associated ecosystem services. Criterion 1 emphasizes just the opposite, developing habitat in support of urban development priorities. In general, options that performed well under the Criterion 1, emphasizing urban development priorities, perform poorly under Criterion 2, because they degrade ecosystem functions, wildlife habitat, and the associated ecosystem services listed in Table 4-4. The resulting negative economic consequences over the long term may include:

- Higher summer temperatures with associated increased cooling costs in summer.
- Increased flooding with related property damage, and disruption of commercial, business, and industrial activity, and increased transportation disruptions and costs.
- Increased landslides that may threaten residential, commercial and industrial properties, transportation routes and water quality.
- Decreased water quality and associated increased treatment costs.
- Reduced amenity and intrinsic values associated with habitat and species.

Degrading habitat on a regional scale, such as the lands in Metro's jurisdiction, may generate significant negative economic consequences, especially over the long term. Protecting these resources over the long term may yield economic benefits throughout the region. (See Metro's Phase 1 ESEE Report for information on methods of estimating the value of the affected ecosystem services and the magnitudes of the values.)

Environmental Criterion 1 (conserves existing watershed health and restoration opportunities) describes the impact of program options on the amount and quality of ecosystem functions for riparian and wildlife areas. It is assumed that program options that promote or protect these functions also promote or protect the related ecosystem services and values to society. It is also assume that options that rank high on this environmental criterion will also rank high for related ecosystem services and economic values.

The analysis of program options and their impacts on the value of ecosystem services builds upon the biophysical analysis of ecosystem functions. The ecosystem functions provide the ecosystem services that society values. This criterion describes the impacts of program options on related ecosystem services and values to society. Not incidentally, to assign values to the ecosystem services derived from the biophysical analysis of ecosystem functions does not double count the economic importance of ecosystem functions or ecosystem services. The two analyses— biophysical and economic—are separate, with the economic analysis converting the findings of the biophysical analysis to different units of measurement.

Measuring the criterion

Table 4-5 shows the number of acres of habitat, by habitat class, affected by allow, limit, and prohibit treatments for the six program options. The habitat classes are subdivided for developed and vacant acres. As described in Economic Criterion 1, vacant acres will experience the most immediate impacts of program options. Developed lands will experience impacts of program options through the eventual redevelopment and expansion of existing land uses.

Table 4-5: Retention of ecosystem services by program option (in number of acres of habitat).

Program treatment		Option 1A		Option 1B		Option 1C		Option 2A		Option 2B		Option 2C	
		Developed	Vacant	Developed	Vacant	Developed	Vacant	Developed	Vacant	Developed	Vacant	Developed	Vacant
Class I	A	0	0	0	0	0	0	0	0	0	0	282	1,942
	LL	0	0	0	0	0	0	0	0	282	1,942	460	2,107
	ML	0	0	0	0	15,327	12,549	0	0	460	2,107	2,243	5,097
	SL	0	0	15,327	12,549	0	0	742	4,050	14,585	8,499	12,342	3,402
	P	15,327	12,549	0	0	0	0	14,585	8,499	0	0	0	0
Class A	A	0	0	0	0	0	0	0	0	0	0	67	207
	LL	0	0	0	0	0	0	67	207	67	207	101	372
	ML	0	0	0	0	11,173	8,508	2,154	5,125	2,154	5,125	2,054	4,753
	SL	0	0	11,173	8,508	0	0	8,952	3,176	8,952	3,176	8,952	3,176
	P	11,173	8,508	0	0	0	0	0	0	0	0	0	0
Class II	A	0	0	0	0	0	0	0	0	0	0	273	668
	LL	0	0	0	0	3,986	3,907	0	0	682	1,354	1,911	2,050
	ML	0	0	3,986	3,907	0	0	682	1,354	3,303	2,553	1,801	1,188
	SL	0	0	0	0	0	0	3,303	2,553	0	0	0	0
	P	3,986	3,907	0	0	0	0	0	0	0	0	0	0
Class B	A	0	0	0	0	0	0	0	0	0	0	58	359
	LL	0	0	0	0	5,100	7,789	266	1,168	266	1,168	2,898	3,921
	ML	0	0	5,100	7,789			4,834	6,622	4,834	6,622	2,144	3,509
	SL	5,100	7,789					0	0	0	0	0	0
	P	0	0	0	0	0	0	0	0	0	0	0	0
Class III	A	0	0	0	0	3,766	666	0	0	1,066	48	3,361	530
	LL	0	0	3,766	666	0	0	3,361	530	2,295	482	0	0
	ML	0	0	0	0	0	0	405	137	405	137	405	137
	SL	3,766	666	0	0	0	0	0	0	0	0	0	0
	P	0	0	0	0	0	0	0	0	0	0	0	0
Class C	A	0	0	0	0	2,973	4,489	0	0	118	462	1,789	3,021
	LL	0	0	2,973	4,489	0	0	1,789	3,021	1,671	2,559	0	0
	ML	0	0	0	0	0	0	1,184	1,468	1,184	1,468	1,184	1,468
	SL	2,973	4,489	0	0	0	0	0	0	0	0	0	0
	P	0	0	0	0	0	0	0	0	0	0	0	0

Notes for table 4-5:
Developed: sums parks and urban acres because the focus of this criterion is the retention of habitat irrespective of development status
Vacant: sums constrained and unconstrained acres (by Title 3 baseline regulations) for the same reason above.

Results

Figures 4-9 through 4-11 illustrate the findings in Table 4-5. Program options that protect more fish and wildlife habitat overall, as well as more of the most valuable habitat, rank higher for this criterion.

Figure 4-9: Performance of program options for Class I and Class A habitat.

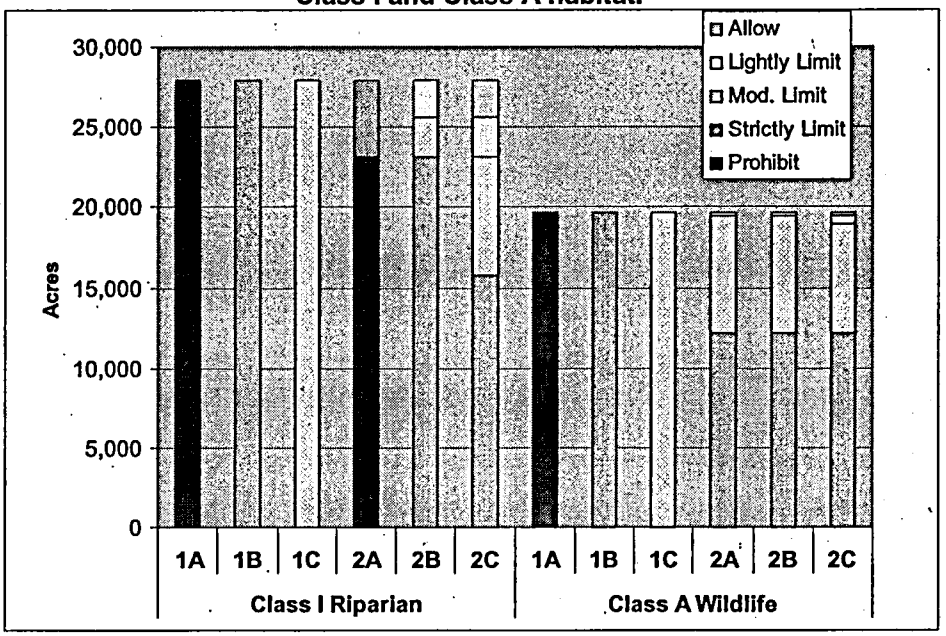


Figure 4-10: Performance of program options for Class II and Class B habitat.

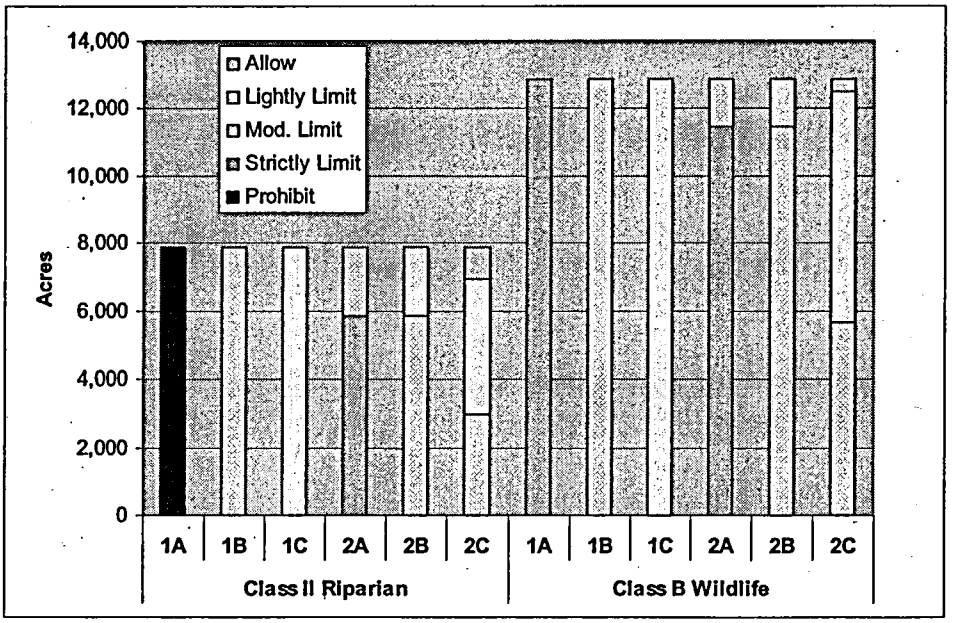
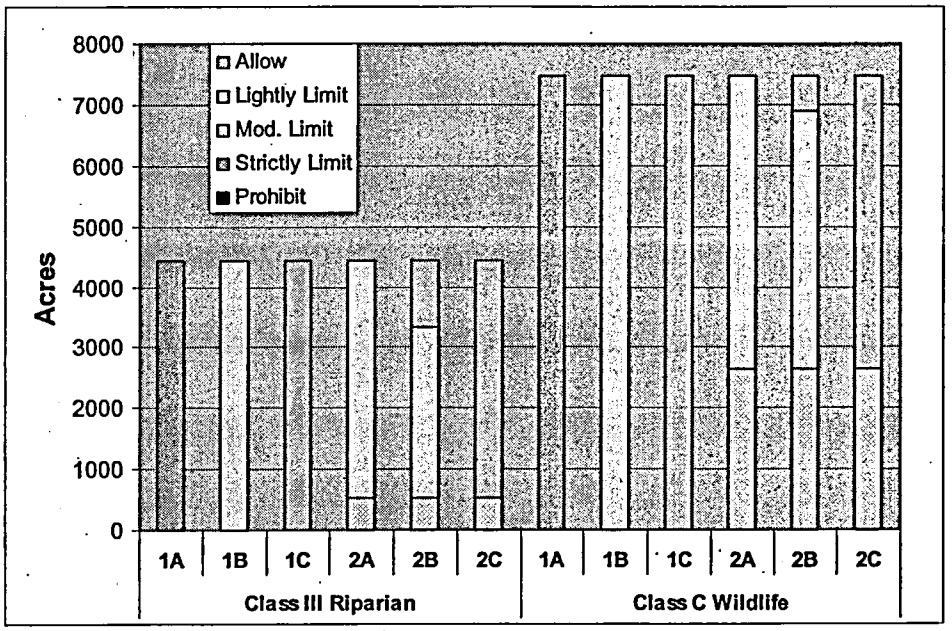


Figure 4-11: Performance of program options for Class III and Class C habitat.



Basic statistics

- This analysis includes 40,201 acres of Class I, II, and III riparian/wildlife corridors and 40,032 acres of Class A, B, and C wildlife habitat.
- The highest quality riparian/wildlife corridors (Class I) account for 69 percent of the total number of acres of riparian habitat.
- The highest quality wildlife habitat (Class A) account for 49 percent of the total number of acres of wildlife habitat.

Baseline protection (Title 3)

- Program options that provide the least protection to habitat lands will, in general, have more negative impacts on Class A, B, and C lands over the long term compared to the impacts on Class I, II, and III lands, because the lands in the latter group receive more baseline protection from Title 3. For example, nearly half of Class I and a quarter of Class II riparian/wildlife corridors are included in Title 3 Water Quality Resource Areas.
- Title 3 Water Quality Resource Areas (WQRA) and Flood Management Areas (FMA) protect 72, 49, and 61 percent of Class I, II, and III lands, respectively (See Chapter 3, *Baseline for Analysis*).
- To the extent that the WQRAs and FMAs also protect the ecosystem services specific to Class I through III habitat lands, they also protect the associated economic values.
- Title 3 provides almost no protection for Class A, B, and C lands or the associated ecosystem services and values. Inside Title 3 protection, Class A lands account for two percent, Class B lands for one percent, and Class C lands for two percent.

Comparison of program options

Class I, II, and III riparian/wildlife corridors

- Option 1A promotes the greatest retention of ecosystem services and associated economic values among the six options for Class I, II, and III lands. This result holds for developed and vacant land in Metro's jurisdiction.
- In descending order of retaining ecosystem services and associated values, the remaining options rank: 2A, 1B, 2B, 2C, 1C.

Class A, B, and C upland wildlife

- The six program options perform similarly for Class A and B lands but not for Class C lands.
- Similar to Class I, II, and III lands, Option 1A promotes the greatest retention of ecosystem services and associated economic values among the six options for Class A and B lands.
- In descending order for lands in Class A and B, the remaining options rank: 1B, 2A = 2B, 2C, and 1C. This ranking applies to developed and vacant land.
- Option 1A also promotes the greatest retention of ecosystem services and associated economic values among the six options for Class C lands.
- In descending order for lands in Class C, the remaining options rank: 2A, 2B, 2C, 1B, 1C. This ranking applies to developed and vacant land.

Summary

Table 4-6 summarizes the ranking of the performance of the program options based on the average outcome for the total acres in the analysis. As a group, Class I, II and III lands cover approximately the same number of acres as the lands in Class A, B and C. Thus, the outcomes for these two groups receive approximately the same weight. The outcomes for the individual classes, however, do not receive equal weights because the number of acres in each class differs. The classes rank in the following descending order based on the acres of lands in the class expressed as a percentage of the total acres in the analysis: Class I (35 percent of total acres), Class A (25 percent), Class B (16 percent), Class II (9 percent), Class C (9 percent), and Class III (6 percent). The results in Table 4-6 reflect the weighting of the results for the individual classes based on these percentages.

Table 4-6: Performance of options in meeting Economic Criterion 2: promotes retention of ecosystem services

Rank	Option	Performance
1	1A	This option provides the greatest retention of ecosystem services and related economic values among the six options. This is true for all classes of habitat and for developed and vacant lands.
2	2A	Comparable to Option 1B in overall retention of ecosystem services and related values. Option 2A retains more higher quality riparian services, while Option 1B retains more higher quality wildlife habitat services.
3	1B	See the description for Option 2A.
4	2B	Performs comparable to Option 2A for Class A and B lands. For all other lands, Option 1B performs better.
5	2C	Performs consistently behind Options 2B, and consistently dominates Option 1C.
6	1C	This option provides the least retention of ecosystem services and related economic values of the six options. This ranking applies for all classes of habitat and for developed and vacant lands.

The proposed Goal 5 guidelines include mitigating adverse impacts of development on habitat resources. Detailed mitigation guidelines have not yet been developed. The site-specific nature of habitat and the impacts of development on the habitat will also influence the type and amount of Goal 5 mitigation that may be required. Given these uncertainties, and the conclusions from Metro's Technical Report for Goal 5 that mitigating habitat damage in urban areas faces considerable challenges, the ranking of program options in Table 4-6 does not reflect the outcome of potential Goal 5 mitigation.

Promotes recreational access and amenities.

This criterion ranks program options based on the extent to which they promote recreational access and amenities. The analysis of this criterion uses data similar to that for the analysis of Environmental Criterion 1 and Economic Criterion 2 – acres of habitat protected. The criterion, however, focuses on the subset of total habitat acres that support recreational opportunities. Metro classifies these lands as parks and open space.

The analysis of this criterion distinguishes between public and private recreational lands because ownership may influence the impacts of program options on recreational access. For example, public ownership implies more open access to recreational opportunities. Private ownership implies that access requires membership or has other restrictions. Public park and open space lands include parks, schools and rights-of-way. Private park and open space lands includes golf courses and cemeteries.

Potential impacts on recreational opportunities

In general, the program options would have a limited impact on the number of acres of recreational and open space lands. This is true for two reasons. First, existing land uses either support recreational use and open space directly (e.g., public parks or golf courses) or support recreation related uses indirectly (e.g., schools). The options would have more limited impacts on the number of acres of these types of land uses compared with the more intensive urban development uses described in Criterion 1. The second reason is that the large majority of the lands in this analysis are publicly owned. Public ownership makes it unlikely (though not impossible) that recreational and open space uses will change significantly in the future.

The options may impact the *quality* of recreational and open space experiences on the lands at issue in this analysis. Options that protect more habitat, and more higher quality habitat, will help protect the recreational related amenity values associated with the habitat. The analysis of program options and their associated impacts on recreational access and amenities assumes:

- Fish and wildlife habitat provide recreation and open space related ecosystem services and values to society. Higher quality habitat provides higher quality ecosystem services and values compared with lower quality habitat.
- Actions that enhance or protect habitat also enhance or protect the recreation and open space related amenities that influence the quality of recreational experiences. Actions that degrade these services will have the opposite effect.
- Program options that protect habitat lands with more restrictive treatments will also promote greater access to recreational opportunities and higher quality recreational experiences. Options that provide less protection will have the opposite effect.

Other lands outside park and open space can contribute to recreational experiences and amenities. For example, bird and fish habitat on non-parklands contribute to the amenity value of bird watching and fishing on parklands. The analysis of Criterion 3 focuses only on parks and open spaces; thus, it likely underestimates the true scope and values of recreational amenities affected by Goal 5 program options.

Measuring the criterion

Table 4-7 below shows the habitat acres that support recreation (25,265 acres) by ownership (public vs. private) and by allow, limit, and prohibit treatments for the six program options.

Table 4-7: Acres in parks and open space lands by ownership and by program treatment

Program Options	Program treatments	Publicly owned	Privately owned	Total acres	Public: % of total	Private: % of total
Option 1A	Prohibit	19,046	2,372	21,418	89%	11%
	Strictly limit	2,076	521	2,596	80%	20%
	Moderately limit	0	0	0	0%	0%
	Lightly limit	950	302	1,252	76%	24%
	Allow	0	0	0	0%	0%
Option 1B	Prohibit	0	0	0	0%	0%
	Strictly limit	17,967	1,959	19,926	90%	10%
	Moderately limit	2,301	692	2,993	77%	23%
	Lightly limit	1,804	542	2,346	77%	23%
	Allow	0	0	0	0%	0%
Option 1C	Prohibit	0	0	0	0%	0%
	Strictly limit	0	0	0	0%	0%
	Moderately limit	17,967	1,959	19,926	90%	10%
	Lightly limit	2,301	692	2,993	77%	23%
	Allow	1,804	542	2,346	77%	23%
Option 2A	Prohibit	10,311	1,185	11,495	90%	10%
	Strictly limit	8,736	1,187	9,923	88%	12%
	Moderately limit	2,076	521	2,596	80%	20%
	Lightly limit	950	302	1,252	76%	24%
	Allow	0	0	0	0%	0%
Option 2B	Prohibit	0	0	0	0%	0%
	Strictly limit	17,967	1,959	19,926	90%	10%
	Moderately limit	3,155	933	4,088	77%	23%
	Lightly limit	950	302	1,252	76%	24%
	Allow	0	0	0	0%	0%
Option 2C	Prohibit	0	0	0	0%	0%
	Strictly limit	17,967	1,959	19,926	90%	10%
	Moderately limit	3,155	933	4,088	77%	23%
	Lightly limit	0	0	0	0%	0%
	Allow	950	302	1,252	76%	24%

Results

Figure 4-12 displays the information from Table 4-7. It shows that the large majority of land at issue in this case is in public ownership. Figure 4-13 shows park lands by quality of habitat and by ownership. The large majority of park lands in this analysis also contains the highest quality fish and wildlife habitat.

Figure 4-12: Performance of program options for parks and open space lands, by ownership.

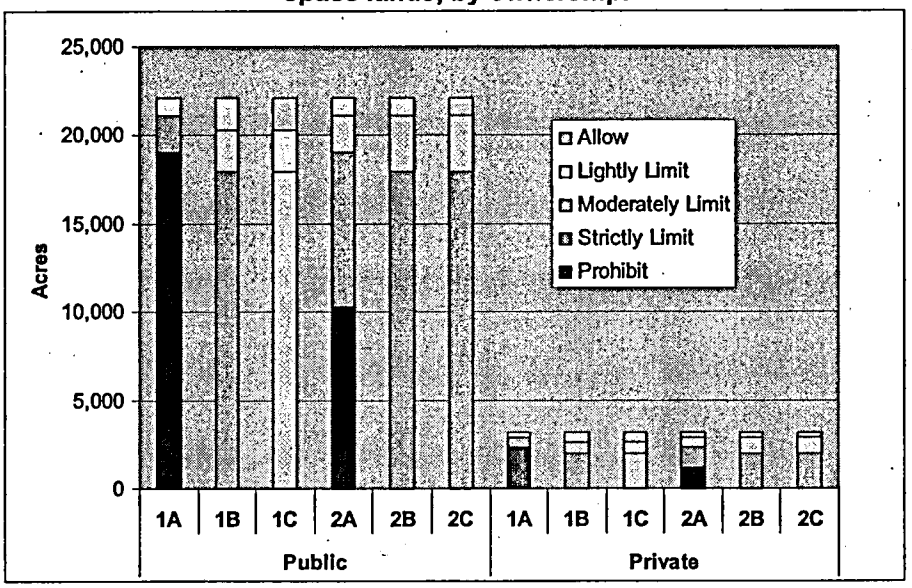
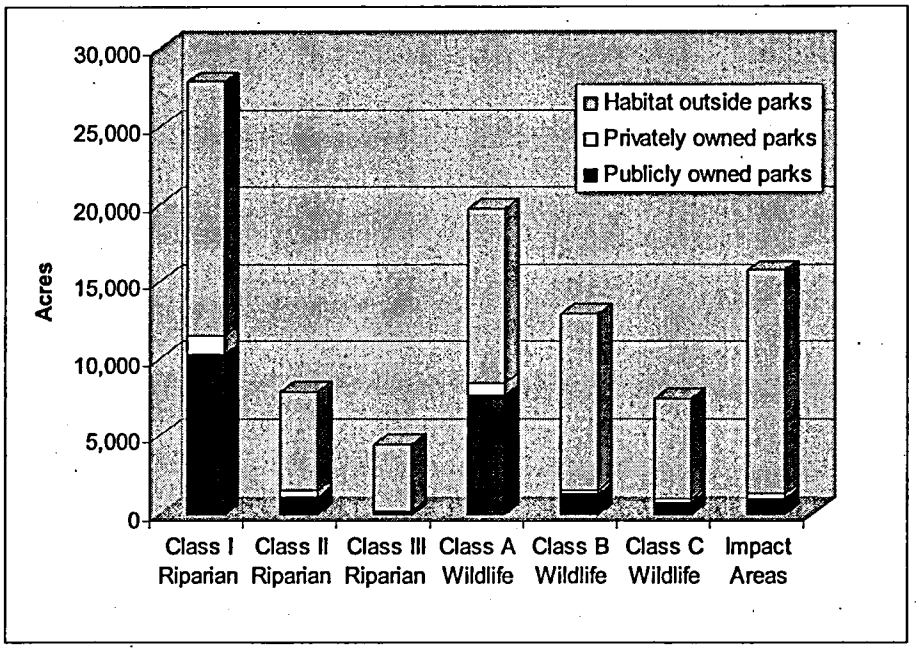


Figure 4-13: Park lands by habitat class and ownership.



Program options that protect more park and open space lands overall will more likely promote recreational access, higher quality recreational experiences and score higher for this criterion. Program options that protect more *public* park and open space lands will more likely promote recreational access with fewer restrictions compared with protecting *private* park and open space lands. The quality of remaining habitat land will also affect the quality of recreational experiences.

Basic statistics

- The analysis for this criterion includes 25,265 acres of park and open space lands.
- 22,071 acres, or 87 percent, are publicly owned; 3,194 acres, or 13 percent, are privately owned.

Comparison of Program Options

Park and open space lands in public ownership

- Option 1A promotes recreational access to the greatest extent of the six program options by protecting over 21,000 acres of public and private park and open space lands with prohibit treatments. Given that the large majority of these lands also contains Class I and Class A habitat, this option also protects habitat lands that provide the highest quality recreational and open space amenities.
- In descending order of promoting recreational access and the quality of recreational amenities, the options rank: 2A, 2B, 1B, 2C, 1C.
- Two of the options that take into account urban development values rather than quality of habitat, 2A and 2B, perform better under this criterion than do options 1B and 1C, which were designed with greater habitat protection in mind.

Park and open space lands in private ownership

- The program options rank the same for privately owned park lands as they do for lands in public ownership.
- Ownership does influence the performance of the less protective treatments of the program options. In general, private lands account for a higher proportion of the less protective treatments compared with their portion of the total park and open space acres. For example, under option 1B, private park land accounts for 23 percent of the lands with moderately and lightly limit treatments. But these lands account for 13 percent of the total park lands. In general, private lands receive a larger percentage of the less protective treatments and a smaller percentage of the more protective treatments relative to public lands.

Summary

Table 4-8 summarizes the ranking of the performance of the program options based on the average outcome for the total acres in the analysis.

Table 4-8. Performance of options in meeting Economic Criterion 3: promotes recreational access and amenities.

Rank	Option	Performance
1	1A	This option promotes the greatest access to recreational opportunities, and highest quality recreational experiences among the six options. This holds for both public and private park lands. This option protects over 21,000 acres with prohibit treatments, the most of any option.
2	2A	This option relies on a mix of prohibit and strictly limit treatments. It performs better than options 1B and 1C, which take habitat protection into account.
3	2B	This option relies on a mix of limit treatments, without allow or prohibit treatments. This option also performs better than options 1B and 1C.
4	1B	This option relies on a mix of limit treatments, without allow or prohibit treatments. Option 2B dominates this option even though both rely on a mix of limit treatments.
5	2C	This option relies on a mix of limit and allow treatments.
6	1C	This option provides the least support for recreational opportunities and quality of recreational experiences among the six options. This holds for both public and private park lands.

4. Distributes economic tradeoffs

This discussion of Criterion 4 has two parts. The first part considers the distributional impacts of program options on property owners as described by public and private land. The second considers the distributional impacts on land use as described by regional zoning types.

The other economic criteria (1, 2, 3 and 5) in this analysis rank program options on a scale, for example, from least to most supportive of urban development priorities. The analysis for this criterion does not emphasize ranking program options because they do not vary significantly by land ownership or regional zone. It focuses instead on describing the extent to which the strictness of program options (e.g., allow vs. lightly limit, or lightly limit vs. moderately limit, etc.) varies by ownership or by regional zone. This criterion highlights property owners or regional zones that would bear a greater burden of the land use impacts that may stem from the more restrictive Goal 5 treatments.

Distribution of impacts by property ownership

This portion of the analysis describes the impact of program options on land ownership as measured by acres of public and private land. Economic Criterion 1 describes the impacts of program options on urban development values. In this criterion, the *distribution* of the impacts of program options on public and private lands that support the urban development values (described in Criterion 1) are examined. Similar to the analysis of Economic Criterion 1, the analysis for this criterion also assumes that the Goal 5 program options that protect habitat would restrict use and development of public and private land. Restrictions are assumed to be more likely with prohibit and strictly limit treatments and less likely with lightly limit or allow treatments.

Measuring the criterion

Table 4-9 shows the breakdown of Goal 5 allow, limit, and prohibit treatments by public and private lands for each program option.

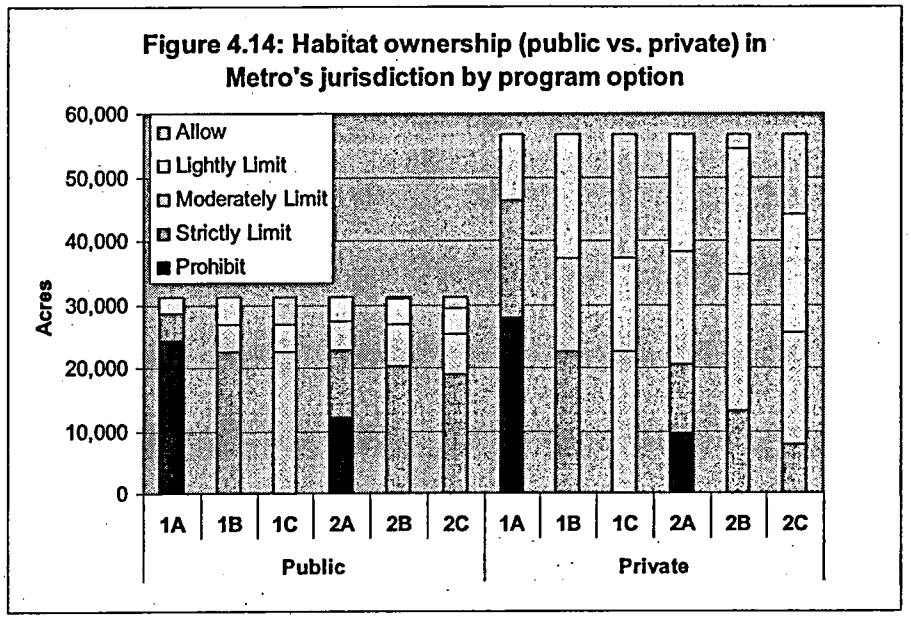
Table 4-9: Habitat and impact area acres by land ownership and program options.

Program	Program	Acres of Resource in Taxlots			% of Resource in Taxlots			% of Treament in Taxlots			% of Ownership in Taxlots		
Option	Treatment	Private	Public	Total*	Private	Public	Total*	Private	Public	Total*	Private	Public	Total*
	P	27,840	24,341	52,182	32%	28%	59%	53%	47%	100%	49%	78%	59%
	SL	18,423	4,156	22,579	21%	5%	26%	82%	18%	100%	32%	13%	26%
	ML	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
	LL	10,491	2,534	13,025	12%	3%	15%	81%	19%	100%	18%	8%	15%
	AL	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
Option 1A	Total*	56,754	31,032	87,786	65%	35%	100%	65%	35%	100%	100%	100%	100%
	P	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
	SL	22,527	22,507	45,034	26%	26%	51%	50%	50%	100%	40%	73%	51%
	ML	14,797	4,245	19,042	17%	5%	22%	78%	22%	100%	26%	14%	22%
	LL	19,431	4,280	23,710	22%	5%	27%	82%	18%	100%	34%	14%	27%
	AL	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
Option 1B	Total*	56,754	31,032	87,786	65%	35%	100%	65%	35%	100%	100%	100%	100%
	P	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
	SL	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
	ML	22,527	22,507	45,034	26%	26%	51%	50%	50%	100%	40%	73%	51%
	LL	14,797	4,245	19,042	17%	5%	22%	78%	22%	100%	26%	14%	22%
	AL	19,431	4,280	23,710	22%	5%	27%	82%	18%	100%	34%	14%	27%
Option 1C	Total*	56,754	31,032	87,786	65%	35%	100%	65%	35%	100%	100%	100%	100%
	P	9,658	12,197	21,855	11%	14%	25%	44%	56%	100%	17%	39%	25%
	SL	10,972	10,525	21,497	12%	12%	24%	51%	49%	100%	19%	34%	24%
	ML	17,495	4,629	22,124	20%	5%	25%	79%	21%	100%	31%	15%	25%
	LL	18,630	3,680	22,310	21%	4%	25%	84%	16%	100%	33%	12%	25%
	AL	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
Option 2A	Total*	56,754	31,032	87,786	65%	35%	100%	65%	35%	100%	100%	100%	100%
	P	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
	SL	13,230	20,256	33,486	15%	23%	38%	40%	60%	100%	23%	65%	38%
	ML	21,456	6,550	28,006	24%	7%	32%	77%	23%	100%	38%	21%	32%
	LL	19,639	3,974	23,613	22%	5%	27%	83%	17%	100%	35%	13%	27%
	AL	2,430	251	2,681	3%	0%	3%	91%	9%	100%	4%	1%	3%
Option 2B	Total*	56,754	31,032	87,786	65%	35%	100%	65%	35%	100%	100%	100%	100%
	P	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
	SL	7,740	18,953	26,693	9%	22%	30%	29%	71%	100%	14%	61%	30%
	ML	17,923	6,319	24,241	20%	7%	28%	74%	26%	100%	32%	20%	28%
	LL	18,291	3,997	22,288	21%	5%	25%	82%	18%	100%	32%	13%	25%
	AL	12,801	1,763	14,564	15%	2%	17%	88%	12%	100%	23%	6%	17%
Option 2C	Total*	56,754	31,032	87,786	65%	35%	100%	65%	35%	100%	100%	100%	100%

* Total habitat acres differ from original number (95,955 acres) because some areas do not have tax lots (e.g., roads).

Results

Figure 4-14 illustrates the findings from Table 4-9.



Basic Statistics

- Privately owned land accounts for 56,745 acres, or 65 percent of the total acres in this analysis.
- Publicly owned land accounts for 31,031 acres, or 35 percent of the total acres in this analysis.

Comparison of program options

- The ranking of program options from least to most restrictive does not vary by property ownership. The program options rank, from least to most restrictive: 1C, 2C, 2B, 1B, 2A, and 1A.
- Even though the rank of program options does not vary by ownership, the degree of restriction does vary by public or private ownership. In general, publicly owned lands bear a higher proportion of the most restrictive Goal 5 treatments than do privately owned lands, relative to the distribution of public and private acres in the analysis. For example, Option 1C, which is the least restrictive option, splits the number of acres affected by the most restrictive treatment (moderately limit) evenly between public and private land (see Table 4.11 below). However, private land accounts for 65 percent, and public land accounts for 35 percent of total acres. If the impacts of the most restrictive treatment were distributed proportionally based on the number of acres of private and public lands in the analysis, private lands would receive approximately 65 percent of the most restrictive treatment and public lands 35 percent.

Table 4-10: Distribution of Allow, Limit and Prohibit Treatments between Private and Public Land for Option 1C.

Treatment	Private Lands (65% of total acres)	Public Lands (35% of total acres)	Total
Prohibit	0%	0%	
Strictly Limit	0%	0%	
Moderately Limit	50%	50%	100%
Lightly Limit	78%	22%	100%
Allow	82%	18%	100%

- The reverse is true for the less restrictive treatments. The less restrictive Goal 5 treatments affect private lands in a proportion greater than their percentage of total acres in the analysis. Public lands receive less-than-proportional impacts from the less restrictive treatments.
- For example, private lands account for 65 percent of the acres in the analysis but account for 78 percent of the acres affected by lightly limit treatments and 82 percent of the acres affected by allow treatments. Public lands, in contrast, account for 35 percent of the acres but 22 percent of the lightly limit treatments and 18 percent of allow treatments.

Distribution of impacts by regional zoning type

In this portion of the analysis, the impacts of program options on land uses in Metro's jurisdiction are described. There are seven regional zones (see Metro's Phase I ESEE report for a description of regional zoning types).

- Single-family residential (SFR)
- Multi-family residential (MFR)
- Mixed-use centers (MUC)
- Commercial (COM)
- Industrial (IND)
- Parks and open space (POS)
- Rural (RUR)

Potential impacts on zoning types

In this part of the analysis, it is assumed that program options that protect habitat would restrict land uses as described by regional zoning types. Land use restrictions are assumed to be more likely with prohibit and strictly limit treatments and less likely with moderately or lightly limit treatments.

The extent to which any one zoning type bears a disproportional share of acres affected by program options, relative to the zoning type's share of total acres in Metro's jurisdiction, are considered. Also described for a given program option are the land uses that receive less restrictive treatments (e.g., moderately limit and lightly limit) and those that receive more (e.g., strictly limit and prohibit).

Measuring the criterion

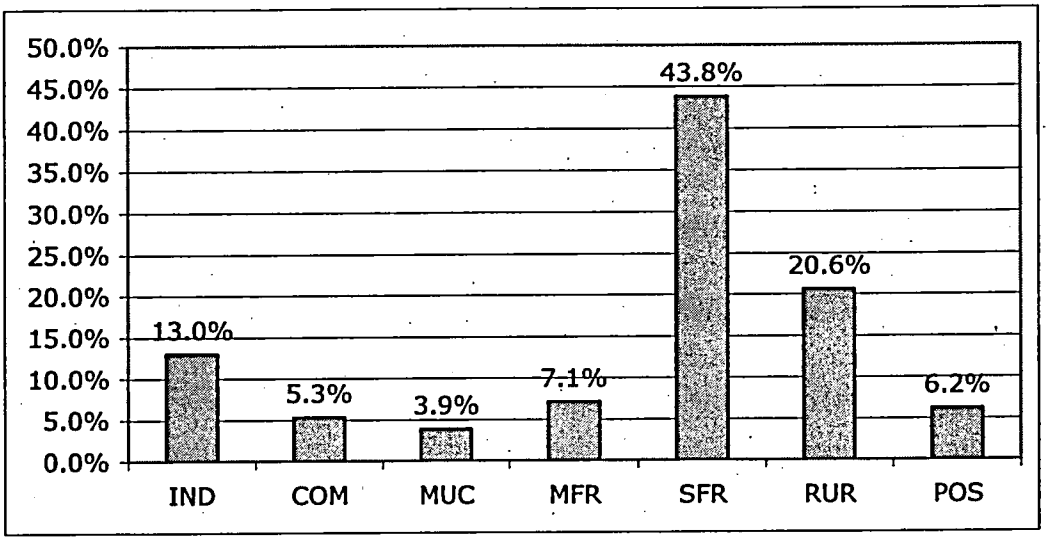
The number of acres in each zoning type affected by allow, limit and prohibit treatments are included in the analysis of social criteria (see Appendix 3 for the tables).

Results

As background to the analysis of the distributional impacts of program options on land uses, Metro considered the extent to which any one zoning type bears a disproportional share of impacts from Goal 5 treatments relative to the zoning type's share of total acres in Metro's jurisdiction. Such an outcome would occur if a zoning type accounts for a larger proportion of the acres affected by a program option relative to the zoning type's proportion of total acres in Metro's jurisdiction.

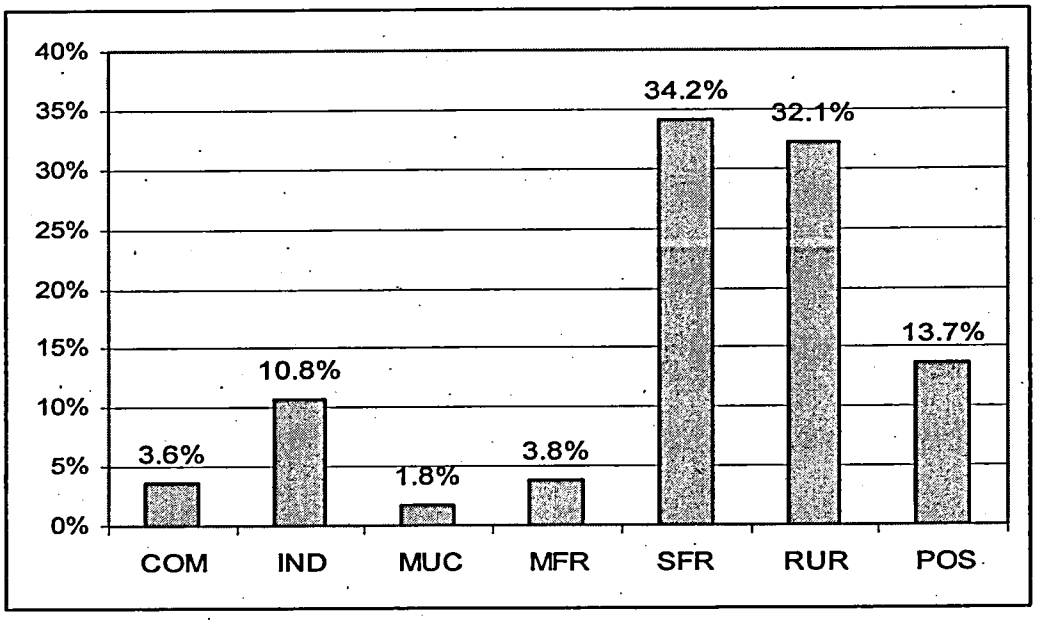
Figures 4-15 and 4-16 illustrate the relevant distributions. Figure 4-15 shows the percentage of total acres in Metro's jurisdiction by zoning type. For example, industrial lands (IND) account for 13 percent of the total acres in Metro's jurisdiction. Figure 4-16 shows the distribution of acres affected by program options, by zoning type. Industrial lands, for example, account for approximately 11 percent of the total acres affected by program options.

Figure 4-15: Percentage of total acres in Metro's jurisdiction by zoning type.



Source: ECONorthwest with data provided by Metro.

Figure 4-16: Percentage of total acres of habitat, by zoning type.



Source: ECONorthwest with data provided by Metro.

Comparing Figures 4-15 and 4-16:

- RUR and POS land uses would carry a disproportional share of the burden of Goal 5 treatments, relative to their share of total acres in Metro's jurisdiction. RUR lands account for approximately 21 percent of land but 32 percent of Goal 5 treatments. POS account for approximately 6 percent of land but 16 percent of Goal 5 treatments.
- Land uses with urban residential and business applications would shoulder a smaller share of the burden of Goal 5 treatments, relative to their proportion of total acres in Metro's jurisdiction. For example, SFR lands account for approximately 44 percent of land but only 32 percent of Goal 5 treatments. IND lands account for 13 percent of land but 11 percent of Goal 5 treatments.
- These results illustrate the interaction between the existing distributions of land uses and riparian and wildlife habitat and describe the *amount* and *type* of acres that would be affected by Goal 5 treatments. The *degree* to which any one program option would restrict land uses depends on the mix of allow, limit and prohibit treatments for that option. The following figures illustrate these impacts.

Figures 4-17, 4-18 and 4-19 from Metro's analysis of social criteria illustrate the findings from the tables that list the number of acres affected by allow, limit and prohibit treatments for residential, business-related and rural land uses. (See Appendix 3.) Figure 4-17 illustrates the impacts of program options on SFR lands. Figure 4-18 shows the impacts on lands with business uses (MFR, MUC, COM, and IND). Figure 4-19 shows the impacts on RUR lands. Figure 4-20, which comes from the analysis of Economic Criterion 3, shows the impacts of Goal 5 treatments on park lands.

Figure 4-17. Impact of options on households (developed & vacant SFR): 26,521 acres total.

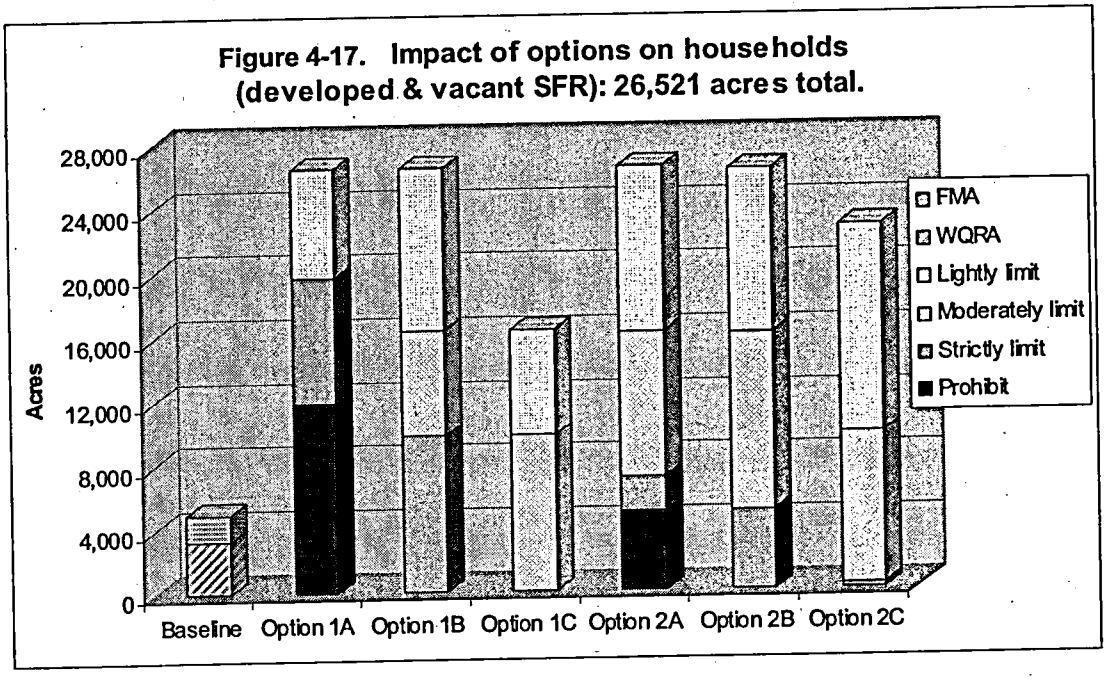


Figure 4-18. Impact of options on businesses (developed & vacant MFR, MUC, COM & IND): 15,857 acres total.

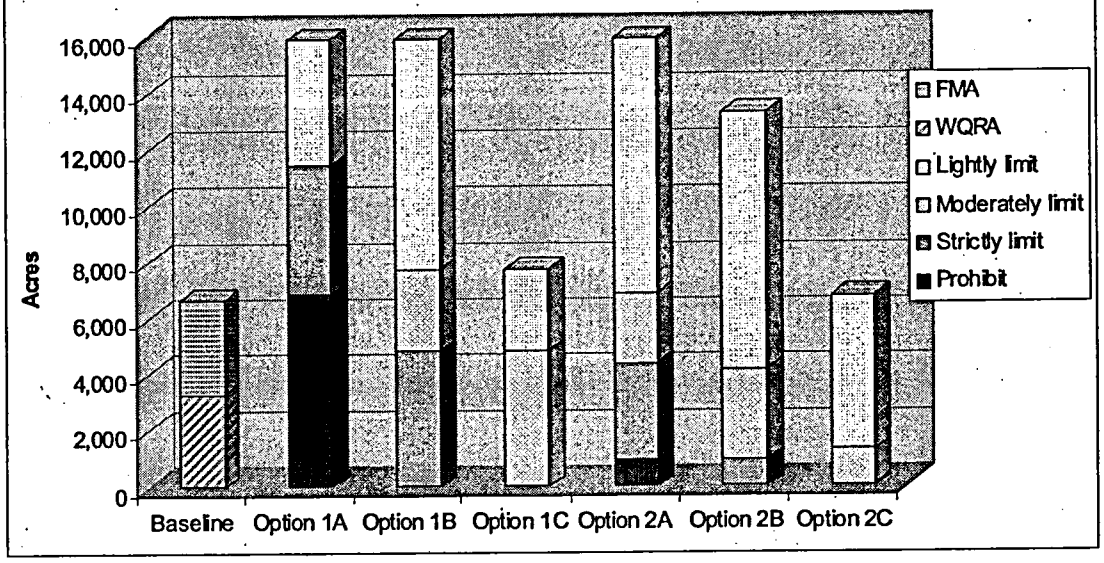


Figure 4-19. Impact of options on rural areas (developed & vacant): 26,459 acres total.

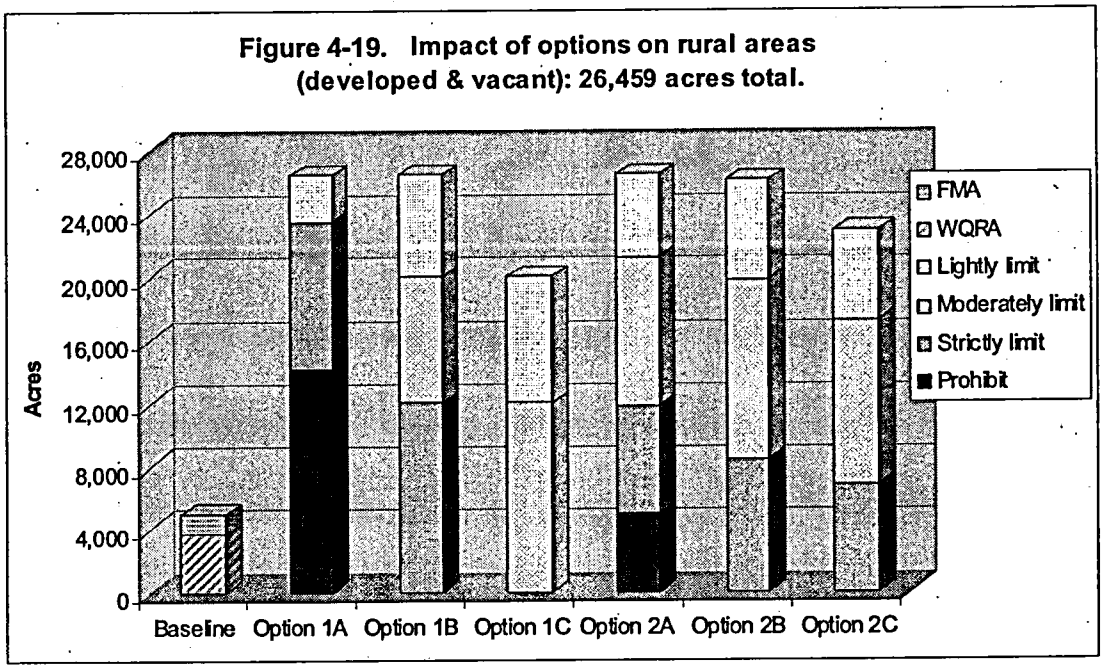
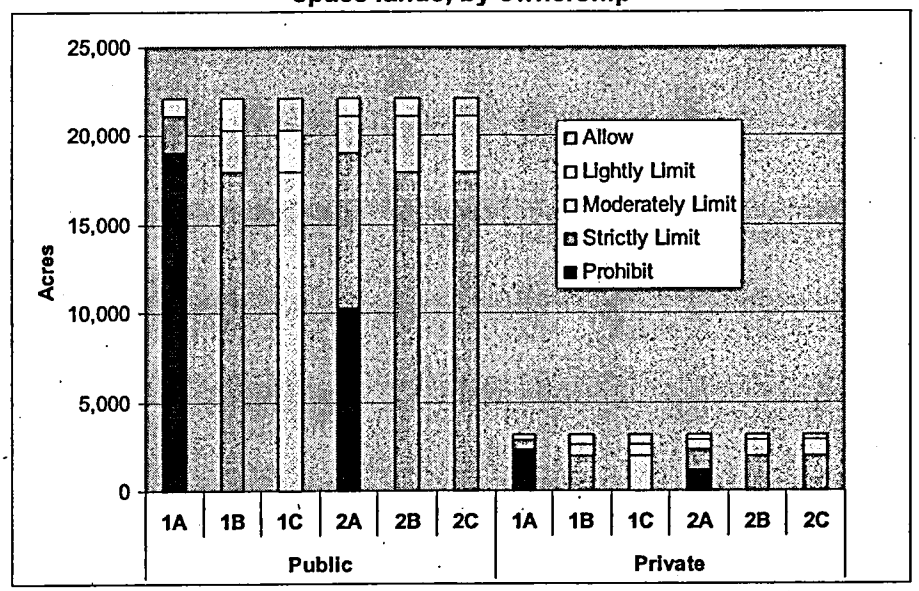


Figure 4-20: Performance of program options for parks and open space lands, by ownership



Basic Statistics

The number of acres that Goal 5 treatments would affect, by regional zone:

- SFR 26,521 acres
- MFR 2,886 acres
- MUC 1,625 acres
- COM 2,124 acres
- IND 9221 acres
- POS 13,118 acres
- RUR 26,460 acres.

Comparison of program options

- The ranking of program options, from least to most restrictive, varies little for residential, business-related, or rural land uses. In general, the program options that would restrict SFR lands the most would also restrict business-related (MFR, MUC, COM, IND) and rural (RUR) land uses the most.
- The ranking of program options for residential, business-related and rural land uses, from least to most restrictive, is 1C, 2C, 2B, 1B, 2A, and 1A. The only exception to this ranking is that for MUC and IND, 2C dominates 1C as the least restrictive option.
- The ranking of program options varies slightly for parks (POS) relative to the other regional zones. The ranking for POS, from least to most restrictive, is 1C, 1B, 2B, 2C, 2A, and 1A.
- Even though the rankings of program options would vary little among the regional zones, the limitations the program options would place on land uses would vary by regional zone. In general, the Goal 5 treatments under Criterion 4 would favor business-related land uses over POS, RUR, and SFR land uses. The non-business related land uses (POS, RUR, and SFR) would typically receive more restrictive Goal 5 treatments than would business-related

land uses (MFR, MUC, COM, IND), for a given program option. For example, for option 1C, approximately 38 percent of SFR lands would receive an allow treatment. For COM lands, 52 percent would receive an allow treatment. Option 1C ranks as the least restrictive option for both SFR and COM. See Table 4-11.

Table 4-11: Distribution of allow, limit and prohibit treatments for Option 1C by regional zone.

Treatment	SFR	MFR	MUC	COM	IND	POS	RUR
Allow	38%	52%	47%	52%	52%	9%	24%
Lightly Limit	25%	18%	19%	21%	17%	8%	30%
Moderately Limit	37%	29%	33%	27%	31%	83%	45%
Strictly Limit	0%	0%	0%	0%	0%	0%	0%
Prohibit	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%[1]	100%[1]	100%	100%	100%	100%[1]

1: Total reflects rounding for the percentage by treatment.

- Among the non-business-related land uses, the ranking of regional zones from most restricted to least restricted is POS, RUR, and SFR. This ranking applies for all options.
- IND lands receive the least restrictive Goal 5 treatments of any of the regional zones.
- Among the business-related land uses, the ranking from most to least restricted is (in general) MFR, MUC, COM, and IND. This ranking applies primarily for options 2A, 2B and 2C. For example, for option 2C, approximately 71 percent of IND lands would receive an allow treatment. The comparable figures for the other business-related land uses are 25 percent for MFR, 49 percent for MUC, and 46 percent for COM. See Table 4-12.

Table 4-12: Distribution of allow, limit and prohibit treatments for Option 2C, by Regional Zone.

	SFR	MFR	MUC	COM	IND	POS	RUR
Allow	14%	25%	49%	46%	71%	0%	13%
Lightly Limit	49%	50%	47%	42%	26%	5%	21%
Moderately Limit	36%	25%	4%	12%	2%	12%	40%
Strictly Limit	1%	0%	0%	0%	0%	83%	26%
Prohibit	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%[1]	100%	100%

1: Total reflects rounding for the percentage by treatment.

5. Minimizes need to expand the urban growth boundary (UGB).

In this discussion of Criterion 5, the effects of the program options on the need to expand Metro's urban growth boundary (UGB) are described. The program options that would have the least impact on the need to expand the UGB rank higher for this criterion.

Potential impacts on the need to expand the UGB

State land use laws require that Metro's UGB accommodate anticipated population and employment growth over the next twenty years. As the area's population grows and urban development intensifies, pressure to expand the UGB increases. By how much and where to expand the UGB depends on a variety of factors including population distribution, the suitability of land on the urban fringe, and the intensity of in-fill development within the existing UGB. The program options that protect riparian and wildlife habitat to a greater extent may also decrease the amount of developable land available inside the UGB. As the amount of developable land inside the UGB decreases, the likelihood that the UGB will expand in response to population and development growth increases.

Previous expansions of the UGB and related developments provide a context for the analysis of the impacts of program options on the need to expand the UGB. Metro's UGB expansions and related developments include:

- In 1995, the Metro Council adopted the 2040 Growth Concept, which anticipated adding 15,000 to 19,000 acres to the UGB over 50 years.
- In 1998-99, Metro added 4,000 acres to the UGB.
- In May of 2002, voters approved ballot measure 26-29, which prohibits higher densities in existing neighborhoods. Increasing urban densities as a means of avoiding or minimizing UGB expansions cannot target existing neighborhoods and will focus instead on downtown city centers and transportation corridors.
- In December of 2002, Metro Council added 18,638 acres to the UGB, with 2,851 of these acres dedicated to employment needs.
- Metro's current deliberations on UGB expansion include a proposal to add 2,000 acres targeting industrial use.

The assumption is made in this criterion that the program options which would restrict to a greater extent the development of vacant lands would increase the likelihood of expanding the UGB. Impacts on vacant land would have the most immediate impact on vacant land because these lands provide the greatest development opportunities.

Program options that increase the likelihood of expanding the UGB may also contribute to sprawl related economic consequences, such as increased travel times, increased vehicle miles traveled with associated increased concentrations of air pollutants, and increased costs of extending or expanding roads, water and sewer infrastructure. Program options that minimize UGB expansions by promoting development within the existing UGB may minimize sprawl related costs but may generate other economic consequences. For example, developing lands within the existing UGB, at the expense of riparian and wildlife habitat, would reduce the concentrations or availability of habitat related ecosystem services near population centers. In

effect, development would push these resources and associated ecosystem services further out to the urban fringe away from employment and population concentrations.

Measuring the criterion

Table 4-2 in Criterion 1 (supports urban development priorities) shows the number of acres of lands in the four urban development categories (high, medium, low, and other) affected by allow, limit, and prohibit treatments for the six program options. It also shows impacts by development status including vacant lands inside and outside Title 3 protection. The analysis for this criterion uses the data in Table 4-2.

Results

Comparison of program options

Lands with high urban development value

- Option 2C provides the least restrictive impact on vacant lands inside and outside Title 3 and would have the least likelihood of promoting UGB expansions of the six program options.
- In ascending order of increasing restrictions on vacant lands outside Title 3 and increasing the likelihood of UGB expansions—the remaining options rank: 2B, 1C, 2A, 1B, and 1A. This ranking also reflects the outcome for lands inside Title 3 except that Options 2A and 1B perform comparably rather than 2A performing better 1B.

Lands with medium urban development value

- The results for lands with medium urban development value reflect the outcome for lands with high value.

Lands with low urban development value

- Option 1C performs better than the other options under this criterion in that it would have the least restrictive impact on vacant lands inside and outside Title 3, and would be the least likely to promote UGB expansions of the six program options.
- In ascending order of increasing restrictions on vacant lands outside Title 3, and increasing likelihood of promoting UGB expansions, the remaining options rank: 2C, 2B, 1B, 2A, and 1A. This ranking also reflects the outcome for lands inside Title 3 except that Options 2B and 1B have about the same effect rather than 2B dominating 1B.

Other lands

- Option 1C also performs better under this criterion for park land and rural inside and outside Title 3.
- In ascending order of increasing restrictions on vacant lands outside Title 3, and increasing likelihood of promoting UGB expansions, the remaining options rank: 1B, 2C and 2B are comparable, 2A, and 1A. This ranking also reflects the outcome for lands inside Title 3 except that Option 1B performs similarly to Options 2C and 2B rather than dominating these options.

Summary

Table 4-13 summarizes the ranking of the performance of the program options based on the average outcomes for the total acres in the analysis. This summary weighs more heavily the

impacts on vacant lands ranked low and other lands because these rankings contain more acres of land than do vacant lands with high or medium rankings.

Table 4-13: Performance of options in meeting Economic Criterion 5: minimizes the need to expand the UGB.

Rank	Option	Performance
1	1C	Option 1C provides the greatest support for developing vacant land among the six options and will least likely promote UGB expansions. It has the greatest number of acres affected by allow treatments, which have no negative impacts on development, and no acres affected by strictly limit or prohibit treatments.
2	2C	Option 2C is second only to Option 1C in supporting the development of vacant lands and in the number of acres affected by allow treatments. No acres affected by prohibit treatments.
3	2B	Option 2B supports developing vacant land to a greater extent than does Option 1B because the allow treatments in this option generate no negative development impacts and there are no negative impacts from prohibit treatments.
4	1B	All Goal 5 treatments for Option 1B would have some negative impact on developing vacant land. Option 2B dominates 1B because it has allow treatments for high-valued vacant land. 1B has no allow treatments. This option supports developing vacant land to a greater extent than do Options 2A and 1A primarily because it has no negative impacts from prohibit treatments.
5	2A	Option 2A would have a slightly more negative impact on developing vacant lands, and thus promote UGB expansions to a greater extent, than Option 1B because of the negative impacts associated with prohibit treatments.
6	1A	Option 1A has the greatest negative impact from prohibit and strictly limit treatments and the greatest negative impact overall on developing vacant land of the six options. This option would likely promote UGB expansions to a greater extent than the other options.

Evaluation of social criteria

The Goal 5 process requires local governments to make a decision to allow, limit, or prohibit conflicting uses to protect fish and wildlife habitat based on balancing the consequences of the four ESEE factors. Based on the analysis of social consequences in Phase I, Metro developed five criteria to measure the performance of the six regulatory program options in addressing the potential social impacts. These criteria are:

1. Minimizes impact on property owners,
2. Minimizes impact on location and choices for housing and jobs,
3. Preserves habitat for future generations,
4. Maintains cultural heritage and sense of place, and
5. Preserves amenity value of habitat.

Some of the key questions considered in the analysis were:

- How much of the habitat and impact areas are affected?
- How much of the habitat land is already protected to some extent by the baseline?
- Do the effects differ by habitat class?
- Do the effects differ by urban development values?
- What would be affected by a decision to "allow" or 'lightly limit" the impact areas?

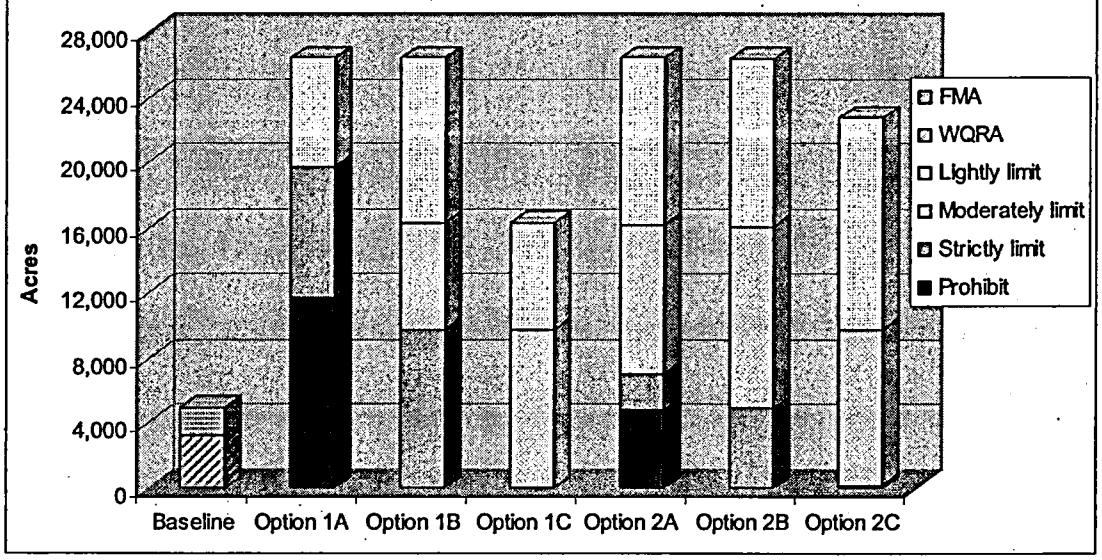
1. Minimizes impact on property owners

Property ownership and land use regulations are sensitive issues central to habitat protection. Landowners may be concerned about impacts to property rights, takings issues, and the distribution of the burden of protecting habitat. Other landowners may be supportive of protection programs despite being personally affected for several reasons including an appreciation of habitat and the wish to see it remain in addition to the increased property values that can result from trees and proximity to water. For this criterion the data is analyzed by three main groups: households, businesses, and rural areas. It should be noted that, because treatments may be applied to only a portion of a lot, and several treatments could apply to the same lot, considering the acres affected by each treatment might produce statistics that tend to magnify potential impacts greater than they likely would be felt. Metro has already stated that potential regulations will not be imposed on particular, buildable lots if the result would be to render such lots unbuildable.

Potential impact on households

For residential land in particular, personal financial security or the right to maintain, develop or redevelop land within the existing regulatory framework could be impacted by a program option. A decision to allow, limit, or prohibit conflicting uses in resource areas has an impact on individual landowners. Thirty-four percent of the habitat lands are located in areas zoned for single-family residential uses, a third of which is in impact areas. Many residential properties are on small lots, thus options impacting more residential land could affect a large number of property owners, when compared to business and rural properties that have large lots. Figure 4-21 shows the distribution of the treatments on residential land (developed and undeveloped) for each option.

Figure 4-21. Impact of options on households (developed & vacant SFR): 26,521 acres total.



Observations

The following observations are made from Figure 4-21 above, and the additional tables included in Appendix 3A.

Basic statistics & baseline protection

- 34 percent (26,521 acres) of habitat and impact areas are SFR.
- A third of the 26,521 acres of SFR land in Figure 4-21 is in impact areas, two-thirds has habitat value.
- SFR lands are distributed across all habitat classes.
- Most SFR lands fall in the low urban development value category.
- Baseline protection only covers a small portion of single-family land, with WQRA restrictions applied to about 10 percent and an additional five percent covered by FMA design guidelines.

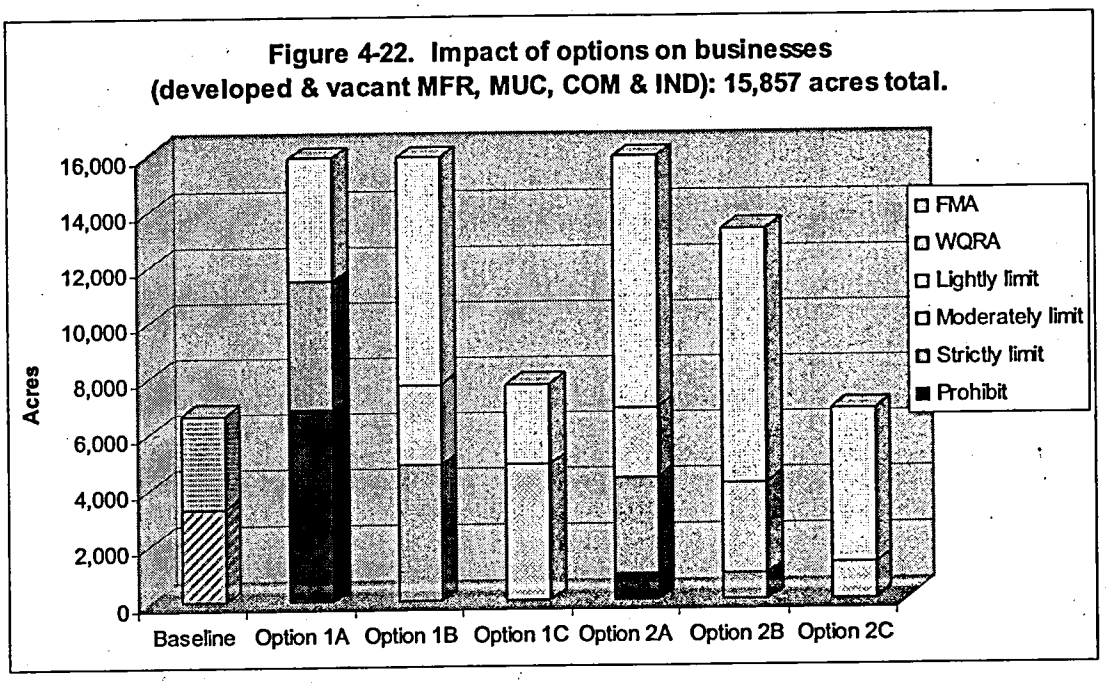
Comparison of options

- The urban development value options (2A-C) apply more stringent treatments to SFR lands than most other zoning types; while the habitat based options (1A-C) apply treatments to zoning types depending on habitat value.
- Option 1C, followed closely by 2C, has the least stringent treatments applied to the largest acreage of land zoned for single-family uses.
- Options 1A, 1B, 2A, and 2B each would apply some type of limit or prohibit decision to ***all*** land zoned for single-family.
- Option 1A would have the most impact on households, applying a prohibit treatment to 40 percent of the land, a strictly limit treatment to about 30 percent, and lightly limit to the remaining 30 percent (the impact areas).

Potential impact on businesses

Land used for business purposes, whether developed or vacant, would also be impacted by any of the regulatory program options. For developed land, the impact would be in the future if a property owner chose to redevelop and was required to follow new regulations. Reducing development opportunities and/or requiring specific habitat friendly development practices could impact vacant land. Restrictions on development could have an overall impact on the regional economy, (see economic criteria). Most business land includes commercial and industrial properties and apartment complexes located on large lots. This reduces the number of property owners potentially impacted. Figure 4-22 below shows the distribution of the treatments on land used for businesses (developed and undeveloped) for each option. Land used for businesses includes multi-family (MFR), mixed-use centers (MUC), commercial (COM), and industrial (IND).

Figure 4-22. Impact of options on businesses (developed & vacant MFR, MUC, COM & IND): 15,857 acres total.



Observations

The following observations are made from Figure 4-22 above, and the additional tables included in Appendix 3.

Basic statistics & baseline protection

- Seventeen percent (15,857 acres) of total habitat and impact areas are zoned for business purposes.
- A third of the 15,857 acres of business land is in impact areas, two-thirds have habitat value.
- Baseline protection covers almost 40 percent of land used for business purposes, with WQRA restrictions applied to close to 20 percent and an additional 20 percent covered by FMA design guidelines.
- About 25 percent of business land contains the highest value riparian and wildlife habitat.

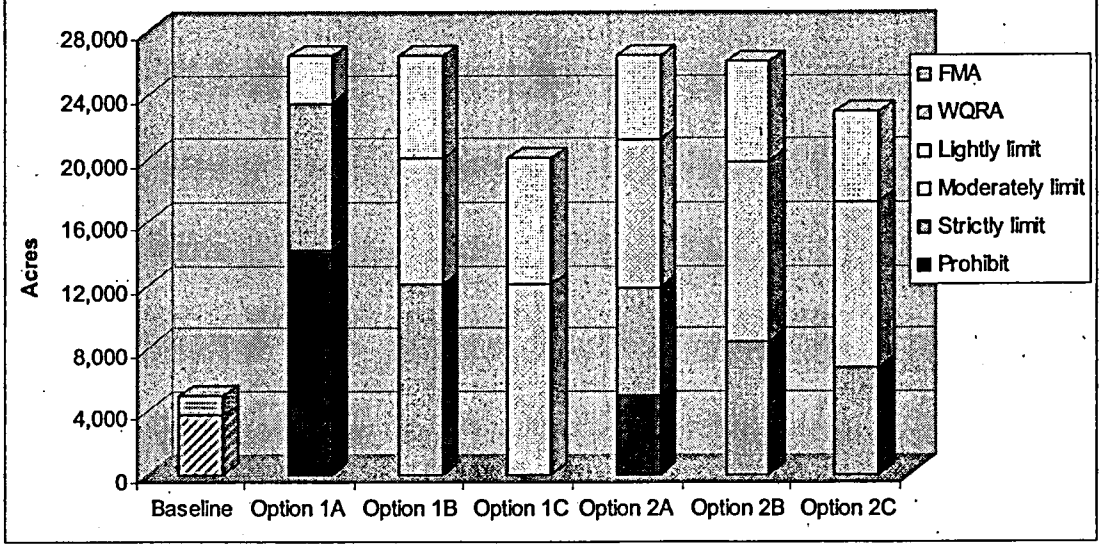
Comparison of options

- The urban development value options (2A-C) apply less stringent treatment to most business land; while the habitat based options (1A-C) apply treatments to zoning types depending on the habitat value.
- Option 2C, followed by 1C, has the least stringent treatments applied to the largest acreage of land zoned for businesses. Over 50 percent of business land receives an allow treatment in 2C.
- Option 2B provides substantially more protection than 1C and 2C, but less than 1A, 1B and 2A since about 20 percent of the land would receive an allow treatment.
- Options 1A, 1B and 2A each would apply some type of limit or prohibit decision to ***all*** land zoned for businesses.
- Option 1A would have the most impact on businesses, applying a prohibit treatment to over 40 percent of the land, strictly limit to about 30 percent, and lightly limit to the remaining 30 percent (impact areas).

Potential impact on rural areas

Much of the regionally significant fish and wildlife habitat falls on rural land, over 26,000 acres. Rural properties tend to be larger than those in other zones, impacting a smaller number of property owners but a large number of acres. Land uses include some residential and a substantial amount of farming and timber production. Farm and forestry practices have special regulations under Senate Bill 1010 and are not regulated by Metro. However, if these properties were urbanized in the future they would be subject to a regional fish and wildlife habitat protection program if those areas were to eventually become urbanized. Figure 4-23 shows how rural areas might be impacted by the six regulatory program options and how much of the rural landscape is covered by the baseline regulations.

Figure 4-23. Impact of options on rural areas (developed & vacant): 26,459 acres total.



Observations

The following observations are made from Figure 4-23 above and the tables in Appendix 3G.

Basic statistics & baseline protection

- Twenty-eight percent (26,459 acres) of total habitat and impact areas are in rural areas.
- About 15 percent of the 26,459 acres of rural land is in the impact area, 85 percent has habitat value.
- Baseline protection only covers about 15 percent of rural land, with WQRA restrictions applied to about 10 percent and close to five percent covered by FMA design guidelines.
- Over 40 percent of rural land contains the highest value riparian and wildlife habitat.
- Urban development values apply to rural zoning with design types that fall inside Metro's urban growth boundary.

Comparison of options

- The urban development value options (2A-C) apply the most stringent treatments to rural areas that do not have a design type; while the habitat based options (1A-C) apply treatments to zoning types depending on the habitat value.
- Option 1C, followed by 2C, has the least stringent treatments applied to the largest acreage of rural land.
- Option 2B would apply an allow treatment to about two percent of rural lands, otherwise it is similar to 1B in the treatments applied.
- Options 1A, 1B and 2A each would apply some type of limit or prohibit decision to ***all*** rural land.
- Option 1A would have the most impact on rural land, applying a prohibit treatment to about 50 percent of the land, strictly limit to about 35 percent, and lightly limit to the remaining 15 percent.

Performance of options

All six regulatory options have some impact on landowners. The options that apply more stringent treatments to a larger part of the landscape have more of an impact than the options that apply lightly limit or allow treatments. The affect of applying the urban development values in Options 2A-C benefits business land substantially more than single-family residential and rural areas. In addition, the Metro Council's commitment not to adopt a program that would render currently buildable lots as unbuildable also moderates, to some degree, the impact that any option would have on property owners.

Table 4-14. Performance of options in meeting Social Criterion 1: minimizes impact on property owners.

Rank	Option	Performance
1	Option 1C	This option affects the fewest property owners with stringent treatments.
2	Option 2C	Most business land receives an allow treatment under this option but a substantial number of residential and rural property owners are affected.
3	Option 2B	Urban development values reduce amount of business land receiving strict treatments but residential and rural areas receive strictly and moderately limit treatments.
4	Option 1B	This option affects the same number of property owners as Options 1A and 2A, but none would receive a prohibit treatment and a larger number would receive lightly limit.
5	Option 2A	Despite applying urban development values, this option affects a large number of property owners with stringent treatments, especially in residential and rural areas.

6	Option 1A	This option affects the most property owners with the highest level of restrictions.

2. Reduces impact on types/locations of jobs and housing

The urban land supply is a social issue because it relates to people's basic needs for housing, jobs and urban services. A constriction of the existing land supply could negatively affect the social needs these lands serve (e.g., housing and employment). An urban growth boundary (UGB) expansion could offset the impacts, but urbanizing rural land spreads the development pattern towards the periphery of the region. This could increase travel times and congestion and could encroach further on fish and wildlife habitat in rural areas.

Potential impact on housing location and choices

Residential zones (SFR and MFR) make up the largest component of buildable land in the fish and wildlife habitat inventory. The types of housing opportunities available may change depending on resource protection. Rather than reduce the number of housing units allowed on a lot, regulations may allow for the same units in a denser configuration, such as rowhouses, condominiums, or apartments. Clustering units on smaller lots in a subdivision may allow fish and wildlife habitat to be preserved. However, these potential changes have social impacts. Many people who might choose to purchase or rent a single-family home with a yard may not view these other housing options as equivalent. The location of the housing is important as well. Housing opportunities closer to existing employment, shopping, and entertainment will not be replaced by residentially zoned land in areas on the urban fringe. Housing affordability may also be affected if protecting fish and wildlife habitat results in changes to the land supply. Figures 4-24 and 4-25 show how the options treat vacant single and multi-family land as compared to the baseline.

Figure 4-24. Treatment of vacant single family habitat land: (11,250 vacant, 15,271 developed acres)

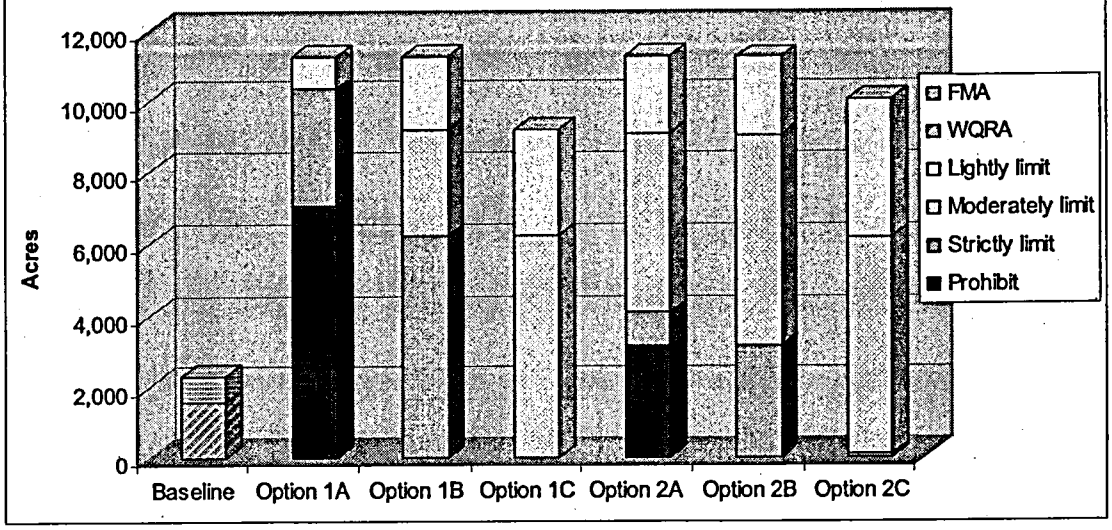


Figure 4-25. Treatment of vacant multi-family habitat land: (1,060 vacant, 2,886 developed acres).

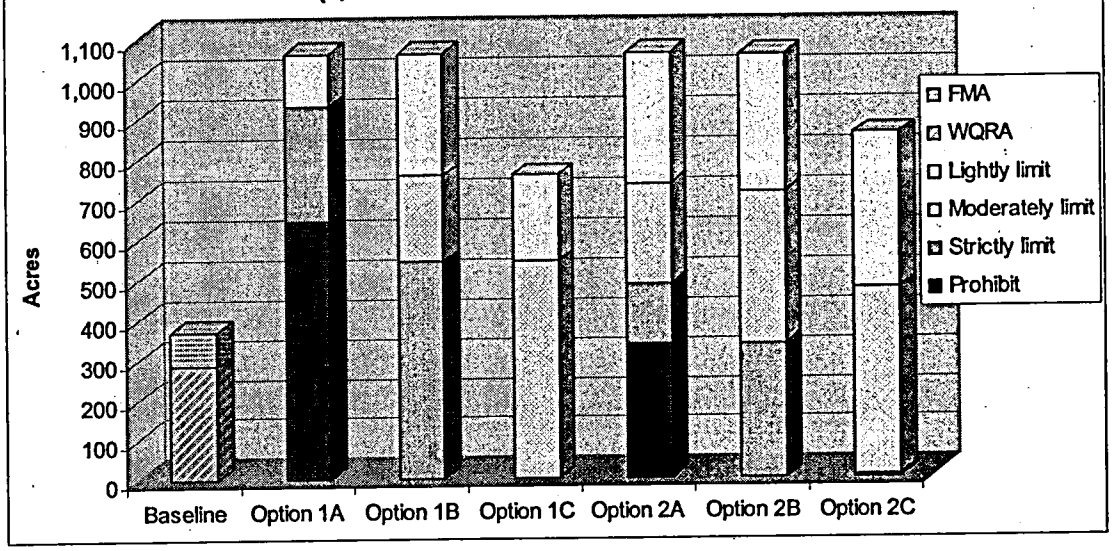


Table 4-15. Vacant residential land: acres potentially affected.

	Status of vacant land	Allow		Lightly limit		Moderately limit		Strictly limit		Prohibit	
		SFR	MFR	SFR	MFR	SFR	MFR	SFR	MFR	SFR	MFR
Option 1A	Inside Title 3	0	0	63	16	0	0	33	7	2,214	348
	Outside Title 3	0	0	851	114	0	0	3,256	278	4,833	297
	% covered by baseline	*0.0%*	*0.0%*	*6.9%*	*12.3%*	*0.0%*	*0.0%*	*1.0%*	*2.5%*	*31.4%*	*54.0%*
Option 1B	Inside Title 3	0	0	85	19	297	47	1,927	304	0	0
	Outside Title 3	0	0	1,960	282	2,676	168	4,304	238	0	0
	% covered by baseline	*0.0%*	*0.0%*	*4.2%*	*6.3%*	*10.0%*	*21.9%*	*30.9%*	*56.1%*	*0.0%*	*0.0%*
Option 1C	Inside Title 3	85	19	297	47	1,927	304	0	0	0	0
	Outside Title 3	1,960	282	2,676	168	4,304	238	0	0	0	0
	% covered by baseline	*4.2%*	*6.3%*	*10.0%*	*21.9%*	*30.9%*	*56.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Option 2A	Inside Title 3	0	0	88	20	39	16	386	86	1,797	249
	Outside Title 3	0	0	2,071	305	4,980	236	572	62	1,318	86
	% covered by baseline	*0.0%*	*0.0%*	*4.1%*	*6.2%*	*0.8%*	*6.3%*	*40.3%*	*58.1%*	*57.7%*	*74.3%*
Option 2B	Inside Title 3	5	1	145	29	362	92	1,797	249	0	0
	Outside Title 3	9	2	2,080	315	5,499	286	1,352	86	0	0
	% covered by baseline	*35.7%*	*33.3%*	*6.5%*	*8.4%*	*6.2%*	*24.3%*	*57.1%*	*74.3%*	*0.0%*	*0.0%*
Option 2C	Inside Title 3	84	8	409	110	1,762	248	55	5	0	0
	Outside Title 3	1,138	193	3,442	276	4,319	219	41	0	0	0
	% covered by baseline	*6.9%*	*4.0%*	*10.6%*	*28.5%*	*29.0%*	*53.1%*	*57.3%*	*100.0%*	*0.0%*	*0.0%*

Observations

The following observations are made from Figures 4-24 and 4-25, and Table 4-15.

Basic statistics and baseline protection

- Thirteen percent of habitat and impact areas comprise vacant residential land (SFR and MFR).
- Baseline protection only covers about 17 percent of vacant single-family land and about 30 percent of multi-family land. More restrictive WQRA restrictions are applied to about 10 percent of SFR land and a little over 20 percent of MFR land. An additional seven percent of SFR and eight percent of MFR are covered by FMA design guidelines.

Comparison of options

- Applying urban development values (options 2A-C) does not substantially change treatments applied to residential land.
- *Minimum impact:* Option 1C, followed by 2C, would apply the least stringent treatments to the largest acreage of residential land (both SFR and MFR). 2,346 acres (SFR & MFR) in option 1C and 1,423 acres in 2C would receive an allow treatment.
- *Maximum impact:* a prohibit designation would affect 7,700 acres in 1A and 3,450 acres in 2A of vacant SFR & MFR.
- Options 1A, 1B and 2A each would apply some type of limit or prohibit decision to ***all*** residential land.
- Option 1A would have the most impact on residential land, applying a prohibit treatment to almost 60 percent of SFR and over 55 percent of MFR, strictly limit to about 30 percent (both SFR and MFR), and the remaining acres would receive a lightly limit treatment.
- Option 2A is more restrictive on MFR than SFR: about 40 percent of MFR is covered by prohibit and strictly limit treatments compared to about 30 percent of SFR.
- As described above, some of the vacant residential land is already covered by baseline regulations that limit housing location and development options. Limit and prohibit treatments would have less impact in those areas.
- All options apply a lightly limit treatment to some portion of the vacant residential land. A small percentage is already covered by baseline regulations in all options, but in options 1C and 2C over 20 percent of MFR land that receives a lightly limit treatment is covered by baseline, reducing the impact.
- All options except for 1A apply a moderately limit treatment to some portion of the vacant residential land. In options 1C and 2C over 50 percent of land receiving a moderately limit treatment is covered by baseline regulations, reducing the impact.
- All options except for 1C apply a strictly limit treatment to some portion of the vacant residential land. In 1A only a small percentage of land receiving strictly limit is covered by baseline, but in all other options the area covered by baseline that receives strictly limit ranges from 31 percent to 100 percent, reducing the impact.
- Only options 1A and 2A apply a prohibit treatment to vacant residential land. A significant portion of the habitat that would receive a prohibit treatment is covered by baseline, especially in 2A with 58 percent of SFR and 74 percent of MFR, reducing the impact.

Jobs

Employment opportunities typically occur on land that is zoned for commercial, industrial, or institutional uses. Vacant land zoned for commercial, industrial, or mixed-use development makes up 28 percent of the land within the fish and wildlife habitat inventory, and almost half is not environmentally constrained. The location of these lands is an important factor in determining the social impact of allowing, limiting, or prohibiting use in these areas. Metro is able to add land to the UGB if employment capacities are reduced due to habitat protection.

However, it is important to consider the social impacts of adding employment land on the urban fringe. Will job opportunities located in newly developed areas be equivalent to lost opportunities located near existing concentrations of housing? Residents choosing to work in locations further from their homes will incur additional travel expenses as well as a reduction in quality of life due to more time spent commuting and away from home. Additionally, the types of jobs may be different, as a company that might choose to locate in an existing commercial or industrial area may not choose to move to a new location. Figure 4-26 graphically depicts the treatments for vacant employment land by option as compared to the baseline. Table 4-16 provides additional information on the existing environmental constraints on vacant employment land and the increment of regulations added by option.

Figure 4-26: Treatment for vacant employment habitat land (COM/MUC/IND): 6,915 acres total.

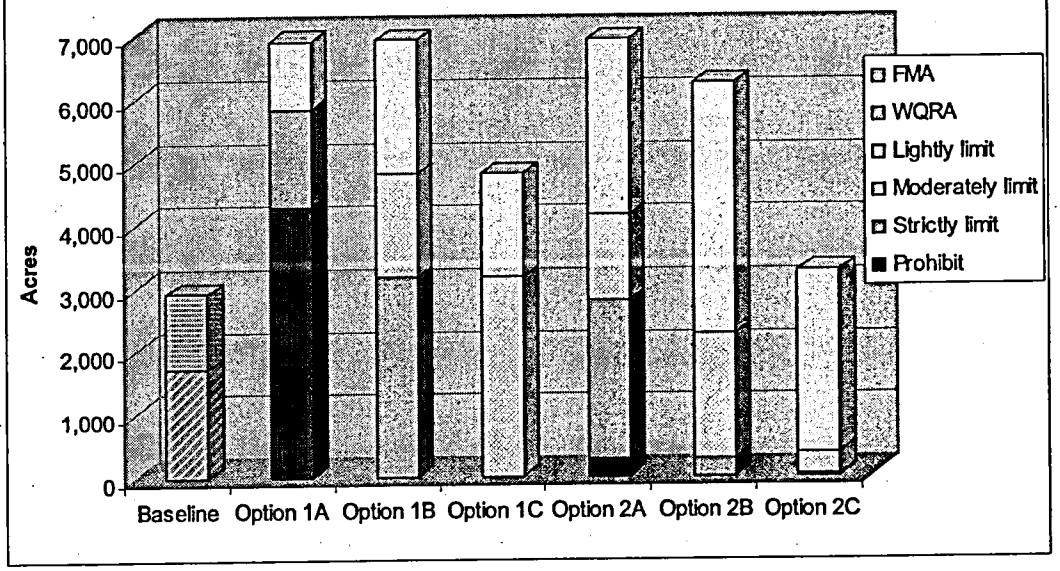


Table 4-16. Vacant employment land: acres potentially affected.

	Status of vacant land	Allow		Lightly limit		Moderately limit		Strictly limit		Prohibit	
		COM/ MUC	IND	COM/ MUC	IND	COM/ MUC	IND	COM/ MUC	IND	COM/ MUC	IND
Option 1A	Inside Title 3	0	0	21	162	0	0	7	78	572	2,077
	Outside Title 3	0	0	229	671	0	0	486	964	599	1,046
	% covered by baseline	*0.0%*	*0.0%*	*8.4%*	*19.4%*	*0.0%*	*0.0%*	*1.4%*	*7.5%*	*48.8%*	*66.5%*
Option 1B	Inside Title 3	0	0	26	235	133	458	442	1,624	0	0
	Outside Title 3	0	0	511	1,328	370	678	433	676	0	0
	% covered by baseline	*0.0%*	*0.0%*	*4.8%*	*15.0%*	*26.4%*	*40.3%*	*50.5%*	*70.6%*	*0.0%*	*0.0%*
Option 1C	Inside Title 3	26	235	133	458	442	1,624	0	0	0	0
	Outside Title 3	512	1,328	370	678	433	676	0	0	0	0
	% covered by baseline	*4.8%*	*15.0%*	*26.4%*	*40.3%*	*50.5%*	*70.6%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Option 2A	Inside Title 3	0	0	28	259	85	442	366	1,514	121	101
	Outside Title 3	0	0	690	1,783	364	479	215	403	46	18
	% covered by baseline	*0.0%*	*0.0%*	*3.9%*	*12.7%*	*18.9%*	*48.0%*	*63.0%*	*79.0%*	*72.5%*	*84.9%*
Option 2B	Inside Title 3	2	120	141	1,224	337	872	121	101	0	0
	Outside Title 3	66	491	799	1,814	405	359	46	18	0	0
	% covered by baseline	*2.9%*	*19.6%*	*15.0%*	*40.3%*	*45.4%*	*70.8%*	*72.5%*	*84.9%*	*0.0%*	*0.0%*
Option 2C	Inside Title 3	86	1,187	393	1,021	120	104	2	4	0	0
	Outside Title 3	561	1,812	650	827	105	41	1	3	0	0
	% covered by baseline	*13.3%*	*39.6%*	*37.7%*	*55.2%*	*53.3%*	*71.7%*	*66.7%*	*57.1%*	*0.0%*	*0.0%*

Observations

The following observations are made from Figure 4-26 and Table 4-16.

Basic statistics and baseline protection

- Seven percent of habitat and impact areas are vacant and zoned for employment (MUC, COM, IND).
- Baseline protection covers about 40 percent of the vacant employment land in the habitat inventory. More restrictive WQRA restrictions are applied to about 20 percent of employment land; about 18 percent is covered by FMA design guidelines.

Comparison of options

- Applying urban development values (options 2A-C) substantially changes treatments applied to employment land.
- *Minimum impact:* Option 2C has the least impact on job location and choices, as it applies an allow treatment to 3,646 acres of vacant employment land.
- *Maximum impact:* Applying urban development values reduces the number of vacant acres that would receive a prohibit treatment from 4,300 in 1A to 286 in 2A.
- Options 1A, 1B and 2A each would apply some type of limit or prohibit decision to ***all*** employment land.
- Option 1A would have the most impact on employment land, applying a prohibit treatment to almost 60 percent, strictly limit to a little over 20 percent, and lightly limit to the remaining 20 percent (impact areas).

- As described above, some of the vacant employment land is already covered by baseline regulations that limit job location and development options. Limit and prohibit treatments would have less impact in those areas
- The urban development value options (2A-C) apply stricter treatments to more land that is already covered by baseline than the habitat-based options (1A-C), reducing the potential impact on jobs.
- Most of the vacant employment land that would receive a prohibit treatment in Option 2A is already covered by baseline regulations. Similarly, in Option 1A a substantial portion of the land that would receive a prohibit treatment is covered by baseline.

Performance of options

All six regulatory options have some impact on housing and job location and choices. The options that apply more stringent treatments to a larger part of the landscape are likely to have more of an impact than the options that apply lightly limit or allow treatments. Applying the urban development values in Options 2A-C benefits employment land more than residential land.

Table 4-17. Performance of options in meeting Social Criterion 2: Jobs and housing location and choices.

Rank	Option	Performance
1	Option 2C	Employment land benefits the most from the application of the urban development values, however residential land would receive almost as the same treatments as in Option 1C.
2	Option 1C	Residential land fares better under this option but employment land is substantially more impacted than in Option 2C.
3	Option 2B	Urban development values affect the amount of employment land receiving stringent treatments; residential land receives some benefit as well.
4	Option 1B	This option applies a similar level of protection to residential and employment land.
5	Option 2A	Employment land fares substantially better than residential land under this option.
6	Option 1A	This option has a significant effect on the location and choices available for jobs and housing.

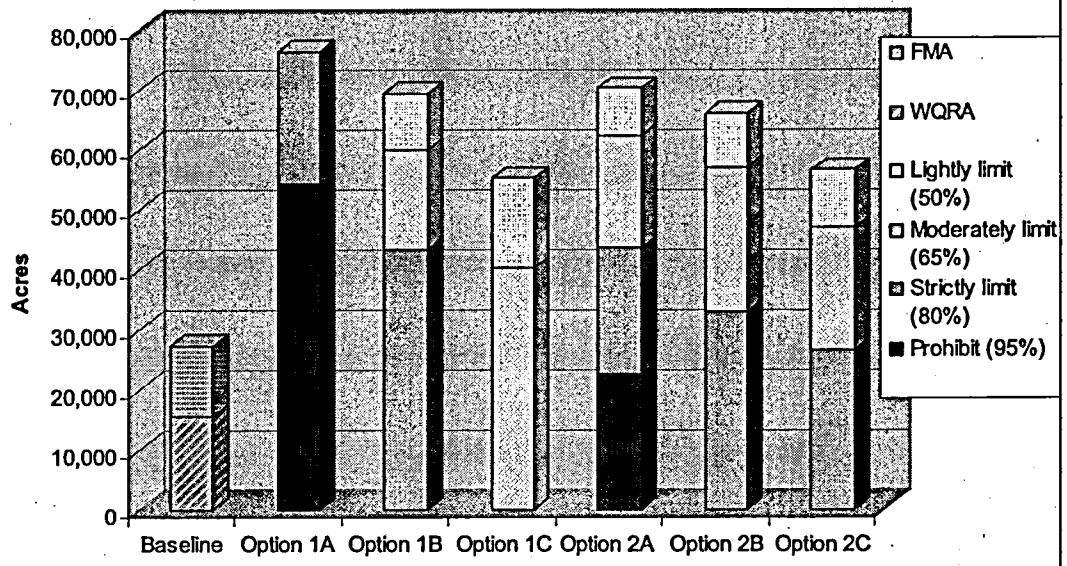
3. Preserves resources for future generations

An important social responsibility for people today is to preserve resources for future generations. The Iroquois Confederacy stated: "In every deliberation, we must consider the impact of our decisions on the next seven generations." This criterion is based on the concept that our children and grandchildren should be able to enjoy the resources we do now, from the perspective of species diversity and environmental quality as well as the potential economic benefits derived from fish and wildlife habitat. An example is the plethora of pharmaceutical applications found in the natural world, from the Amazon jungle to the cancer fighting agents found in the yew tree.

One way to assess the performance of each option in addressing this criterion is the total number of habitat acres protected. An allow treatment can be assumed to protect zero acres and therefore is not shown in Figure 4-27 on the following page, while a prohibit treatment can be assumed to do a substantial job of protecting habitat where applied. The three types of limit protect the habitat to varying degrees.

While the role of restoration is important for the environmental health of the future, Environmental Criterion 1 addresses this. Opportunities for restoration are best addressed by options that protect existing habitat.

Figure 4-27. Potential habitat protected by option (includes developed and vacant land - ALP assumptions applied to vacant land; does not include impact area).



Observations

The following observations are made from Figure 4-27.

Basic statistics and baseline protection

- All habitat land is included in this criterion, 80,234 acres.
- Baseline protection covers about 30 percent of the habitat inventory (not including impact areas), or 27,300 acres. More restrictive WQRA restrictions are applied to about 15 percent of habitat land; about 15 percent is covered by FMA design guidelines.

Comparison of options

- Applying ALP disturbance area assumptions to the base of 80,234 acres results in varying levels of habitat protection. This ranges from a minimum of 41,000 acres protected in Option 1C to a maximum of 72,000 acres in Option 1A.
- Options 1A and 2A would apply the stringent treatments to the most acres, preserving the most habitat for future generations.
- Option 1C leaves the most habitat at risk for loss to future generations.

Performance of options

All six regulatory options protect some habitat for future generations. The options that apply more stringent treatments to a larger part of the landscape would preserve more habitat and potential for restoration.

Table 4-18. Performance of options in meeting Social Criterion 3: Preserves habitat for future generations.

Rank	Option	Performance
1	Option 1A	Preserves the most habitat for future generations by applying strict treatments to all habitat types.
2	Option 2A	Applying urban development values reduces the amount of habitat preserved but this option still protects a substantial amount of habitat.
3	Option 1B	A moderate level of protection is applied across the landscape, focused on high value habitat.
4	Option 2B	Close to the same level of protection as 1B, but more habitat is left unprotected in areas of high urban development value.
5	Option 2C	Habitat in areas of high urban development value is not preserved, more protection than Option 1C.
6	Option 1C	Leaves the most habitat at risk for loss to future generations, also reduces potential for restoration.

4. Maintains cultural heritage and sense of place

Protection of fish and wildlife habitat preserves many important social values. These include our cultural heritage, regional identity, sense of place, and neighborhood character. Opportunities for education abound in areas with healthy fish and wildlife habitat. Part of the region's cultural heritage is the retention of the salmon and other endangered species. The salmon are a ubiquitous symbol for the Pacific Northwest, and a key aspect of Native American culture. It is difficult to measure how well these more ambiguous values are retained by the application of the six potential program options. As a proxy for a more specific quantitative measure, retention of Habitats of Concern and Riparian/wildlife Class I habitat is used to assess how well each option addresses this criterion (the same measurements are used in Environmental Criterion 5). Habitats of Concern are places that have been identified by local field biologists and other experts as providing habitat for critical species, while Class I riparian areas are essential to providing habitat for threatened and endangered salmon.

Figure 4-28. Treatment of Habitats of Concern by option (developed & vacant): 25,822 acres.

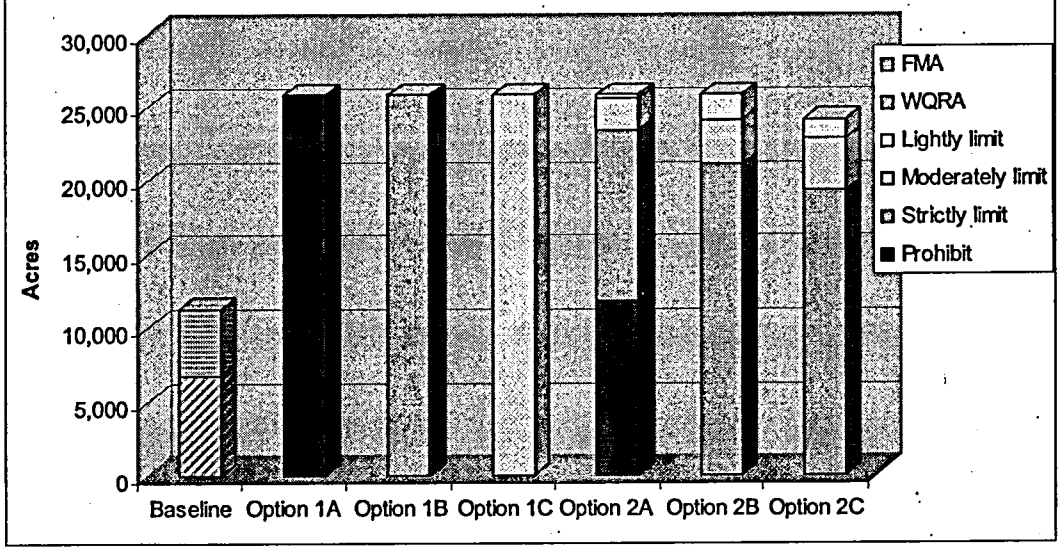
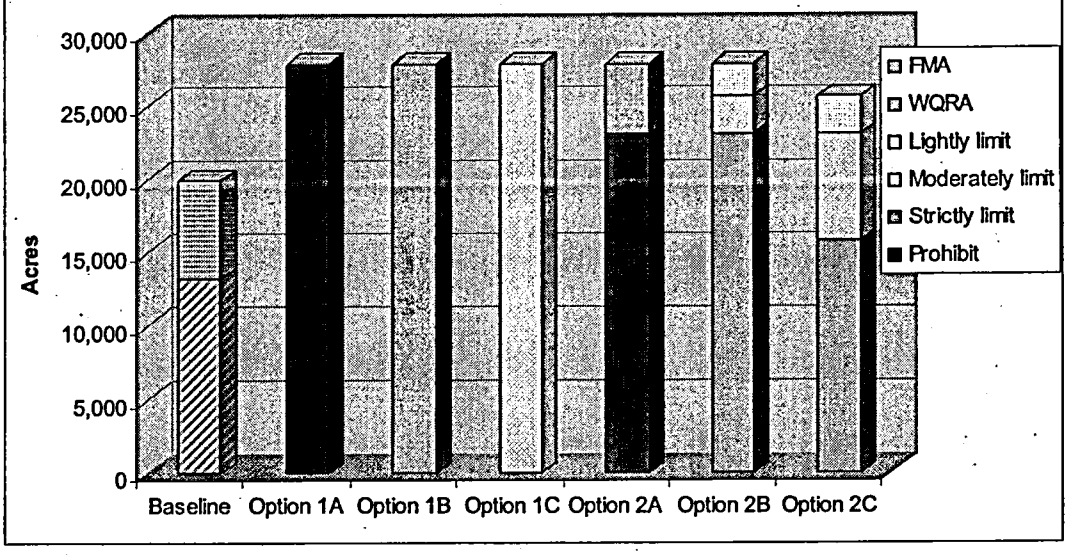


Figure 4-29. Protection level of Class I Riparian/wildlife habitat by option: (developed and vacant) 27,876 acres.



Observations

The following observations are made from Figures 4-28 and 4-29.

Basic statistics and baseline protection

- Class I riparian includes 27,872 acres, Habitats of Concern (HOCs) encompass 25,822 acres. Some of the HOCs are included in the Class I riparian, but it is useful to consider them as a group due to their importance.
- Baseline protection covers about 65 percent of the Class I habitat and about 40 percent of HOCs. More restrictive WQRA restrictions are applied to about 42 percent of Class I and 22 percent of HOCs; FMA design guidelines cover a little over 20 percent of Class I and about 18 percent of HOCs.

Comparison of options

- Option 1A, 1B, and 2A would apply a strictly limit or prohibit treatment to all Class I habitat.
- Applying urban development values leads to loss of a small amount of HOCs and Class I habitat with allow and lightly limit treatments.
- Option 1C would apply the least stringent treatments to the largest amount of HOCs and Class I habitat.

Performance of options

All six regulatory options help to preserve cultural heritage and sense of place. The options that apply more stringent treatments to a larger part of the landscape have more of a positive impact than the options that apply lightly limit or allow treatments.

Table 4-19. Performance of options in meeting Social Criterion 4: Cultural heritage and sense of place.

Rank	Option	Performance
1	Option 1A	Does the best job of preserving cultural heritage and sense of place when measuring the effect on Class I habitat and Habitats of Concern. However, if a prohibit treatment resulted in an expansion of the urban growth boundary the resulting environmental effects could negatively impact cultural heritage and the salmon.
2	Option 2A	Comparable to 1A, however the application of urban development values would result in slightly less protection of cultural heritage and sense of place in areas with high urban development value.
3	Option 1B	Applies a strictly limit treatment to all Class I habitat and Habitats of Concern, providing substantial benefit to salmon and other endangered species but without as much potential for expansion of the UGB.
4	Option 2B	A large amount of Class I and Habitats of Concern receive stringent treatments in this option, with lightly limit applied to areas of high urban development value.
5	Option 2C	Similar to 2B, however a small amount of these highest value habitat areas would be lost due to the application of an allow treatment in high urban development value areas.
6	Option 1C	Applies the lowest level of protection to the highest value habitat, putting some of the social values contained in cultural heritage and sense of place at risk of loss.

5. Preserves amenity value of resources

The amenity value of habitat land on quality of life, property values, and regional attractiveness is an important consideration. For example, proximity to some types of natural areas actually increases property values, thus preservation of these habitats could positively impact nearby property owners. Private individuals and firms can capture the value of location, such as nearby parks, open space or schools, or good accessibility to services or transportation infrastructure. This results in higher demand and higher dollar valuation of these properties. On the other hand, public parks, schools, highways, and other perceived amenities capture individual or commercial value by the usage, time, and willingness of people to pay for them.

One way to assess the effectiveness of each option in addressing this criterion is the reliability of protection provided to the fish and wildlife habitat. An option that relies more on regulations and applies strict treatments to habitat land is more likely to produce reliable protection. Options that rely less on regulations and more on voluntary actions or incentives that are dependent on funding sources may be less likely to provide certainty of habitat protection. Thus, the amenity value that attracted landowners to purchase particular properties in the first place may be lost due to the absence or ineffectiveness of protection measures on adjacent lands. Figures 4-30 to 4-33) on the following page graphically depict the treatments to vacant land in the highest four habitat classes as a proxy for retaining amenity value.

Figure 4-30. Treatment of vacant Class I Riparian/wildlife land by option: 12,549 acres total.

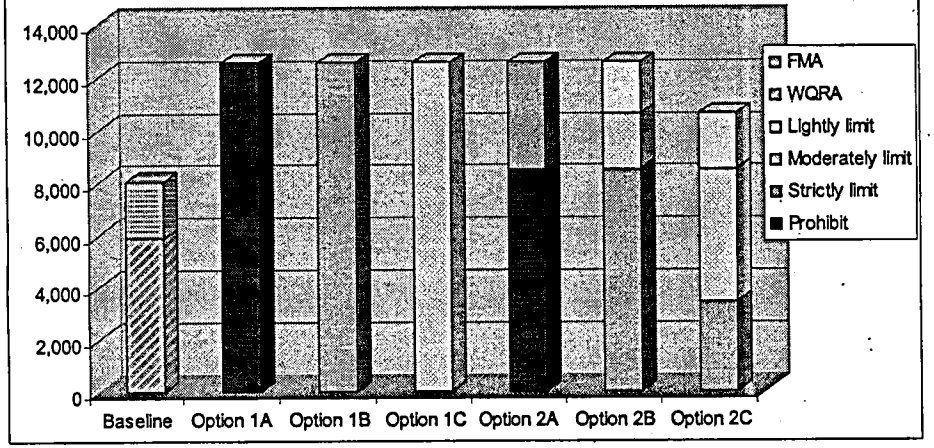


Figure 4-31. Treatment of vacant Class II Riparian/wildlife land by option: 3,907 acres total.

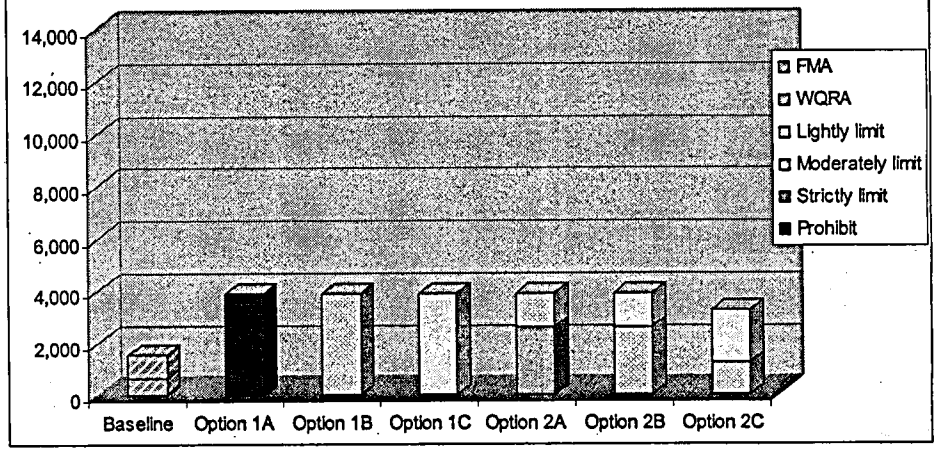


Figure 4-32. Treatment of vacant Class A Wildlife land by option: 8,508 acres total.

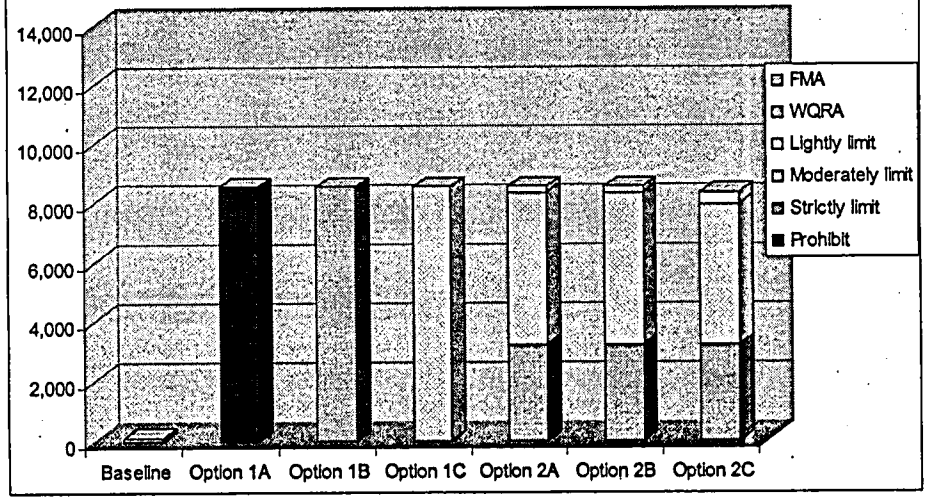
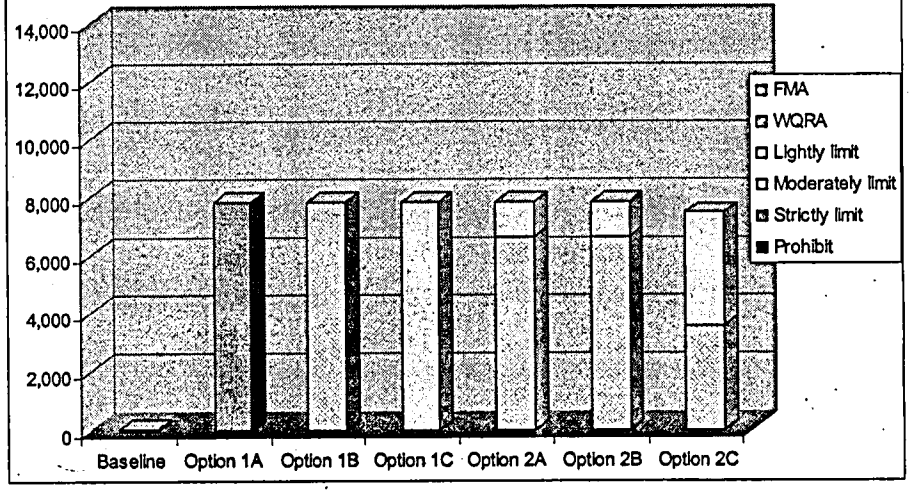


Figure 4-33. Treatment of vacant Class B Wildlife land by option: 7,789 acres total.



Observations

The following observations are made from Figures 4-30 to 4-33.

Basic statistics and baseline protection

- Vacant Class I riparian includes 12,549 acres, vacant Class II riparian includes 3,907 acres, vacant Class A wildlife includes 8,508 acres, and vacant Class B wildlife includes 7,789 acres.
- Baseline protection covers about 65 percent of the Class I riparian, 40 percent of Class II riparian, and only one percent of Class A and B wildlife. More restrictive WQRA restrictions are applied to about 47 percent of Class I, 16 percent of Class II, about one percent of Class A and B wildlife; FMA design guidelines cover 17 percent of Class I, 24 percent of Class II, and a negligible amount of Class A and B wildlife.

Comparison of options

- Options 1A, 1B, and 2A would apply a strictly limit or prohibit treatment to all Class I habitat.
- Option 1A is the only option that would apply a prohibit treatment to Class A wildlife habitat and Class II riparian habitat, treatments for these habitat types range from strictly limit to allow in the other options.
- Applying urban development values does not substantially effect the treatment of Class A wildlife habitat, due to the fact that very little of this habitat type is in the high urban development category.
- Option 1C would apply the least stringent treatments to Class II and Class B habitats.

Performance of options

All six regulatory options help to preserve amenity value. The options that apply more stringent treatments to a larger part of the landscape have more of a positive impact than the options that apply lightly limit or allow treatments.

Table 4-20. Performance of options in meeting Social Criterion 5: Amenity value.

Rank	Option	Performance
1	Option 1A	Preserves amenity value consistently in all four of the highest habitat classes.
2	Option 2A	Applying the urban development values results in a small loss of amenity value in areas with high urban development value; preserves more amenity value in riparian habitat than wildlife habitat.
3	Option 1B	Applies consistent level of protection to all four habitat types, but riparian habitats are not as well preserved as in 2A.
4	Option 2B	Urban development values result in very similar protection for wildlife habitat as 2A, but riparian protection would be less than in 1B.
5	Option 2C	Amenity value provided by the highest value wildlife habitat receives similar protection to 2A, but the other three habitat categories receive less stringent treatment.
6	Option 1C	Retains the least amount of amenity value in wildlife habitat areas, provides a bit more protection for riparian habitat.

Evaluation of environmental criteria

The environmental portion of this phase of the ESEE analysis is intended to compare the potential effects of the six program options on fish and wildlife habitat. Five criteria will assist in this process:

1. Conserves existing watershed health and restoration opportunities;
2. Retains multiple functions provided by forest canopy cover;
3. Promotes riparian corridor continuity and overall habitat connectivity;
4. Conserves habitat quality and biodiversity provided by large habitat patches; and
5. Promotes biodiversity through conservation of sensitive habitats and species.

Criteria were selected based on the findings in Metro's Technical Report for Goal 5 and Phase I ESEE analysis (Metro 2002, Metro 2003). Charts depicting program performance for the most vulnerable habitat are embedded in the text, with supporting data tables in Appendix 4. Habitat lands in parks and Title 3 WQRA are typically omitted from the graphs because they are currently afforded some protection, but are included in most appendix data tables. Habitat lands in Title 3 FMA are included in charts that illustrate vulnerability of the resource under the options because FMA areas do not protect vegetation.

The summary of each criterion includes a table ranking the programs in order of performance, from most to least protective. The criteria provide important new information about how each program performs relative to the others, and will aid Metro, its partners, and the public in designing a fish and wildlife habitat protection program appropriate to the region.

1. Conserves existing watershed health and restoration opportunities

The amount of fish and wildlife habitat protected or partially protected by each regulatory program option will help determine whether the option preserves habitat, existing ecosystem functions, and restoration opportunities for the future.

Potential impacts on fish and wildlife habitat

Partial or full loss of natural habitat impairs ecological functioning. The type and extent of impairment depends on the habitat class and, within each habitat class, the attributes that make each area valuable to fish and wildlife habitat. Metro's Phase I ESEE analysis (Metro 2003) describes the impacts on ecological systems when such functions are removed, and the Technical Report for Goal 5 (Metro 2002) describes how the region's natural habitats have been altered over time.

In riparian areas, highest value habitats provide the most functions. Class I riparian habitats provide at least three of the five key, or "primary," ecological functions mapped in the inventory. These areas are typically near streams and wetlands and often include forests or undeveloped floodplain areas; they are critical to maintaining aquatic habitat and water quality. Class II habitats provide one or two primary functions, and often also several secondary functions. Class III areas are lower value areas that still provide some degree of ecological function, such as small

forest patches that are disassociated from the stream. Thus, protection of Class I is most important, followed by Class II, then Class III.

Wildlife habitat is similarly valued in a tiered approach; Class A is more valuable to wildlife than Class B, and Class B is more important than Class C. Metro mapped wildlife habitat based on spatial ecology principles, where large patches that are well connected to other patches, contain less edge habitat, and contain good water resources are considered most valuable. However, in the case of wildlife habitat, removal of lower valued habitats (Class C) can negatively impact the remaining habitats to a higher degree than for riparian due to connectivity issues (see criterion 3, Connectivity).[24]

Potential impacts on restoration opportunities

Restoration potential is preserved where habitat areas still exist (e.g., not paved), therefore the level of protection provided by each program option illustrates the relative amount of potential restoration opportunities retained. This analysis does not identify the precise location or quality of restoration opportunities; however, because as habitats differ between classes, so do restoration opportunities. For example, areas of low-structure vegetation along streams may provide excellent opportunities to control non-native species and increase native tree and shrub cover; this would increase habitat to support diverse native wildlife communities. Native tree and shrub cover provide many vital ecological functions, including valuable riparian wildlife habitat, shading streams for cooler water, etc. Low-structure areas near streams are most typically found in Class II riparian and Class B wildlife.

Restoration opportunities are also found in high-value habitat areas; for example, Forest Park contains substantial amounts of non-native, invasive English Ivy. Efforts to control such invasions are ongoing. Because Forest Park is currently protected from development, the habitat and the restoration opportunities continue to exist. In upland areas, restoration is often needed to enhance wildlife habitat or control non-native species, particularly near forest edges. Thus, small habitat patches or long, narrow patches that contain a high proportion of edge habitat also provide restoration opportunities. Streams, wetlands, lakes and rivers can often be rehabilitated to create channel meanders, enhance water filtration capacity, or re-connect to natural floodplain areas. [25]

Metro's habitat inventories focused on the most important remaining habitats, and did not include every potential restoration opportunity due to the large scale nature of the regional inventory and because the Goal 5 rule applies to existing habitat.

Measuring the criterion

For each habitat class and each program option, Appendix 4A shows the acreage that fall under various ALP designations. The data is broken down between developed and vacant lands,

---

[24] It is important to consider the interactions between the riparian and wildlife inventories. The two inventories were conducted separately then reconciled so that a program could be developed for a single inventory map. As a result, some of each inventory was allocated to the other. For example, when Class I riparian coincided with any wildlife class, the wildlife portion became Class I riparian. Thus the loss of one habitat type may also include loss of another due to the extensive spatial overlap of the two inventories.

[25] Metro's Technical Report for Goal 5 (Metro 2002) includes a chapter describing how to go about watershed planning and prioritizing opportunities for restoration and other ecologically important activities.

because the time frame for habitat risk is different. Redevelopment will presumably occur over a longer time frame than new development. Additionally, habitats on vacant lands unconstrained by existing protection are more likely to be subjected to new conflicting uses. Title 3 WQRA acreage is excluded from this criterion because it is already partially protected (see introductory chapter). Similarly, Criterion 1 does not include parks, but focuses on habitat areas that may be placed at risk through development or redevelopment.

Results

Figures 4-34 through 4-37 illustrate the findings in Appendix 4A. Program options that are likely to protect more fish and wildlife habitat overall, as well as more of the most valuable habitat, are assumed to perform better than other options.

Basic statistics

- This criterion includes 80,143 acres of fish and wildlife habitat. Of that:
  - 27,851 acres are in class I riparian (34 percent of total)
  - 7,901 acres are in class II riparian (10 percent of total)
  - 4,434 acres are in class III riparian (6 percent of total)
  - 19,662 acres are in class A wildlife (25 percent of total)
  - 12,828 acres are in Class B wildlife (16 percent of total)
  - 7,468 acres are in Class C wildlife (9 percent of total)
- Riparian habitat comprises 17,500 acres (38 percent), while wildlife habitat comprises 28,960 acres (62 percent).

Baseline protection (Title 3)

- This analysis removed WQRA because it provides a degree of habitat protection.
- Of total habitat lands, 19 percent is in WQRA (7 percent parks, 4 percent in developed urban, and 8 percent in vacant).
- Of total habitat lands, 17 percent is in parks.
- If WQRA are included in the acreage figures, nearly half of Class I habitat and one-fourth of Class II habitat are WQRA, with all other habitat classes containing less than 5 percent WQRA.
- Fifteen percent of developed urban and vacant habitats are in Title 3 FMA, but vegetation is not protected in FMA and wetlands may be filled with proper DSL permission. Thus FMA does not protect habitat, and only partially protects the water storage function in riparian habitats. FMA are included as vulnerable to conflicting uses in Appendix 4A and Figures 4-34 through 4-37.
- The acres included under this criterion are outside WQRA and are subject to conflicting uses if no increase in protection level is applied; therefore, any program option that is not allow will provide incrementally more protection on the lands considered in Figures 4-34 through 4-37.

Potential effects of treatments vary by development status and habitat class

- Two-thirds of these habitat lands are vacant and one-third is developed urban. Treatments applied to vacant lands may have disproportionately high impacts compared to the same treatments applied to developed urban.
- Of vacant habitats, riparian comprises 34 percent, while wildlife comprises the remaining 66

percent. Of developed urban habitats, riparian only comprises 15 percent, with the remaining 85 percent in wildlife. These opposing trends indicate that treatments applied to vacant lands may disproportionately influence riparian habitats, whereas treatments applied to developed urban lands may more strongly influence wildlife habitat.

- Class I dominates vacant riparian, comprising 63 percent of the acreage, but only 29 percent of developed urban riparian (Class III comprises half of the riparian acreage in developed urban). Treatments applied to vacant Class I riparian will profoundly influence the future ecological conditions of aquatic and riparian habitats.
- Class A comprises 41 percent of vacant wildlife and 32 percent of developed urban wildlife. Treatments applied to both vacant and developed urban wildlife will be important determinants of future wildlife conditions.
- Average riparian and wildlife habitat values tend to be lower in developed urban compared to vacant, because conflicting uses tend to degrade habitats. For example, developed floodplains do not retain the same ecological functions as the original floodplain, and riparian and wildlife habitat is more fragmented in developed areas.

Impact Areas

- Impact areas are considered in Table xx (see introductory section). Impact areas are designated where adjacent land use may harm the habitat.
- An allow decision in impact areas may harm remaining habitat over time, whereas a lightly limit decision may help protect habitat.
- Lightly limit program definitions may need to differ between habitats and impact areas, because impact areas, by definition, are not habitat. For example, impact areas to protect streams may require low impact development standards upon redevelopment.
- If a program option is selected that includes an allow decision for certain habitats, it would be sensible to administer an allow decision for adjacent impact areas, because impact areas are designed to address where adjacent land use might adversely affect *existing* resources.

Program Option performance

- In options 2A-2C, the urban development value plays a role in what may happen to the habitat because treatments change based on both habitat class and by urban development value. Options 1A-1C are based solely on habitat value.
- For wildlife habitat, options 1A and 1B are most protective.
- For riparian habitat, options 1A and 2A are most protective.
- Options 1C and 2C are the least protective for both riparian and wildlife habitat.
- Potential effects of program options depend in part on the amount of land falling within each habitat class; Class I, Class A and Class B contain the most acreage, whereas Class III and Class C hold the least. For example, options affording less protection to Class B (1C, 2B, 2C) will have greater adverse effects on overall wildlife habitat protection.
- Class C wildlife is most vulnerable to loss under all options (least protective treatments applied). Class II and III are also vulnerable under certain program options (e.g., 1C, 2C).

Summary

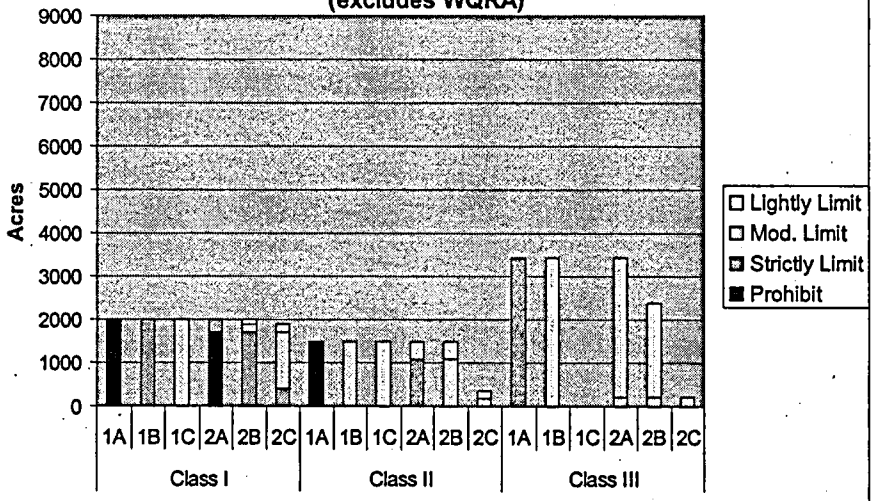
Program options show a marked decline in protection levels, as indicated in Table 4-21 below. The options that apply more stringent treatments to a larger portion of resources, particularly high value resources, will protect a larger proportion of regionally significant resources in the

long term. Table 4-21 provides a ranking of program options for this criterion.

Table 4-21. Performance of options in meeting Environmental Criterion 1: Conserves existing watershed health and restoration opportunities.

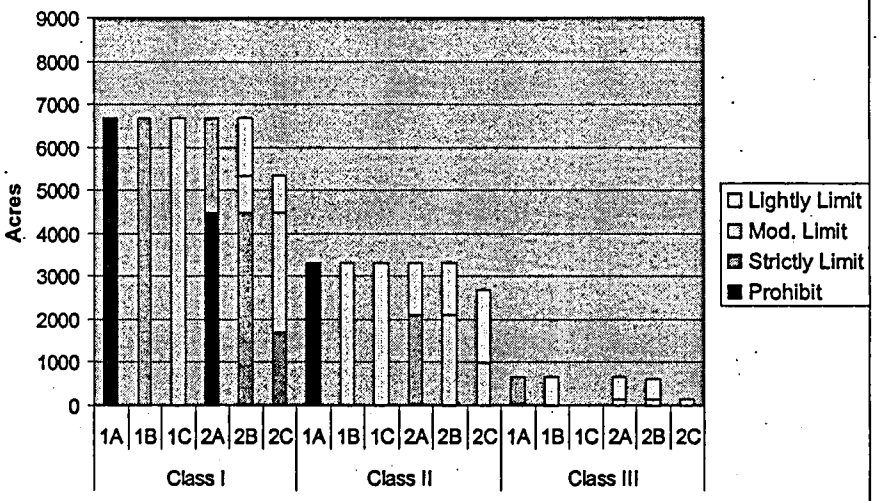
Rank	Option	Performance
1	1A	Charts 1a-1d indicate that this option will provide the most effective protection for the highest value resources (class I and class A habitat). This option also provides the highest protection levels for the remaining resource categories.
2	2A	This option still provides excellent protection for the majority of class I resources, and good protection for other riparian classes. The protection level is diminished, but still good for wildlife resources; however, option 1B provides better protection for wildlife habitat than 2A.
3	1B	Protection for all classes of riparian habitat is substantially reduced in this option compared to 1A and 2A. Class III riparian in appears to be particularly vulnerable. For wildlife habitat, this option performs at a higher level than 2A, but the importance of riparian habitat was considered first in this criterion.
4	2B	Performs moderately well for the higher classes in both riparian and wildlife habitat. This is the point at which protection levels drop off significantly for lower value resources. Poses substantial risk to habitat in classes III and C, due to lower protection levels and because some acreage is in the allow category.
5	2C	Lower protection levels for all resources. In particular, classes III and C are predominantly allow. Likely to result in substantial loss of riparian function unless extensive non-regulatory programs are put in place.
6	1C	Low protection levels for all habitat classes. Likely to result in significant habitat loss and ecosystem function over time in both developed and vacant lands.

Figure 4-34. Criterion 1a: Comparison of allow, limit, prohibit treatments by riparian class in developed urban lands (excludes WQRA)



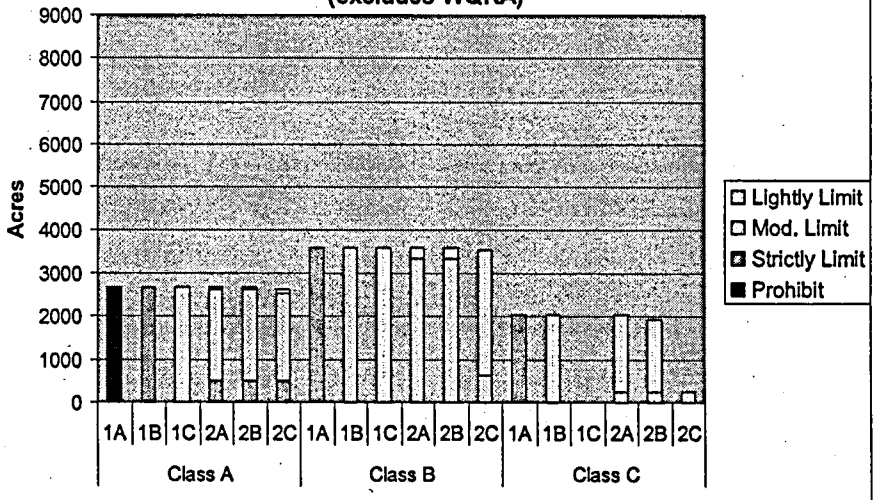
Program Option and Riparian Class
WQRA = 3,023 acres, non-WQRA = 6,909 acres

Figure 4-35. Criterion 1b: Comparison of allow, limit, prohibit treatments by riparian class in vacant lands (excludes WQRA)



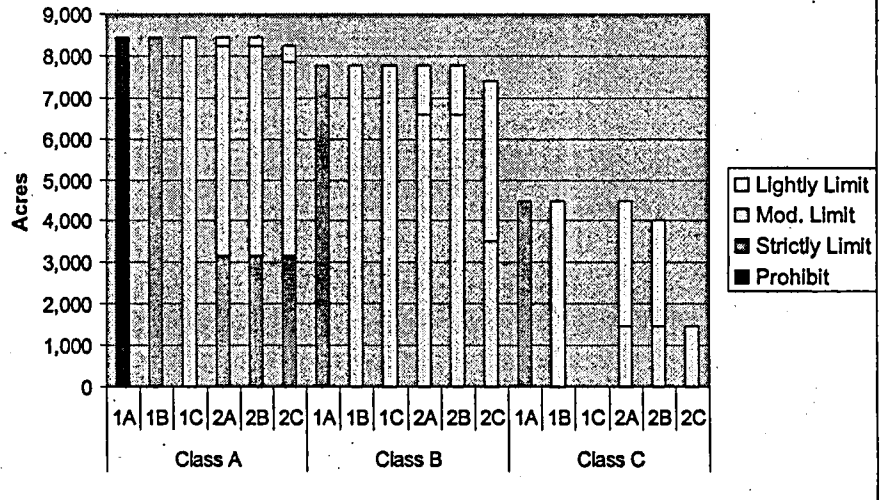
Program Option and Riparian Class
WQRA = 6,466 acres, non-WQRA = 10,636 acres

Figure 4-36. Criterion 1c: Comparison of allow, limit, prohibit treatments by wildlife class in developed urban lands (excludes WQRA)



Program Option and Wildlife Class
WQRA = 89 acres, non-WQRA = 8,286 acres

Figure 4-37. Criterion 1d: Comparison of allow, limit, prohibit treatments by wildlife class in vacant lands (excludes WQRA)



Program Option and Wildlife Class
WQRA = 133 acres, non-WQRA = 20,638 acres

2. Retains multiple functions provided by forest canopy cover

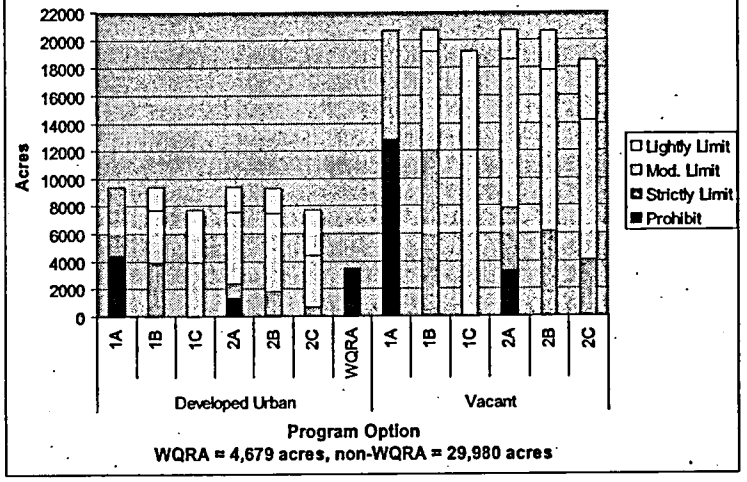
The Metro region is naturally forested, and trees play a pivotal role in maintaining healthy fish and wildlife habitat and regional biological diversity. Local studies affirm the importance of trees to stream health both near streams and throughout the watershed. Forest canopy plays a major role in all five ecological functions mapped in Metro's riparian habitat inventory, and forest habitat comprise the majority of the wildlife inventory.

Trees are also directly linked to each of the eight major ecological impact categories described in the ESEE Phase I discussion draft (Metro 2003). For example, trees help prevent altered hydrology and physical stream damage, and mitigate flooding caused by altered hydrology. They maintain water quality by taking up excess nutrients, heavy metals and other toxins, and provide shade over streams to cool water. Trees provide a primary source of wildlife habitat, and salmon and other aquatic wildlife frequently linger in shaded stream areas for thermal and predator protection.

Measuring the criterion

This criterion is measured by calculating the acreage of forest associated with each ALP category by program option. Forest canopy is a component of every habitat class, therefore this analysis does not differentiate by habitat class (for analysis by habitat classes, see criterion 1). The analysis does differentiate between vacant and developed status, because developed lands are less likely to experience much further tree loss, whereas vacant lands may be developed with substantial tree loss. However, forest loss can be an issue when redevelopment occurs, particularly when redevelopment occurs at higher densities. Program options that are likely to protect more acres of trees overall will receive a better rating in this criterion.

Figure 4-38. Criterion 2: Comparison of allow, limit, prohibit treatments for forest canopy (excludes WQRA)



Results

Figure 4-38 illustrates the findings in Appendix 4B. Program options that are more likely to protect forest canopy cover are assumed to perform better than options providing less protection.

Basic statistics

- This criterion considers 50,134 acres of forested fish and wildlife habitat.
- Parks comprise 15,475 acres (31 percent of total forested acres), developed urban comprises 10,504 acres (21 percent of total forested acres), and vacant comprises 24,155 acres (48 percent of total forested acres).
- The bar chart for this criterion considers the most at-risk categories (developed urban and vacant, both outside WQRA). However, Appendix 4B also shows results for the excluded categories.

Baseline protection (Title 3)

- WQRA comprise 2,916 forested park acres, 1,165 forested urban developed acres, and 3,514 forested vacant acres, or 15 percent of total forest habitat.
- Comprising about a third of forested lands, parks provide important protection to trees.
- The graph for criterion 2 excludes WQRA for the same reasons as stated in criterion 1.

Potential effects of treatment vary by development status

- Nearly half of forested habitat is in vacant lands. Of this, only 15 percent is protected as WQRA, while the remaining 85 percent is unprotected. Many of these lands are in rural zoning in new Urban Growth Boundary expansion areas.
- Of developed lands, two thirds receive some level of protection through parks or WQRA.
- Eleven percent of developed urban lands with forest are in WQRA. The remaining 9,339 acres are vulnerable to conflicting uses, particularly if redevelopment occurs at higher densities.
- Treatments applied to vacant lands may have disproportionately high impacts to forest habitat compared to the same treatments applied to developed urban lands.

Program option performance

- Options 1A and 1B are most protective of forest canopy in both developed urban and vacant lands. Options 2C and 1C are least protective.
- Options 2A and 2B fall in the mid-range in terms of protecting forest canopy.
- Option 1A is substantially more protective than option 1B. The difference between options 1B and 2A are less clear.
- The program options do not vary much between developed urban and vacant in terms of the proportions falling within Allow, Limit, Prohibit designations.

Summary

Program options vary considerably in terms of forest canopy protection. The options that apply more stringent treatments to a larger part of the forested landscape will protect more forest canopy over the long term. Table 4-22 below provides a ranking of program options for this criterion, based on the most at-risk acres illustrated in Figure 4-38.

Table 4-22. Performance of options in meeting Environmental Criterion 2: Retains multiple functions provided by forest canopy.

Rank	Option	Performance
1	1A	Protects by far the most canopy cover of any other program option for vulnerable forested lands in both vacant and developed.
2	1B	Substantially less protection than option 1A, but still performs better than the remaining options. However, options 1B and 2A appear relatively close in terms of potential effects on the region's forest canopy. No Allow designations mean that all forest habitat would be afforded at least some level of protection.
3	2A	Similar to 1B.
4	2B	Little Allow (76 acres), but overall protection levels lower than options 1B and 2A.
5	2C	Low protection levels for forest canopy, with 38 percent of vacant and developed urban in Lightly Limit or Allow. Likely to result in significant habitat loss over time in both developed and vacant lands.
6	1C	Low protection levels for forest canopy, with 47 percent of vacant and developed urban in Lightly Limit or Allow. Likely to result in significant forest habitat loss over time.

3. Promotes riparian corridor continuity and overall habitat connectivity

Habitat connectivity is important to fish and wildlife for several reasons. Riparian, or longitudinal, connectivity ensures continued ecological functioning of streams and helps enable fish passage to areas upstream. Many fish and wildlife species must migrate seasonally to meet basic needs for food, shelter and breeding, and connections between habitat patches, including aquatic habitat, allow this migration to occur.

Fish and wildlife populations that are connected to each other are more likely to survive over the long term than an isolated population. In addition, when connectivity is lost between habitats the remaining habitat tends to become less native, attracting non-native and generalist wildlife species that can out-compete more sensitive native species, thereby reducing biodiversity. Metro's Phase I ESEE report describes the importance of connectivity to regional fish and wildlife habitat and populations (Metro 2003).

Measuring the criterion

Connectivity is an important indicator of habitat fragmentation. It is also very difficult to accurately measure, and prohibitively time-intensive to measure for six different program options. As a proxy for connectivity this criterion examines the following indicators:

- Criterion 3a: Riparian corridor continuity. Measures the amount of habitat within 150 feet of streams that falls within each Allow, Limit, Prohibit designation for each program. This data is in Appendix 4C.
- Criterion 3b: The relative risk to all fish and wildlife habitat by program option. This data is derived from Appendix 4A.
- Criterion 3c: Discussion of the potential for disproportionate impacts by Metro's 27 subwatersheds. This data is in Appendix 4D.

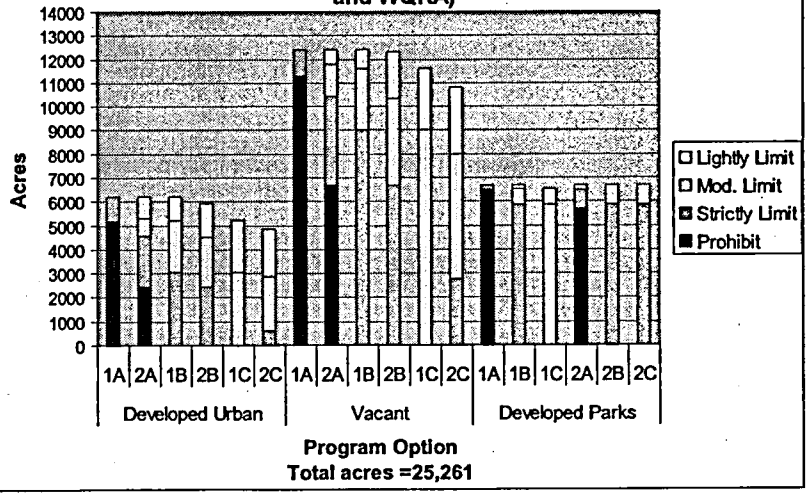
Results: Criterion 3a - Riparian corridor continuity

The figure below illustrates the findings in Appendix 4C. Program options that protect more habitat within 150 feet of streams are more likely to retain existing riparian corridor continuity.

Basic statistics

- This criterion includes 25,260 acres of fish and wildlife habitat near streams.
  - 6,186 acres are in developed urban (24 percent of total).
  - 12,395 are in vacant (49 percent of total).
  - 6,680 acres are in parks (26 percent of total).

Figure 4-39. Criterion 3a: Comparison of allow, limit, prohibit treatments for habitat within 150' of streams (includes parks and WQRA)



Baseline protection (Title 3)

- Of developed urban, 2,579 acres (40 percent) are in WQRA.
- Of vacant, 4,936 acres (40 percent) are in WQRA.
- Of parks, 3,221 acres (48 percent) are in WQRA.

This analysis included WQRA and parks because it constitutes a significant portion of riparian corridor continuity. The bar chart does not specifically delineate WQRA due to graph complexity, but these data are in Appendix 4C.

Potential effects of treatments vary by development status

- About half of the acreage is vacant, with another quarter each in parks and developed urban. Parks are afforded some degree of protection, and so are WQRA.
- Excluding parks and WQRA, 7,459 acres are at risk in vacant. Less than half that amount, 3,607 acres, is in developed urban. Treatments applied to vacant habitat may have disproportionately high impacts on riparian corridor continuity.
- Parks are assumed to have some existing level of protection, but conflicting uses could impact these resources as well. However, nearly half of park acres are in WQRA.

Program option performance

- For all development statuses, Option 1A is most protective of habitat within 150 feet of streams, followed closely by Option 2A. Option 1B provides the next best protection, followed by 2B.
- Options 1C and 2C are least protective for these resources, and could negatively influence riparian corridor continuity.

Results: Criterion 3b – Relative risk to all fish and wildlife habitat

This sub-criterion is derived from Criterion 1. Figures 4-34 through 4-37 illustrate the findings in Appendix 4A. Program options that are likely to protect more fish and wildlife habitat overall, as well as more of the most valuable habitat, are assumed to perform better than other options. Here the findings from Criterion 1 are summarized as they related to Criterion 3b:

Basic statistics

- This criterion includes 80,143 acres of fish and wildlife habitat:
  - 27,851 acres are in class I riparian (34 percent of total); of that, 2,005 developed acres are vulnerable (outside of parks or WQRA) and 6,683 vacant acres are vulnerable.
  - 7,901 acres are in class II riparian (10 percent of total); of that, 1,475 developed acres are vulnerable and 3,301 vacant acres are vulnerable.
  - 4,434 acres are in class III riparian (6 percent of total); of that, 3,427 developed acres are vulnerable and 659 vacant acres are vulnerable.
  - 19,662 acres are in class A wildlife (25 percent of total); of that, 2,682 developed acres are vulnerable and 8,435 vacant acres are vulnerable.
  - 12,828 acres are in class B wildlife (16 percent of total); of that, 3,580 developed acres re vulnerable and 7,756 vacant acres are vulnerable.
  - 7,468 acres are in class C wildlife (9 percent of total); of that, 2,041 developed acres are vulnerable and 4,466 vacant acres are vulnerable.

Baseline protection (Title 3)

- See criterion 1 for baseline statistics.
- Nearly half of Class I habitat and one-fourth of Class II habitat are WQRA, with all other habitat classes containing less than 5 percent WQRA. This leaves lower habitat classes more vulnerable than the top two riparian classes.

Potential effects of treatments vary by development status and habitat class

- Class B and C wildlife habitat, in terms of acreage, provide disproportionately important connectivity links, such as stepping-stones between larger patches for migratory stopover and other wildlife movement.
- Class B and C wildlife habitat comprise 39 percent of vulnerable resources outlined above. Because these habitat patches are small, this equates to an high number of connector patches.
- Class B and C wildlife habitat tend to receive lower protective treatments in the program options compared to other habitat classes.
- The majority (68 percent) of vulnerable Class B and C acres are vacant, therefore program treatments applied to vulnerable vacant lands may have a disproportionate negative impact on regional connectivity.

Program Option performance

- Option 1A afford highest protection to classes B and C wildlife habitat, with strictly limit designations assigned to all acres.
- Option 1B provides less protection, but still provides protection to classes B and C habitat at the moderately and lightly limit levels, respectively.
- Options 2A and 2B provide less protection, but are generally similar to one another.
- Option 2C performs poorly, placing an allow designation on the majority of class C habitat.
- Option 1C completely fails to protect vulnerable class C habitat. Class C wildlife is most vulnerable to loss under all options (least protective treatments applied).

Results: Criterion 3c – Potential for disproportionate impacts by subwatershed

The findings for Criterion 3a are illustrated in Appendix 4D and in the two figures below.

Basic statistics

- This criterion includes all 80,143 acres of regionally significant fish and wildlife habitat in Metro's 27 subwatersheds, plus 15,730 acres of impact areas (see context chapter for more information on distribution of impact areas by development status).
- Impact areas are addressed in this subcriterion because conflicting uses in impact areas may adversely impact fish and wildlife habitat.
- Resources sites with a lower percentage of fish and wildlife habitat typically contain proportionally more impact areas. These subwatersheds are also typically more developed.
- Of the total, 53,939 acres are in developed, while 41,934 are in vacant.
- The criterion discerns between the most vulnerable habitats and those with some existing protection.

Baseline protection (Title 3)

- Of developed urban habitat and impact areas, 3,795 acres (seven percent of developed urban; four percent of all acres) are in WQRA.
- Of vacant habitat and impact areas, 6,881 acres (16 percent of vacant; seven percent of all acres) are in WQRA.
- Of all acres, 25,212 acres (26 percent) are in parks, shown in black in Figure 4-40.

Potential effects of treatments vary by subwatershed

- Appendix 4D shows the amount and percent habitat and impact areas by subwatershed. The table illustrates the variability between subwatersheds; some subwatersheds contain more habitat/impact areas overall, while others contain varying proportions of habitat within the subwatershed.
- In all subwatersheds, WQRA comprises a relatively small proportion of acreage, whether considering vacant or developed urban habitat.
- The bar chart illustrates that some subwatersheds contain more vulnerable lands than others. For example, subwatersheds #8, 26, and 27 contain relatively high amounts of vulnerable developed habitat and impact areas; these areas would be most vulnerable under redevelopment. Subwatersheds #11, 18, and 27 contain relatively high amounts of vulnerable vacant habitat and impact areas; these habitat acres are more immediately vulnerable.
- Some subwatersheds contain low proportions of habitat and impact areas. Examples include

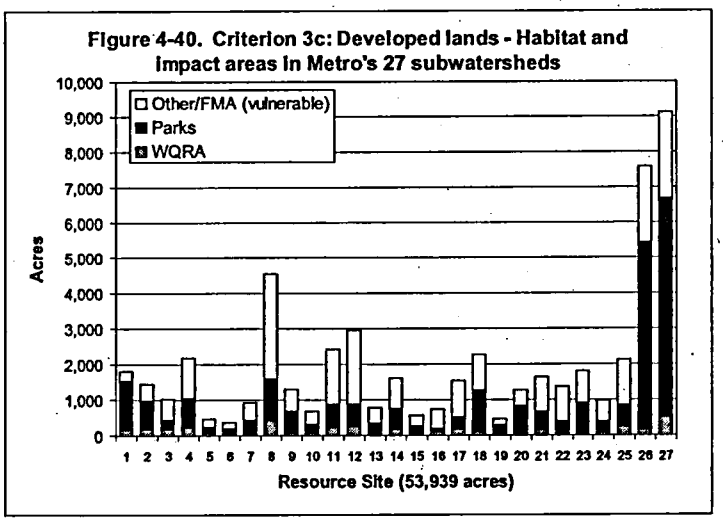


Figure 4-40. Criterion 3c: Developed lands - Habitat and Impact areas in Metro's 27 subwatersheds

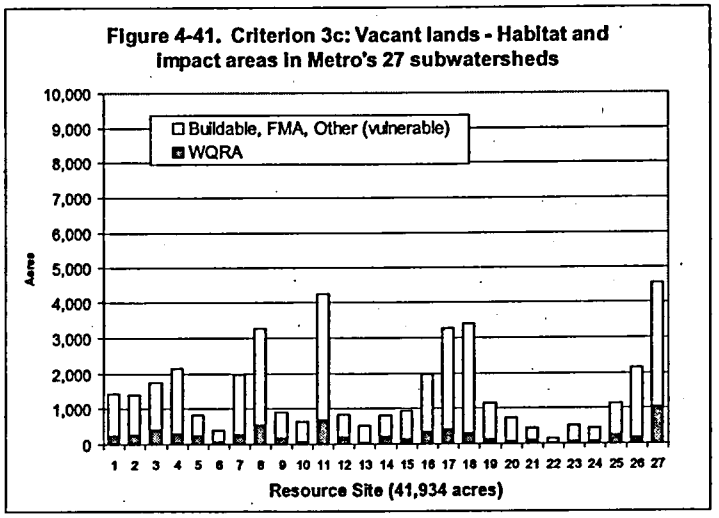


Figure 4-41. Criterion 3c: Vacant lands - Habitat and Impact areas in Metro's 27 subwatersheds

subwatersheds #6, 20 and 24, containing from 20-22 percent of acres in habitat or impact areas. Because these subwatersheds contain relatively little existing habitat, program treatments could have disproportionately high impacts on existing connectivity.

Program option performance

- Some subwatersheds contain more habitat and impact areas than others; Appendix 4D lists subwatersheds in ascending order of percent habitat and impact areas.
- Criterion 1 describes how the six options perform in terms of protecting various habitat classes. More protective options are more likely to retain existing connectivity.

- Large habitat patches (see criterion 4), while vulnerable to fragmentation, may not be as important to systemic connectivity as smaller patches or more linear habitats.
- Program options providing more protection to lower value habitat areas, which tend to be small but important connectors or stepping stones, are more likely to promote connectivity, particularly in subwatersheds with lower proportions of habitat.
- Options 1A, 2A, and to a lesser extent, 1B are likely to best protect the region's existing connectivity.
- Options 2B, 2C and 1C are likely to significantly reduce connectivity in the region.

Summary

Program options show a marked decline in protection levels, as indicated in Table 4-23 below. The options that apply more stringent treatments to a larger portion of resources, particularly high value resources, will protect a larger proportion of regionally significant resources in the long term. Table 4-23 provides a ranking of program options for this criterion.

Table 4-23. Performance of options in meeting Environmental Criterion 3: Promotes riparian corridor continuity and overall habitat connectivity.

Rank	Option	Performance
1	1A	Program option 1A perform best for all three subcriteria. This option is most likely to promote riparian corridor continuity and overall habitat connectivity.
2	2A	For riparian corridor continuity (subcriterion 3a) and protecting subwatersheds from disproportionate impacts (subcriterion 3c), program option 2A performs best. However, for risk to smaller connector habitats (subcriterion 3b), 1B is the best performer.
3	1B	This option performs better for protecting small connector habitats than 2A, but does not perform as well for riparian corridor continuity and protecting subwatersheds from disproportionate impacts.
4	2B	This program option performs at a reduced, but fairly consistent, level for all three subcriteria.
5	2C	This option greatly reduces protection levels for all three subcriteria, and is likely to result in significantly reduced regional connectivity.
6	1C	This option greatly reduces protection levels for all three subcriteria, and is likely to result in significantly reduced regional connectivity. In particular, class C wildlife habitat is 100% allow under this option.

4. Conserves habitat quality and biodiversity provided by large habitat patches

The extent to which large habitat patches are disrupted by conflicting uses will help determine habitat quality. Program options that perform better in this regard are more likely to retain the region's biological diversity.

Potential impacts on fish and wildlife habitat

Large habitat patches are primarily forested areas, but also include wetlands. Larger habitat patches are more valuable to native wildlife than smaller patches because more species are retained over time, and species sensitive to human disturbance still have a place to live. Long-term trends in wildlife populations are directly related to the area of habitat available – the larger the patch size, the longer a population can sustain itself. Larger habitat patches also retain more natural predators to keep rodent populations in check[26].

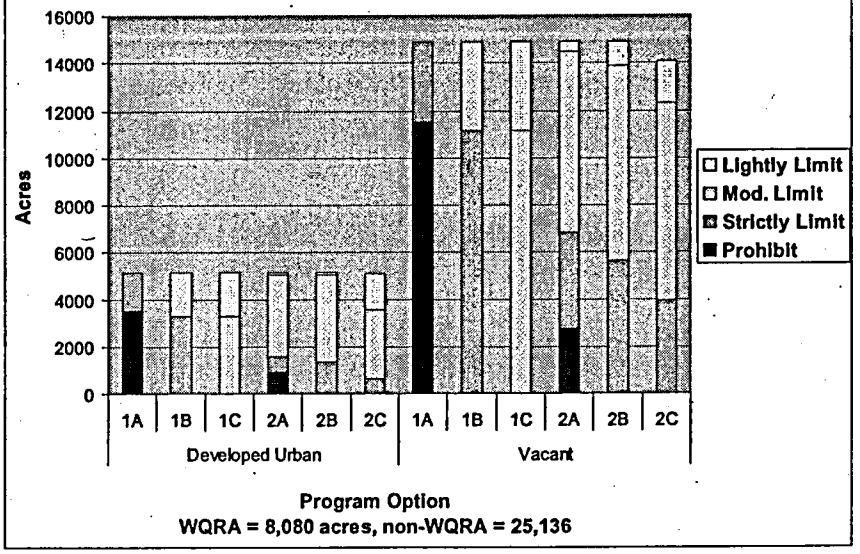
Habitat quality tends to be higher in large patches because negative edge effects, such as invasive species introductions and increased nest predation, are reduced. Local studies show that the complex multi-layered forest and shrub structure important to birds, small mammals and other wildlife is enhanced in larger habitat patches. Large patches also typically contain more woody debris.

Certain sensitive species and groups of species, such as Neotropical migratory songbirds and area-sensitive species, are likely to be negatively affected by less protective options. Large habitat patches are also linked, directly or indirectly, to each of the eight major ecological impact categories described in the ESEE Phase I discussion draft (Metro 2003). Thus, large habitat patches are a key component to retaining the region's biodiversity.

Measuring the criterion

Habitat patch size was a criterion in Metro's wildlife habitat inventory. Because the wildlife and riparian inventories were subsequently combined, portions of large habitat patches near waterways were incorporated into riparian Classes I and II. As a result, large patches were typically split into Class I and II riparian or Class A and B wildlife. For this criterion the wildlife model score prior to reconciling the two inventories, including patches scoring 6-9 points, was used in an effort to gauge the potential programmatic results on large habitat patches.

Figure 4-42. Criterion 4: Comparison of allow, limit, prohibit treatments for large habitat patches (excludes WQRA)



WQRA = 8,080 acres, non-WQRA = 25,136

[26] See Metro's Technical Report for Goal 5, Metro 2002.

Results

For each program option, Appendix 4E shows the acreage of large habitat patches that fall under various ALP designations. The data is reported separately for vacant and developed lands, for the reasons described under criterion 1; similarly, WQRA and parks are excluded in Figure 4-42, but are included in Appendix 4E. Figure 4-42 illustrates the most at-risk acres.

Basic statistics

- The total amount of large habitat patches, as defined in this criterion, is 38,360 acres.

Baseline protection (Title 3)

- Parks comprise 14,155 acres, or 37 percent of the total.
- WQRA comprise 8,090 acres (including 3,899 in parks) for 21 percent of the total.
- Six percent of the total habitat is in Title 3 FMA, but vegetation is not protected in FMA, therefore FMA areas do not protect large habitat patches.
- Excluding parks and WQRA, there are 20,014 acres of at-risk fish and wildlife habitat illustrated in Figure 4-42.
- The acres included in Figure 4-42 are subject to conflicting uses if no increase in protection level is applied; therefore, any program option that is not allow will provide incrementally more protection on these lands.

Potential effects of treatments vary by development status

- Excluding parks and WQRA, developed urban contains 26 percent of this habitat type, while 74 percent falls under vacant.
- The high percentage in vacant suggests that vacant habitat may be disproportionately affected by program choices.
- Developed urban is vulnerable as redevelopment occurs.
- The majority of habitat lands fall in single family residential zoning.
- Current trends for smaller lot sizes render large patches in both developed urban and vacant vulnerable to loss or fragmentation over time.

Program Option performance

- Urban development values in options 2A-2C substantially reduce protection of large habitat patches.
- For both vacant and developed urban habitat, Program Option 1A and to a lesser extent, Option 1B are most likely to keep large patches intact.
- Options 2A and 2B are marginal and may result in significant large patch encroachment.
- Options 2C and 1C are unlikely to retain large patches within the system.

Summary

Program options show a marked decline in protection levels, as indicated in Table 4-24 below. Options that apply stronger protection levels to large patches have a much greater chance of retaining the integrity of these important wildlife resources over time, and thus retaining good habitat quality and biodiversity. Incremental drops in protection may have more severe consequences in this criterion than in most other environmental criteria, because each drop in protection level raises the potential for large patch fragmentation.

Table 4-24. Performance of options in meeting Environmental Criterion 4: Conserves habitat quality and biodiversity provided by large habitat patches.

Rank	Option	Performance
1	1A	Figure 4-42 indicates that this option will provide the most effective protection for large habitat patches, with protection levels of Prohibit or Strictly Limit for all habitat.
2	1B	Protection level diminished, but still good, with Strictly or Moderately Limit for all habitat. However, any reduction in protection level will increase fragmentation of large patches, particularly with trends toward higher density development.
3	2A	Protection levels slightly lower than Option 1B. Three percent of vacant, unprotected habitat would fall under Lightly Limit in this option, with the remainder in Moderately Limit (51 percent), Strictly Limit (28 percent), or Prohibit (18 percent). No Allow.
4	2B	An incremental drop in protection levels compared to 2A. Seven percent of vacant, unprotected habitat would fall under Lightly Limit in this option, with the remainder in or Moderately Limit (55 percent) or Strictly Limit (38 percent).
5	2C	Substantially lower protection levels, with six percent of vacant, unprotected habitat in Allow, 12 percent in Lightly Limit, 56 percent in Moderately Limit, and 26 percent in Strictly Limit. No Prohibit. Likely to result in significant fragmentation of large patches.
6	1C	2C and 1C are fairly similar. 1C has decreased protection levels for all habitat classes, with 25 percent of vacant, unprotected habitat in Lightly Limit and 75 percent in Moderately Limit. Likely to result in significant fragmentation of large patches.

5. Promotes biodiversity through conservation of sensitive habitats and species

The amount and configuration of fish and wildlife habitat play important roles in the region's biodiversity, and these are addressed in Criteria 1 through 4. Also important, but not implicit in the first four criteria, are species and habitats that may be disproportionately at risk due to natural scarcity, habitat loss, or other factors.

Potential impacts on fish and wildlife habitat

For the purposes of this criterion both Habitats of Concern and Class I riparian habitat are included, because high-value riparian areas are widely acknowledged to be at-risk and because these habitats are mapped comprehensively for the region. In addition, known Species of Concern sightings are included to provide a relative measure of risk to wildlife. For these already-depleted habitats and species, a small habitat reduction could deal a major blow to regional biodiversity.

Criterion 5a: Habitats of Concern.

Habitats of Concern are specific areas known to provide a unique and at-risk habitat type, a unique and vital wildlife function, or both. Examples include wetlands, Oregon white oak habitat, riverine delta and island habitat, and critical migratory pathways. Habitats of Concern are premier wildlife areas that are elevated in importance and status within the inventory; all Habitats of Concern fall in either Class I riparian or Class A wildlife. Many of these areas, such as small wetlands, are less than the two-acre minimum established for the wildlife inventory but are included as Habitats of Concern due to their regional importance to biological diversity.[27] Program options providing more protection to these habitats will do a better job of retaining Habitats of Concern throughout the region.

Criterion 5b: Class I riparian.

The Habitats of Concern data is incomplete because it relies on local knowledge rather than comprehensive surveys. Therefore, for the purposes of this criterion Class I riparian habitat is also included because it is a widely acknowledged at-risk habitat and is mapped comprehensively for the region. Some of the implications of Class I habitat loss are described in Criterion 1. In addition to the ecological functions described there, high value riparian habitat contains more species than most other habitats; for example, the region's riparian areas are known to support approximately 93 percent of native bird species at some point in their lives. They also support more sensitive species, such as those found in Criterion 5c. Riparian areas provide vital fish and wildlife habitat connectivity throughout the region. The more a program option places Class I habitat at risk, the more negatively it will affect regional biological diversity.

---

[27] Metro collected information on Species of Concern and Habitats of Concern for the Goal 5 wildlife habitat inventory from a variety of sources with site-specific knowledge of the region. ODFW, USFWS, the Oregon Biodiversity Project, and the Oregon-Washington chapter of Partners in Flight identify wetlands, native grasslands, Oregon white oak habitat, and riparian forests as the top four Willamette Valley habitats at risk. ODFW also lists urban natural area corridors as important at-risk habitats. Metro used these habitat types, plus other key contributors to diversity such as riverine islands and deltas and key migratory bird stopover habitats, to map Habitats of Concern.

Measuring the criterion

For each program option, Appendix 4F shows the acreage of Habitats of Concern (Criterion 5a) and riparian Class I (Criterion 5b) falling under various ALP designations. The two are reported separately and are not mutually exclusive.

The data are reported separately for vacant and developed urban habitats, for the reasons described under criterion 1. Similarly, Title 3 Water Quality Resource Areas (WQRA) and parks are reported in Appendix 4F, but excluded from Figures 4-43 and 4-44 in order to focus on the habitats most at risk of development or other conflicting uses.

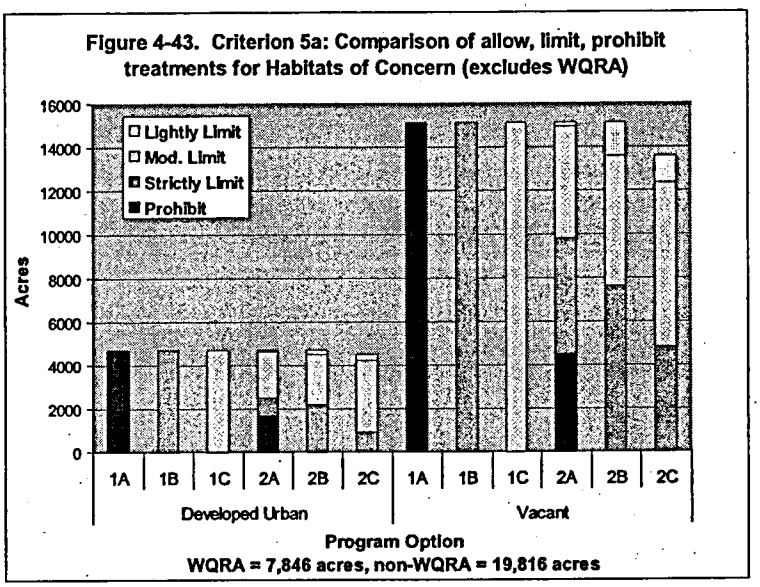


Figure 4-43. Criterion 5a: Comparison of allow, limit, prohibit treatments for Habitats of Concern (excludes WQRA)

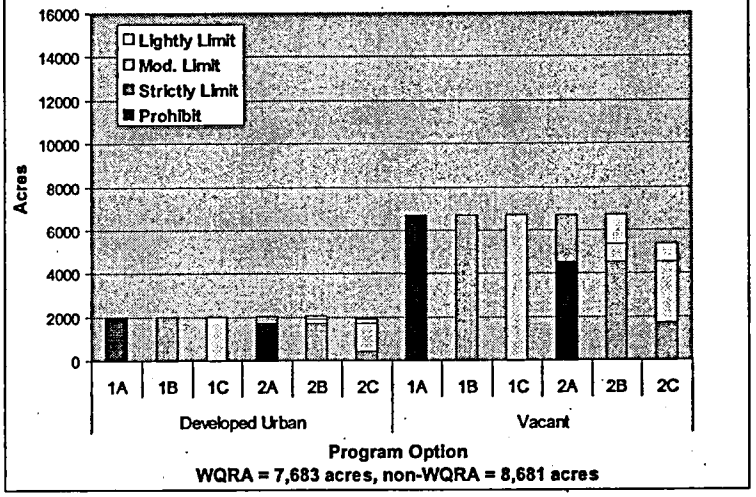


Figure 4-44. Criterion 5b: Comparison of allow, limit, prohibit treatments for Class I (excludes WQRA)

Results

Figures 4-43 and 4-44 illustrate the findings in Appendix 4F for Habitats of Concern, Class I riparian habitat, and Species of Concern, respectively. Program options that are likely to protect more at-risk habitats and species are assumed to perform better than other options.

Basic statistics: Habitats of Concern and Class I riparian

- The data illustrated by Figures 4-43 and 4-44 represent the portion of the habitat expected to be most at risk through development or redevelopment.
- The bar charts include 19,616 acres of Habitats of Concern and 8,688 acres of Class I riparian.
- Figures 4-43 and 4-44 exclude WQRA and parks from analysis for the same reasons stated in criterion 1.

Potential effects of treatments vary by habitat class, development status, and urban development value

- There are many more acres of vacant Habitats of Concern and Class I riparian than there are in developed urban. Therefore, the degree of protection afforded by each program option will have a stronger influence on vacant than on developed urban habitat.
- Where Habitats of Concern fall within Class I riparian, they are treated similarly under the various program options but where they are Class A wildlife, they receive lower protection

levels than Class I under options 2A-2C.

- This places non-riparian Habitats of Concern more at risk than riparian Habitats of Concern.

Program Option performance

- Options 1A and 1B are most protective of Habitats of Concern.
- Options 1A and 2A are most protective of riparian Class I.
- There is a larger discrepancy in protection levels between the two most protective options for Habitats of Concern than for riparian Class I.
- Options 1C and 2C are least protective for Habitats of Concern and are likely to result in substantial further loss of these depleted habitats.
- Options 2B and 2C are least protective of Class I riparian and are likely to result in substantial further loss of these depleted habitats. Option 1C is not much better.

Summary

Habitats of Concern and Class I riparian habitat are closely associated with declining or sensitive species in the region, and these habitats have declined greatly in extent and quality. It will be important to consider the relative rarity of the remaining habitats addressed in this criterion, because substantial further loss may result in regional species extirpations or potential Endangered Species Act listings. More protective options are more likely to prevent or minimize these undesirable results.

Table 4-25. Performance of options in meeting Environmental Criterion 5: Promotes biodiversity through conservation of sensitive habitats and species.

Rank	Option	Performance
1	1A	This option provides the highest protection levels for both Habitats of Concern and Class I riparian by assigning a Prohibit designation to all acres.
2 / 3	1B / 2A	Option 1B is important for Habitats of Concern, which includes more than twice as many acres as Class I riparian. However, Option 2A performs best for Class I riparian, and at a higher protection level than 1B provides Habitats of Concern.
4	2B	This option performs better than 1C or 2C for all Habitats of Concern, and for developed urban Class I riparian. However, for vacant Class I riparian it is difficult to discern whether Option 2B or 1C is more protective.
5	1C	Substantially lower protection levels, but consistent among development status and resource type, with all acres falling within Moderately Limit.
6	2C	Protection levels lowest of all options, with nine percent Allow in unprotected Habitats of Concern and 17 percent Allow in unprotected Class I riparian. Likely to result in substantial loss of sensitive habitats and sensitive species.

Evaluation of energy criteria

The analysis of energy criteria is intended to compare the potential effects of the six program options on energy use in the region. Two criteria will assist in this process:

2. Promotes compact urban form, and
3. Promotes green infrastructure.

Criteria were selected based on the findings in Metro's Technical Report for Goal 5 and Phase I ESEE analysis (Metro 2002, Metro 2003). The energy criteria discussed here are applied using data already collected in the Social, Environmental, and Economic Phase II ESEE analyses.

The summary of each criterion includes a table ranking the programs in order of performance, from most to least energy-efficient as relates to each criterion. The criteria provide important new information about how each program performs relative to the others, and will aid Metro, its partners, and the public in designing an energy-efficient fish and wildlife habitat protection program.

1. Promotes compact urban form

A compact urban form conserves energy by reducing transportation-related energy output and infrastructure needs, reduces the spatial extent of vegetation loss, and reduces the spatial extent of the urban heat island effect.[28] The amount of fish and wildlife habitat protected or partially protected by each regulatory program option and the zoning type and development status influence whether the option increases the need for Urban Growth Boundary expansions.

Importance of urban development priorities

The region's 2040 Growth Concept is designed to provide a compact urban form through efficient land use, a well-planned transportation system, and protection of natural areas. The second energy criterion below addresses natural area protection.

The extent to which a program option supports development priorities influences the ability to maintain a compact urban form, thus conserving energy by reducing transportation and infrastructure energy output. While program options 1A-1C consider only habitat value, program options 2A-2C incorporate the importance of land value, employment density, and the 2040 Design Types.

Importance of substitutability of lands

The Goal 5 rule requires Metro to consider the effect a Goal 5 program may have on the inventory of buildable lands. Any changes in density requirements may be difficult to reallocate within the current Urban Growth Boundary.

Some land uses can be more easily re-allocated, or substituted, to other parts of the region than other land uses. This can relate to a number of factors such as scarcity, lot size requirements, and the physical characteristics needed for certain land use types. For example, residential land

[28] See Metro's Economic, Social, Environmental and Energy Analysis (ESEE), September 2003.

comprises a majority of the region's vacant zoning and housing can be built on relatively small parcels in a variety of landscapes. As a result, residential lands to a certain extent can be flexible in how they are located on a site, and more sites may be available compared to other land use types. However, Metro cannot force existing residential neighborhoods to accommodate density increases.[29]

Conversely, industrial lands are much more difficult to relocate, and there is a regional shortage of industrial sites to meet our needs over the next 20 years. Industrial sites typically require flat terrain, access to transportation facilities, and some industrial sites need large contiguous parcels. Mixed use zoning, a highly energy efficient land use, can also be difficult to place in alternative sites if it doesn't meet market needs. Commercial land placement affects driving distance and infrastructure requirements.

Thus these land uses may be less substitutable within the existing Urban Growth Boundary than other land use types. New restrictions imposed by a program may limit the capacity for meeting housing and employment needs, and may increase energy use associated with the need for Urban Growth Boundary expansions and related transportation and infrastructure needs.

Measuring the criterion and results

As outlined above, urban development priorities and the substitutability of lands are both important to maintaining a compact urban form. Each of these is addressed in other ESEE criteria. Therefore no new data was collected for this criterion, and the results are available through other ESEE criteria:

- "Supports urban development priorities" (economic criterion 1), and
- "Reduces impact on types/location of jobs and housing" (social criterion 2).

Economic criterion 1, "Supports urban development priorities," assessed program performance for supporting urban development priorities. In descending order of performance, the program options for economic criterion 1 were ranked as follow: 1C, 2C, 2B, 1B, 2A and 1A.

Social criterion 2, "Reduces impact on types/locations of jobs and housing," assessed program performance for limiting new restrictions on vacant industrial, mixed use, and commercial lands (see figure xx in social section, "Treatment of vacant employment habitat land"). In descending order of performance, the program options for social criterion 1 ranked as follow: 2C, 1C, 2B, 1B, 2A and 1A.

Summary

Information pertaining to maintaining a compact urban form has already been assessed under economic criterion 1 and social criterion 2. The program performance for both criteria is similar but not identical, as summarized in the table below. For the energy criterion, emphasis was given to urban development priorities when program rankings differed (i.e., 2C and 1C), due to the importance of the 2040 Growth concept in regional planning.

[29] See Metro Ordinance #xxx.

Table 4-26. Performance of options in meeting Energy Criterion 1: Promotes compact urban growth form.

Rank	Option	Performance
1	1C	Provides the most support (lack of development restrictions) for lands with high urban development priorities and the second-best support for allowing development on existing vacant industrial, mixed use, and commercial lands.
2	2C	Substantial support for lands with high urban development value, and excellent support for lands with medium urban development value. Provides the best support for allowing development on existing vacant industrial, mixed use, and commercial lands.
3	2B	Good support for urban development priorities and allowing development on existing vacant industrial, mixed use, and commercial lands.
4	1B	Moderate support for maintaining a compact urban growth form. No prohibit treatments for urban development priorities, but significantly stronger impact than 2A or 1A. For vacant industrial, mixed use, and commercial lands, performs at a slightly reduced level compared to option 2A.
5	2A	Slightly less support for urban development priorities than 1B due to a small proportion of prohibit treatment. For vacant industrial, mixed use, and commercial lands, provides slightly more support than option 1B.
6	1A	Promotes compact urban form the least. Substantial restrictions possible on high urban development priorities and on development potential for existing vacant industrial, mixed use, and commercial lands.

2. Promotes green infrastructure

Trees and other vegetation reduce energy demand by moderating stream and air temperature increases, flooding, and air pollution associated with energy use.[30] Fish and wildlife habitat that are considered important or necessary to support cities and suburbs can be considered a type of infrastructure: "green infrastructure." The energy benefits provided by green infrastructure are a type of ecosystem service.

Ecosystem services may be defined as the processes and functions of natural ecosystems that sustain life and are critical to human welfare. For example, trees help clean air and water, and wetlands and floodplains store water and help avert flooding. When ecosystem services are removed or diminished, a common alternative is to implement technological surrogates such as stormwater piping or water purification systems. Such solutions tend to require more energy than preserving existing green infrastructure and ecosystem functions.

Measuring the criterion and results

The amount of fish and wildlife habitat protected or partially protected by each program option, as well as the value of that habitat, help determine whether the option protects the energy-related green infrastructure and ecosystem services provided by trees, other vegetation, wetlands and floodplains. Green infrastructure and ecosystem services are strongly related.

This criterion is best assessed using a combination of three criteria from the environmental and economic ESEE:

- "Promotes retention of ecosystem services" (economic criterion 2);

[30] See Metro's Economic, Social, Environmental and Energy Analysis (ESEE), September 2003.

- "Conserves existing watershed health and restoration opportunities (environmental criterion 1); and
- "Retains multiple functions provided by forest canopy cover (environmental criterion 2).

This combination of criteria appropriately addresses energy concerns. No new data was collected, and the detailed results are available through the relevant criteria in the environmental and economic sections.

Ecosystem services are addressed in economic criterion 2, "Promotes retention of ecosystem services." In that criterion, areas with more ecological functions and/or areas with functions closer to streams, wetlands, or floodplains ranked higher than areas with fewer functions or with functions further away from water features. Economic criterion 2 ranked identically to environmental criterion 1: 1A, 2A, 1B, 2B, 2C, and 1C.

Although green infrastructure is addressed in all environmental criteria environmental criterion 1, "Conserves existing watershed health and restoration opportunities" and criterion 2, "Retains multiple functions provided by forest canopy cover," are particularly relevant to energy use. These are the resources that protect existing ecosystem functions.

Environmental criterion 1 assesses the performance of program options in conserving existing watershed health and restoration opportunities based on protection levels for fish and wildlife habitat. In descending order of performance, the program options for environmental criterion 1 were ranked as follow: 1A, 2A, 1B, 2B, 2C, and 1C.

Environmental criterion 2 estimates how well each program option would protect existing forest canopy cover, identified in the Phase I ESEE analysis as a key energy-related feature. This is an important separate measure because although all forest is ecologically important to the region, not all forest ranks as high-value fish and wildlife habitat. In descending order of performance, the program options for environmental criterion 2 ranked as follow: 1A, 1B, 2A, 2B, 2C, and 1C.

Summary

Information pertaining to retaining green infrastructure and ecosystem services has already been assessed under economic criterion 1 and environmental criteria 1 and 2. The program performance for all three criteria is similar but not identical, as summarized in the table below.

Table 4-27. Performance of options in meeting Energy Criterion 2: Promotes green infrastructure.

Rank	Option	Performance
1	1A	Provides the most protection for all habitats and best protection to forest canopy cover and ecosystem services.
2	2A	Protection level substantial for high-value riparian habitat, and good for other habitat classes. Ecosystem services also reflect this ranking. However, 1B provides better protection for upland wildlife habitat. Options 2A and 1B fairly similar for forest canopy.
3	1B	Substantially reduced protection for all riparian habitat compared to 1A and 2A. Ecosystem services also reflect this ranking. For wildlife habitat, performs better than 2A. For forest canopy, fairly similar to option 2A.
4	2B	Options 2B, 2C and 1C ranked identically for habitat, tree canopy, and ecosystem service protection. Moderate performance for higher riparian and wildlife classes, but protection drops significantly for lower habitat classes. Similar findings for forest canopy and ecosystem services.
5	2C	Places nearly 40 percent of all forest canopy at risk through low or no protection levels. Low protection levels for all resources. May result in substantial loss of riparian and upland habitat functions, ecosystem services, and forest canopy over time.
6	1C	Places nearly half of all forest canopy at risk through low or no protection levels. Low protection levels for all resources. Most likely to result in substantial loss of riparian and upland habitat functions, ecosystem services, and forest canopy over time.

Evaluation of federal Endangered Species Act

The Endangered Species Act's (ESA's) ultimate goal is to recover species and conserve the ecosystems upon which they depend so they no longer need regulatory protection.[31] Twelve salmon species or runs are listed as either threatened or endangered in the Columbia River and Willamette River basins. The National Oceanic and Atmospheric Administration (NOAA) Fisheries is the federal agency responsible for these species.

The U.S. Fish and Wildlife Service (FWS) has jurisdiction over terrestrial species and aquatic species that spend the majority of their life cycle in fresh water. Listed species under their jurisdiction that currently or historically occurred in the Metro region include bald eagle, bull trout, golden Indian paintbrush, Willamette daisy, water howellia, Bradshaw's lomatium, Kincaid's lupine, and Nelson's checker-mallow. The FWS was petitioned to list pacific lamprey, western brook lamprey and river lamprey in January 2003; processing of the petition has not yet been completed and is currently on hold. Additionally, several candidate species and species of concern are also known to occur in the Metro region. Although these species do not currently receive ESA regulatory protection, efforts to conserve these species may help to sustain existing populations and preclude the need for future listings.

Will a Metro fish and wildlife habitat protection program meet the ESA? There is no clear answer, because program details are not yet developed and it is not possible to fully predict the outcome of any program. It is also worth noting that the full suite of factors that affect the habitats upon which these species depend will not all be addressed in Metro's Goal 5 program. For example, stormwater runoff can have significant impacts on stream health and channel complexity, but Goal 5 is not designed to explicitly or comprehensively address stormwater management.

However, the Goal 5 program will help to define the types of land uses that will be allowed within and near regionally significant habitats, ultimately determining the degree to which these habitats and their ecological functions are conserved over time. The program's non-regulatory components, particularly the degree of investment in restoration, will also play a key role. An effective Metro program that provides adequate species protection could provide a template that could serve as a model for local jurisdictions to come into ESA compliance, and may also contribute to efforts designed to prevent future ESA species listings.

The federal ESA portion of this phase of the ESEE analysis is intended to compare the potential effects of the six program options on listed fish and wildlife and related species of conservation interest such as the three species of lamprey that have been petitioned for listing. Three criteria will assist this process:

1. Protects slopes, wetlands, and areas of high habitat value;
2. Maintains hydrologic conditions; and
3. Protects riparian functions.

[31] For a description of the federal Endangered Species Act, see Appendix 1 in Metro's Phase I ESEE Report.

These criteria provide important information about how each program performs relative to the others in protecting habitats and watershed health, and will aid Metro, its partners, and the public determine the general consequences to fish and wildlife species under each program.

1. Protects slopes, wetlands and areas of high habitat value

Steep slopes are vulnerable to erosion and landslides that can negatively affect aquatic resources, particularly when trees and other vegetation are removed.[32] Wetlands provide important off-channel rearing habitat for young salmon and functions important to stream health. They also provide key habitat for many of the region's other known at-risk species – for example, bald eagles, northern red-legged frogs, northwestern pond turtles, and numerous neotropical migratory bird species[33]. At-risk species relate to the ESA because if they continue to decline, they may become future candidates for ESA listings. Habitats of Concern include wetlands, riparian bottomland forest, stands of Oregon white oak, native grassland, important migratory pathways, and other critical habitats that potentially support listed plants and animals, as well as numerous other at-risk species. Large habitat patches retain higher habitat quality than smaller patches and provide homes to species most sensitive to human disturbance, such as neotropical migratory songbirds[34], and maintaining the connections between these valuable habitats is vital to supporting the region's sensitive species over time.

Measuring the criterion

Steep slopes are addressed in Metro's riparian GIS model as a primary and secondary functional contributor to Bank Stabilization, Sediment and Pollution Control. Wetlands receive primary functional value in the riparian model under the Streamflow Moderation and Water Storage and Bank Stabilization, Sediment and Pollution Control criteria, and are also captured under Class I riparian as Habitats of Concern. Areas of highest habitat value, including all Habitats of Concern and most large habitat patches, are captured under Class I riparian and Class A wildlife habitat. In addition, large habitat patches were specifically addressed in environmental criterion 2. Thus, this criterion is best assessed using a combination of criteria from the Environmental ESEE:

- Class I riparian and Class A wildlife habitat derived from the criterion entitled "Conserves existing watershed health and restoration opportunities" (environmental criterion 1);
- Promotes riparian corridor continuity and overall habitat connectivity (environmental criterion 3);
- Conserves habitat quality and biodiversity provided by large habitat patches (environmental criterion 2); and
- Promotes biodiversity through conservation of sensitive habitats and species (environmental criterion 5).

---

[32] The ecological damage associated with excess sediments entering streams is described in Metro's Technical Report for Goal 5 (Metro 2002) and Phase I ESEE report (Metro 2003).

[33] See Metro's species list for at-risk species and their general habitat associations.

[34] Neotropical migratory songbirds have been identified by ODFW as an at-risk group of species. Local studies (Hennings and Edge 2003) confirm that Neotropical migrants are negatively associated with urbanization.

Results

The data tables and graphs associated with this criterion are available in the Environmental ESEE section. Option 1A provides the most protection for this criterion, but Options 2A and 1B also provide substantial protection. Option 2B provides a moderate level of protection. Options 2C and 1C are least likely to protect sensitive species over time, because substantial habitat and connectivity may be lost.

Table 4-28. Performance of options in meeting ESA criterion 1: Protects slopes, wetlands, and areas of high habitat value.

Rank	Option	Performance
1	1A	Most protective of all variables assessed. Best option for protecting slopes, wetlands, and areas of high habitat value; most likely to reduce need for future ESA listings.
2 / 3	2A / 1B	Option 2A is second-most protective for Class I habitat, promoting overall connectivity. Option 1B is second-most protective for Class A habitat and large patches. Options 2A and 1B are similar in terms of protecting sensitive habitats and species.
4	2B	Incrementally less protection for all variables assessed. Options 2A and 2B are similar in terms of protecting Class A habitat.
5	2C	Ranks fifth for Class A, overall connectivity, and large patches. Ranks sixth for Class I and sensitive habitats. More likely to result in species depletion or loss over time, and may increase future ESA listings.
6	1C	Minimal protection for Class A, overall connectivity, and large patches. Ranks fifth for Class I and sensitive habitats. Most likely to result in species depletion or loss over time, and may increase future ESA listings.

2. Maintains hydrologic conditions

Hydrology, in part, refers to how water is delivered to streams and rivers during storms. Under natural hydrologic conditions in the Pacific Northwest, rainwater movement to streams is slowed and retained by trees, plants, wetlands, floodplains and soils. When these natural features are altered or removed and hard (impervious) surfaces are installed, rainwater is delivered quickly, in high volumes, to streams and rivers. This causes channel damage, excessive flooding, groundwater depletion, and alters habitat such that animals adapted to natural conditions are sometimes no longer able to survive there. Altered hydrology has strongly, negatively impacted the region's threatened salmon and other native aquatic species including lamprey.

All habitat in Metro's inventory is important to maintaining hydrologic conditions. In this naturally forested region, trees are particularly important to hydrology because they slow and store large quantities of stormwater.[35]

Measuring the criterion

This criterion is best assessed using a combination of criteria from the Environmental ESEE:

- "Conserves existing watershed health and restoration opportunities" (environmental criterion

[35] Metro's field studies showed that the amount of tree cover, both near streams and throughout watersheds, is positively associated with stream health (Frady et al. 2002).

1), and

- Retains multiple functions provided by forest canopy cover (environmental criterion 2).

Results

The data tables and graphs associated with this criterion are available in the Environmental ESEE section. Option 1A provides the most protection for this criterion, but Options 2A and 1B also provide substantial protection. Options 2C and 1C are least likely to protect sensitive species over time, because substantial habitat and connectivity may be lost. Less protective options may lead to an increase in future ESA species listings.

Table 4-29. Performance of options in meeting ESA criterion 2: Maintains hydrologic conditions.

Rank	Option	Performance
1	1A	This option provides the most protection and restoration opportunities for existing fish and wildlife habitat, and therefore provides the strongest regulatory approach to maintain current hydrologic conditions.
2 / 3	2A / 1B	Option 2A ranks second for conserving existing watershed health and restoration opportunities, but ranks third for retaining forest canopy cover. Both options could aid in maintaining hydrologic conditions, depending on the amount of habitat retained and whether new trees and habitat are added over time.
4	2B	Ranks fourth for conserving watershed health and restoration opportunities, as well as for conserving forest canopy. Unlikely to maintain hydrologic conditions over time without substantial non-regulatory investments.
5	2C	Ranks fifth for conserving watershed health and restoration opportunities, as well as for conserving forest canopy. Unlikely to maintain hydrologic conditions over time, even with substantial non-regulatory investments. Strong likelihood for increased harm to salmon habitat and increased potential for future ESA species listings.
6	1C	Ranks last for conserving watershed health and restoration opportunities, as well as for conserving forest canopy. Unlikely to maintain hydrologic conditions over time due to extensive loss of existing resources and loss of restoration opportunities. Strong likelihood for increased harm to salmon habitat and increased potential for future ESA species listings.

3. Protects riparian functions

Metro's extensive review of the scientific literature revealed that ecological functions are not limited to the areas nearest the stream. Existing riparian habitat areas protect water quality and provide key habitat to many of the region's at-risk species, including those living on the land or in water. Due to the extent of riparian habitat loss over time, all remaining riparian areas are important to stream health. Lower value areas not only contribute to watershed function, but also provide key restoration opportunities that may help improve watershed health and offset detrimental effects from future development elsewhere in the watershed.

Measuring the criterion

This criterion is derived from the riparian corridor portion of the criterion entitled "Conserves existing watershed health and restoration opportunities" (environmental criterion 1). It measures the amount of riparian habitat affected by Allow, Limit, Prohibit treatments under each program option. Class I riparian receives special consideration in Table 4-29 due to the multiple ecological functions provided in these high-value areas.

Results

The data tables and graphs associated with this criterion are available in the Environmental ESEE section. It is important to note that no matter which option is selected, riparian habitat may be lost and remaining habitat degraded over time due to continued development within the UGB and the urban effects associated with development, such as increased runoff and decreased water quality. The extent to which a program protects riparian function depends, in part, on non-regulatory program elements such as restoration in existing resources and new habitat creation in key areas of importance.

Option 1A provides the most protection for all riparian habitat. Option 2A provides less protection for habitat within one site potential tree height, and Option 1B is a substantial step downward in protection levels. Option 2B is slightly less protective of riparian habitat than Option 1B. Option 2C provides a substantially reduced level of protection for Class I and II habitat, and very little protection for Class III. Option 1C provides low level protection for Class I and II, and no protection at all for Class III riparian; this option is least likely to protect riparian functions. Options 1C and 2C are unlikely to protect existing sensitive species, and will likely result in future ESA listings over time as riparian habitat is lost or damaged.

Table 4-30. Performance of options in meeting ESA criterion 3: Protects riparian corridors

Rank	Option	Performance
1	1A	Most likely to retain existing riparian function and watershed health. Class I and II habitat in prohibit designation, and Class III in strictly limit. Most likely to help conserve sensitive species and aid in preventing future ESA listings.
2	2A	Incrementally less protection for riparian habitat, but generally still good protection levels for Class I and II. Protection drops significantly for Class III, with the majority in lightly limit designation.
3	1B	Substantially less protection compared to Options 1A and 2A. Class III riparian in appears to be particularly vulnerable, with lightly limit designations.
4	2B	Incrementally less protection than previous options. Moderate loss of high-value riparian habitat likely, with potential for negative effects on sensitive species. Protection levels drop off significantly for Class III habitat, with primarily lightly limit designation, similar to option 2A. May increase potential for future ESA listings.
5	1C	Class I receives moderately limit, Class II lightly limit, and Class III receives allow designations. Less likely to protect existing sensitive species than options above. May result in substantial loss of riparian habitat and increases potential for future additional ESA listings.
6	2C	Poor protection for riparian habitat. Least likely to protect existing sensitive species. Most likely to lead to future ESA listings.

Evaluation of federal Clean Water Act

The federal Clean Water Act (CWA) sets a national goal to "restore and maintain the chemical, physical and biological integrity of the Nation's waters."[36] In Oregon, the Department of Environmental Quality (DEQ) implements the CWA, with review and approval by the U.S. Environmental Protection Agency.

The DEQ is responsible for protecting the beneficial uses of rivers, streams and lakes of the state. The DEQ carries out this responsibility in part by identifying those water bodies that are not meeting current water quality standards. This inventory is known as the 303(d) list. For waters identified on the 303(d) list, DEQ must develop total maximum daily loads (TMDLs) for those pollutants that exceed water quality standards. The TMDLs become part of implementation plans at the watershed scale intended to meet water quality standards. In urban areas, local governments are often the parties responsible for such plans, with input from watershed councils, landowners and other stakeholders.

The DEQ recently informed Metro Council that a Goal 5 program that provides shading, pollutant removal, and infiltration could protect and restore fish and wildlife habitat and help meet water quality standards in the Willamette and Tualatin Basins. Retaining fish and wildlife habitat, and the ecological functions these areas provide, is less expensive than constructing water quality treatment facilities. Potentially, the amount of Goal 5 resources preserved for protection and restoration may be an important management measure in a watershed's TMDL implementation plan.

The federal CWA criterion compares the potential effects of the six program options on the importance of fish and wildlife habitat to the region's water quality. Four criteria will assist this process:

1. Protects steep slopes and wetlands;
2. Protects resources within 150 feet of streams;
3. Maintains hydrologic conditions (see ESA criterion 2); and
4. Protects forested areas throughout the watershed.

Some of the criteria used to assess program performance related to the CWA are similar to those assessed for the federal ESA, because existing fish and wildlife habitat also protects water quality. These criteria provide important information about how each program performs relative to the others, and will aid Metro, its partners, and the public in determining the relative consequences to water quality under each program.

1. Protects slopes and wetlands

Steep slopes are vulnerable to erosion and landslides, particularly when trees and other vegetation are removed.[37] Wetlands collect and treat soil runoff and help control stream bank

[36] For a description of the federal Clean Water Act, see Appendix 1 in Metro's Phase I ESEE Report.
[37] The ecological damage associated with excess sediments entering streams is described in Metro's Technical Report for Goal 5 (Metro 2002) and Phase I ESEE report (Metro 2003).

erosion to help meet turbidity, sedimentation, and nutrient TMDLs. Wetlands collect and treat pesticides, heavy metals, and other toxic pollutants to help meet TMDLs for these pollutants. Wetlands also collect and store water to provide base flow in streams during summer low-flow months, which helps meet temperature TMDLs.

Measuring the criterion

Steep slopes are addressed in Metro's riparian GIS model as a primary and secondary functional contributor to Bank Stabilization, Sediment and Pollution Control. Wetlands receive primary functional value in the riparian model under the Streamflow Moderation and Water Storage, Bank Stabilization, Sediment and Pollution Control, and are also captured as Class I riparian as a Habitat of Concern.

This criterion is best assessed using a subset of one of the criteria from the Environmental ESEE. Class I and Class II riparian habitat derived from the criterion entitled "Conserves existing watershed health and restoration opportunities" (environmental criterion 1) captures all wetlands and the majority of vegetated steep slopes near streams. As in the ESA criteria, the extent to which restoration is included as part of any Goal 5 program will help determine its effectiveness in protecting water quality.

Results

The data tables and graphs associated with this criterion are available in the Environmental ESEE section and associated appendices. Option 1A provides the most protection for Class I and II riparian habitat. Option 2A provides incrementally less. Options 1B and 2B fall in the middle. Options 1C and 2C perform poorly in protecting these habitat areas, and are likely to result in future 303(d) listings and TMDL requirements due to unprotected steep slopes and wetland areas.

Table 4-31. Performance of options in meeting CWA criterion 1: Protects slopes and wetlands.

Rank	Option	Performance
1	1A	Highest protection level for all Class I and Class II riparian habitat; most likely to protect steep slopes and wetlands. **For every program option, restoration will still be needed to meet temperature and other standards.**
2	2A	Excellent protection for Class I habitat. Good protection for Class II habitat, but definitely a step downward from 1A, with about two thirds of Class II in moderately limit designations and the remainder in Lightly Limit. Where steep slopes occur in Class II, may increase erosion and sedimentation and degrade water quality.
3	1B	Incrementally less protection for Class I and Class II habitat.
4	2B	Somewhat less protection for Class I and II habitat compared to Option 1B, but most habitat areas still receive strictly or moderately limit designations.
5	1C	Substantially reduced protection for steep slope areas and wetlands. Likely to result in non-compliance for existing TMDLs and future 303(d) listings and TMDL requirements.
6	2C	Poor protection for Class I resources (particularly in Developed Urban areas), and dismal protection for Class II. Highly likely to result in degraded water quality, non-compliance for existing TMDLs, and increased future 303(d) listings and TMDL requirements.

2. Protects resources within 150 feet of streams

The importance of riparian areas in maintaining water quality is well documented.[38] These areas provide shading to help meet temperature TMDLs, collect and treat soil runoff, and control stream bank erosion to help meet turbidity, sedimentation, and nutrient TMDLs. Riparian areas collect and treat bacteria in runoff to help meet bacteria TMDLs and collect and treat pesticides, heavy metals, and other toxic pollutants to help meet TMDLs for these pollutants. Like wetlands (and generally including wetlands), riparian areas collect and store water to provide base flow in streams during summer low-flow months, helping to meet temperature TMDLs.

Measuring the criterion

This criterion is assessed using the riparian corridor continuity portion of the criterion entitled "Promotes riparian corridor continuity and overall habitat connectivity" (environmental criterion 3a). It measures the amount of habitat within 150 feet of streams affected by Allow, Limit, Prohibit treatments under each program option.

Results

The data tables and graphs associated with this criterion are available in the Environmental ESEE section. Option 1A provides the most protection for Class I and II riparian habitat. Option 2A, 1B and 2C provide incrementally less protection for areas within one site potential tree height, respectively. Options 1C and 2C perform very poorly in protecting these habitat areas, and are likely to result in future 303(d) listings and TMDL requirements due to habitat loss closest to streams, as well as non-compliance with existing TMDLs.

Table 4-32. Performance of options in meeting CWA criterion 2: Conserves habitat within 150 feet of streams.

Rank	Option	Performance
1	1A	Excellent performance for conserving existing habitat within 150 feet of streams, with primarily Prohibit plus some Strictly Limit designations. This option is most likely to assist in meeting current TMDLs and preventing future non-compliance issues. **For every program option, restoration will still be needed to meet temperature and other standards.**
2	2A	Substantial step downward from 1A, but still good protection levels. About half of the habitat within 150 feet of streams receives Prohibit treatment, with the remainder falling within the three degrees of limit. Loss of any habitat within this zone, particularly without restoring key areas, is likely to decrease water quality and increase CWA non-compliance issues.
3	1B	Incremental step downward from Option 2A. Increases likelihood of water quality issues and CWA non-compliance.
4	2B	Relatively small step downward from Option 1B, with similar repercussions possible.
5	1C	Very poor protection for near-stream habitat. Unlikely to conserve existing resources or retain restoration opportunities within 150 feet of streams. Highly likely to degrade water quality, resulting in non-compliance with current TMDLs and necessitating future 303(d) and TMDL listings.
6	2C	Similar to Option 1C, but slightly worse.

[38] See Metro's Technical Report for Goal 5 (Metro 2002) and Phase I ESEE Report (Metro 2003).

3. Maintains hydrologic conditions

This criterion is described and measured in ESA criterion 2. Altered hydrology is a leading cause of degraded water quality. The key negative effects associated with altered hydrology are described in Metro's Technical Report for Goal 5 and Phase I ESEE documents (Metro 2002, 2003). Program options for this criterion rank as follow, from best to worst in terms of maintaining hydrologic conditions: 1A, 2A/1B, 2B, 2C, and 1C.

4. Protects forested areas throughout the watershed

Trees are vitally important to the region's water quality, as demonstrated through local studies and as recognized by DEQ.[39] Trees provide infiltration to recharge both groundwater and down gradient streams, providing base flow for streams during summer low-flow months and helping to meet temperature TMDLs. Trees are especially effective in reducing sedimentation and erosion, runoff speed and volume, excess nutrients, and water temperature, thereby helping to meet nutrient, sediment, turbidity, and temperature TMDLs.

Measuring the criterion

This criterion is measured using Environmental criterion 2, "Retains multiple functions provided by forest canopy cover."

Results

The data tables and graphs associated with this criterion are available in the Environmental ESEE section. Option 1A provides the most protection for the region's upland and riparian forests. Option 1B provides substantially less protection, with Option 2A close behind. Options 1B and 2B fall in the middle. Option 2C performs very poorly in protecting forest canopy, and is likely to result in future 303(d) listings and TMDL requirements due to unprotected steep slopes and wetland areas.

Table 4-33. Performance of options in meeting CWA criterion 4: Protects forest canopy throughout the watershed.

Rank	Option	Performance
1	1A	Protects by far the most canopy cover of any other program option for vulnerable forested lands in both vacant and developed lands. This option is most likely to aid in current Clean Water Act compliance and help prevent future 303(d) listings and TMDL requirements. **For every program option, restoration will still be needed to meet temperature and other standards.**
2	1B	Substantially less protection than option 1A, but still performs better than the remaining options. However, options 1B and 2A appear relatively close in terms of potential effects on the region's forest canopy, and therefore, water quality. No Allow designations mean that all forested habitat would be afforded at least some level of protection.
3	2A	Similar to 1B, with slightly less protection.
4	2B	Little Allow, but overall protection levels lower than options 1B and 2A. Potential for significant forest loss and increased water quality issues.
5	2C	Low protection levels for forest canopy, with 38 percent of vacant and developed urban in Lightly Limit or Allow. Likely to result in significant forest canopy loss over time. Highly likely to degrade water quality, resulting in non-compliance with current TMDLs

[39] Metro's field studies showed that the amount of tree cover, both near streams and throughout watersheds, is positively associated with stream health (Frady et al. 2002).

		and likely necessitating future 303(d) and TMDL listings.
6	1C	Low protection levels for forest canopy, with 47 percent of vacant and developed urban in Lightly Limit or Allow. Likely to result in significant forest habitat loss over time. Highly likely to degrade water quality, resulting in non-compliance with current TMDLs and likely necessitating future 303(d) and TMDL listings.

Summary of analysis of regulatory options

Metro's analysis of the six regulatory program options against the 19 criteria provides a substantial amount of information for the Metro Council to use in their consideration of a program direction for protecting fish and wildlife habitat. Generally, the options that protect more habitat (Options 1A and 2A) perform similarly across criteria. The option that least protects the highest-value habitat (Option 1C) and the option with the lowest level of protection for habitat in industrial areas and centers (Option 2C) also perform similarly. However, Option 2C favors factors important for urban development by focusing on the economic concerns, while Option 1C reduces protection equally for all land uses. Table 4-34 summarizes the analysis.

Table 4-34. Summary of program option analysis.

Criteria	Option 1A: Most habitat protection *Highest level of protection for all habitats*	Option 1B: Moderate habitat protection *High level of protection for highest value habitat, moderate protection for other habitats*	Option 1C: Least habitat protection *Moderate level of protection for higher value habitats, no protection for lowest value habitat*	Option 2A: Most habitat protection *Moderate level of protection in high urban development value areas, high level of protection in other areas*	Option 2B: Moderate habitat protection *Low level of protection in high urban development value areas, moderate level of protection in other areas*	Option 2C: Least habitat protection *No protection in high urban development value areas, moderate level of habitat protection in other areas*
Economic factors						
1. Supports the regional economy by providing development opportunities (such as residential, commercial, industrial)	**Ranks 6th:** Provides least development opportunities due to highest levels of habitat protection on residential, commercial and industrial lands.	**Ranks 4th:** Provides some development opportunities for residential, commercial and industrial.	**Ranks 2nd:** Provides substantial development opportunities for all types of development.	**Ranks 5th:** Provides minimal development opportunities because residential development in some high value habitat is prohibited.	**Ranks 3rd:** Provides moderate development opportunities due to less habitat protection in all commercial and industrial areas and some residential land.	**Ranks 1st:** Provides most development opportunities due to relaxed habitat protection; provides more development opportunities in commercial and industrial areas than in residential areas.
2. Supports economic values associated with ecosystem services (such as flood control, clean water, recreation, amenity values)	**Ranks 1st:** Retains most existing ecosystem services across all habitat classes. Highest protection for habitat.	**Ranks 3rd:** Retains moderate ecosystem services with moderate protection to high value habitat.	**Ranks 6th:** Retains least ecosystem services overall for all habitat classes.	**Ranks 2nd:** Retains substantial ecosystem services with strict protection to high and medium value stream corridors.	**Ranks 4th:** Retains some ecosystem services. Applies moderate protection to stream corridors but higher protection to upland wildlife habitat.	**Ranks 5th:** Retains minimal ecosystem services due to relaxed protection in areas with high and medium development value.
3. Promotes recreational use and amenities	**Ranks 1st:** Promotes the most recreational benefits by prohibiting development in highest quality habitat lands.	**Ranks 3rd:** Provides moderate recreational benefits by applying relatively strong protection to the highest value habitats.	**Ranks 6th:** Provides least recreational benefits because it applies only moderate protection to highest value habitat.	**Ranks 2nd:** Promotes substantial recreational benefits of stream corridors, does not apply same protection to wildlife habitat.	**Ranks 4th:** Promotes some recreational benefits, mostly on park land.	**Ranks 5th:** Promotes minimal recreational benefits mostly on park land.
4. Distribution of economic tradeoffs	**No rank:** Privately-owned habitat land bears greater proportion of highest protection than publicly-owned habitat.	**No rank:** Privately-owned and publicly-owned land bears equal proportion of highest protection.	**No rank:** Privately-owned and publicly-owned land bears equal proportion of highest protection.	**No rank:** Publicly-owned habitat land bears greater proportion of highest protection than privately-owned habitat land.	**No rank:** Publicly-owned habitat land bears greater proportion of highest protection than privately-owned habitat land.	**No rank:** Publicly-owned habitat land bears greatest proportion of highest protection.
5. Minimizes need to expand the urban growth boundary (UGB) and increase development costs.	**Ranks 6th:** Affects the need to expand the UGB the most; highest level of protection restricts development.	**Ranks 4th:** Moderately affects the need to expand the UGB because of restrictive protection levels.	**Ranks 1st:** Least need to expand UGB; lowest protection levels provide most development opportunity.	**Ranks 5th:** Substantially affects need to expand the UGB because of restrictive protection levels.	**Ranks 3rd:** Some need to expand UGB but less restrictive protection.	**Ranks 2nd:** Minimal need to expand the UGB because low level of protection provides development opportunity.
Social factors						
6. Minimizes impact on property owners	**Ranks 6th:** Affects the most property owners with the highest level of habitat protection regardless of zoning.	**Ranks 4th:** Moderately affects all property owners, but does not apply highest habitat protection anywhere.	**Ranks 1st:** Affects the least number of property owners and applies lower levels of habitat protection.	**Ranks 5th:** Substantially affects large number of property owners with strong protection, especially in residential and rural areas.	**Ranks 3rd:** Affects some business landowners with moderate protection, but high protection is applied to residential and rural owners.	**Ranks 2nd:** Minimally affects business landowners, but many residential and rural property owners are affected with lower levels of protection.
7. Minimizes impact on location and choices for housing and jobs	**Ranks 6th:** Most effect on the location and choices available for jobs and housing by	**Ranks 4th:** Moderate effect on the location and choices available for jobs and housing,	**Ranks 2nd:** Minimal effect on housing location and choices, some effect on job location	**Ranks 5th:** Substantial effect on housing location and choices, moderate effect on	**Ranks 3rd:** Some effect on job location and choices, moderate effect on housing	**Ranks 1st:** Least effect on job location and choices, minimal effect on housing location and

Criteria	Option 1A: Most habitat protection *Highest level of protection for all habitats*	Option 1B: Moderate habitat protection *High level of protection for highest value habitat, moderate protection for other habitats*	Option 1C: Least habitat protection *Moderate level of protection for higher value habitats, no protection for lowest value habitat*	Option 2A: Most habitat protection *Moderate level of protection in high urban development value areas, high level of protection in other areas*	Option 2B: Moderate habitat protection *Low level of protection in high urban development value areas, moderate level of protection in other areas*	Option 2C: Least habitat protection *No protection in high urban development value areas, moderate level of habitat protection in other areas*
	applying high protection levels to all habitats.	applies a medium protection level to residential and employment land.	and choices. Applies lower protection levels to all land regardless of zoning.	job location and choices. Applies high protection levels to residential land, medium protection levels to most employment land.	location and choices. Applies lower protection levels to employment land, moderate protection levels to residential land.	choices. Applies lowest protection levels to employment land, moderate protection levels to residential land.
8. Preserves habitat for future generations	**Ranks 1st**: Preserves the most habitat for future generations by applying high levels of protection to all habitats.	**Ranks 3rd**: Preserves a moderate amount of habitat for future generations, focuses protection on higher value habitats.	**Ranks 6th**: Preserves the least amount of habitat for future generations, applies lower level of protection to higher value habitats.	**Ranks 2nd**: Preserves a substantial amount of habitat for future generations. Higher protection levels applied to highest value stream corridors, moderate and high protection applied to other habitats.	**Ranks 4th**: Preserves some habitat for future generations. Applies some protection to highest value habitats and moderate protection to other habitats.	**Ranks 5th**: Preserves a minimal amount of habitat for future generations. Habitat in areas of high urban development value is not preserved, habitat in other areas receives low and moderate protection.
9. Maintains cultural heritage and sense of place	**Ranks 1st**: Provides the most protection for the highest value habitat, highest level of protection may result in need for expanding the UGB.	**Ranks 3rd**: Provides moderate protection for highest value habitat, less potential for expanding the UGB.	**Ranks 6th**: Provides the least protection to highest value habitat, habitat outside UGB at less risk.	**Ranks 2nd**: Provides substantial protection to highest value habitat, a small portion in high urban development value areas receive moderate protection.	**Ranks 4th**: Provides some protection to highest value habitat; applies low protection to habitat in high urban development value areas.	**Ranks 5th**: Provides minimal protection to highest value habitat, habitat in high urban development values receives no protection.
10. Preserves amenity value of resources (quality of life, property values, views)	**Ranks 1st**: Retains the most amenity value in the highest value habitats.	**Ranks 3rd**: Retains moderate level of amenity value in the highest value habitats.	**Ranks 6th**: Retains least level of amenity value in wildlife habitat, slightly more in stream corridors.	**Ranks 2nd**: Retains substantial amenity value in highest value habitats, more protection for streams than upland habitat.	**Ranks 4th**: Retains some level of amenity value in highest value habitat, more protection for streams than upland habitat.	**Ranks 5th**: Retains a minimal level of amenity value, highest value wildlife habitat receives more protection.
Environmental factors						
11. Conserves existing watershed health and restoration opportunities	**Ranks 1st**: Preserves most high value habitat; provides substantial protection to other habitats.	**Ranks 3rd**: Preserves moderate amount of all habitats; higher protection for highest value habitat.	**Ranks 6th**: Preserves least amount of habitat; moderate protection for higher value habitat; no protection for lowest value habitat.	**Ranks 2nd**: Preserves substantial amount of habitat. Highest protection levels for most high value habitat, moderate protection for other habitats.	**Ranks 4th**: Preserves some amount of habitat. Higher value habitats receive moderate protection levels; other habitats receive lower protection.	**Ranks 5th**: Preserves minimal amount of habitat. Provides low protection levels for all habitat classes, no protection for highest value habitat in some circumstances.
12. Retains multiple habitat functions provided by forest areas	**Ranks 1st**: Retains the most forest cover in both vacant and developed habitat lands.	**Ranks 2nd**: Retains substantial amount of forest cover in both vacant and developed habitat lands.	**Ranks 6th**: Retains least amount of forest cover, likely to result in significant forest habitat loss over time.	**Ranks 3rd**: Retains moderate amount of forest cover, some protection for all forested habitat areas and highest protection for forested habitat in stream corridors.	**Ranks 4th**: Retains some amount of forest cover, some protection for almost all forested habitat areas.	**Ranks 5th**: Retains minimal amount of forest cover, low protection levels for most forested habitat areas.
13. Promotes riparian corridor connectivity and overall habitat	**Ranks 1st**: Promotes most stream corridor continuity and overall habitat connectivity.	**Ranks 3rd**: Promotes moderate retention of connectivity. Provides small	**Ranks 6th**: Promotes least retention of connectivity and likely to result in most	**Ranks 2nd**: Promotes substantial retention of stream corridor continuity; moderate	**Ranks 4th**: Promotes some retention of connectivity in stream corridors and between	**Ranks 5th**: Promotes minimal retention of connectivity, likely to result in significantly

Criteria	Option 1A: Most habitat protection *Highest level of protection for all habitats*	Option 1B: Moderate habitat protection *High level of protection for highest value habitat, moderate protection for other habitats*	Option 1C: Least habitat protection *Moderate level of protection for higher value habitats, no protection for lowest value habitat*	Option 2A: Most habitat protection *Moderate level of protection in high urban development value areas, high level of protection in other areas*	Option 2B: Moderate habitat protection *Low level of protection in high urban development value areas, moderate level of protection in other areas*	Option 2C: Least habitat protection *No protection in high urban development value areas, moderate level of habitat protection in other areas*
connectivity		connector habitats with higher protection, does not preserve as much stream corridor continuity.	reduction of regional connectivity. No protection for small connector habitats.	protection for small connector habitats.	upland habitats.	reduced regional connectivity.
14. Conserves habitat quality and biodiversity provided by large habitat areas	**Ranks 1st**: Conserves the most large habitat areas.	**Ranks 2nd**: Conserves a substantial amount of large habitat areas, moderate risk for urban development fragmenting large habitats.	**Ranks 6th**: Conserves least amount of large habitat areas, likely to result in significant fragmentation.	**Ranks 3rd**: Conserves moderate amount of large habitat areas, small amount of low protection applied to portions of some large habitats.	**Ranks 4th**: Conserves some amount of large habitat areas, lower protection levels applied to all large habitats.	**Ranks 5th**: Conserves minimal amount of large habitat areas, likely to result in significant fragmentation of large habitats.
15. Supports biodiversity through conservation of sensitive habitats and species	**Ranks 1st**: Supports the most biodiversity by applying highest levels of protection to sensitive habitats and stream corridors.	**Ranks 2nd/3rd**: Supports a substantial amount of biodiversity, applies more protection to sensitive habitats than stream corridors.	**Ranks 5th**: Supports a minimal amount of biodiversity, applies moderate protection level to sensitive habitats and stream corridors.	**Ranks 2nd/3rd**: Supports a substantial amount of biodiversity, applies more protection to stream corridors than sensitive habitats.	**Ranks 4th**: Supports some biodiversity, applies higher protection to stream corridors than sensitive habitats.	**Ranks 6th**: Supports the least amount of biodiversity, likely to result in substantial loss of sensitive habitats and sensitive species.
Energy Factors						
16. Promotes compact urban form	**Ranks 6th**: Promotes compact urban form the least. Highest protection levels applied to vacant land intended for urban uses (housing & jobs).	**Ranks 4th**: Moderately promotes compact urban form. Some reduction in development potential on all habitat land.	**Ranks 1st**: Promotes compact urban form the most. Development allowed in lowest habitats, moderate protection to other habitat lands.	**Ranks 5th**: Minimally promotes compact urban form. Development opportunities reduced in all habitat areas.	**Ranks 3rd**: Promotes some amount of compact urban form. Development opportunities reduced in most habitat areas.	**Ranks 2nd**: Substantially promotes compact urban form. Development opportunities on business land less impacted than residential land.
17. Promotes green infrastructure	**Ranks 1st**: Conserves the most vegetation and forested areas.	**Ranks 3rd**: Conserves a moderate amount of vegetation and forested areas.	**Ranks 6th**: Conserves the least amount of vegetation and forested areas.	**Ranks 2nd**: Conserves a substantial amount of vegetation and forested areas.	**Ranks 4th**: Conserves some vegetation and forested areas.	**Ranks 5th**: Conserves a minimal amount of vegetation and forested areas.
Other criteria						
18. Assists in protecting fish and wildlife protected by the federal Endangered Species Act	**Ranks 1st**: Provides most protection to sensitive habitats; most protection for hydrology and riparian functions; most likely to protect sensitive species.	**Ranks 3rd**: Provides substantial protection to sensitive habitats and species. Similar to 2A, but provides less protection for hydrologic conditions.	**Ranks 6th**: Provides least protection to sensitive habitats and species, hydrology. Minimal protection for riparian functions.	**Ranks 2nd**: Provides substantial protection to sensitive habitats and species. Similar to 1B, but provides more protection for hydrologic conditions.	**Ranks 4th**: Provides some protection to sensitive habitats; less likely to maintain hydrologic conditions or riparian functions.	**Ranks 5th**: Provides minimal protection to sensitive habitats and species and hydrology. Provides least protection for riparian functions.
19. Assists in meeting water quality standards required by the federal Clean Water Act	**Ranks 1st**: Provides most protection for clean water. Most protective of forest canopy, habitat near streams and on steep slopes; most protection for hydrology.	**Ranks 3rd**: Provides moderate protection for clean water. Moderate protection for for slopes, wetlands, and resources near streams. Substantial protection for forested areas.	**Ranks 5th**: Provides minimal protection for the natural resources important to protecting water quality. Least protection for forested areas.	**Ranks 2nd**: Provides substantial protection for clean water, with strict protection for slopes, wetlands, and resources near streams. Moderate protection for forested areas.	**Ranks 4th**: Some protection for slopes and wetlands, hydrologic conditions, habitat near streams, hydrologic conditions and forest. Potential for decreased water quality.	**Ranks 6th**: Provides least protection for slopes and wetlands, habitat near streams, and hydrology; minimal protection for forested areas. Most potential for poor water quality.

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

Protecting fish and wildlife habitat in the urban area is complicated, and there are many important tradeoffs to balance. Metro's consideration of several non-regulatory tools for habitat protection describes several approaches that could be developed further, building on the restoration, education, and acquisition work that Metro currently does. Metro's analysis of the six regulatory program options identifies the number of affected acres of land in each habitat and urban development class, and describes the economic, social, environmental, and energy consequences associated with various protection levels. Evaluating the performance of each option against the 19 criteria provides the Metro Council with valuable information necessary to choose which type of regulatory approach makes the most sense for the region. Non-regulatory and regulatory tools can be complementary, increasing the effectiveness of each approach. This chapter includes:

- a brief summary of the potential non-regulatory tools,
- results of the analysis of the six regulatory options,
- a discussion of the interaction between non-regulatory and regulatory tools,
- potential funding sources, and
- the next steps in the development of a regional fish and wildlife habitat protection program.

Potential non-regulatory tools for habitat protection

While there is substantial evidence of current non-regulatory efforts accomplishing habitat protection, restoration, and education in the Metro region, they have not been successful in preventing the decline in overall ecosystem health. Most non-regulatory programs are dependent on unsteady sources of grant funding, volunteerism, and good stewardship, often without recognition or reward. Each program conducts important work, but even taken as a whole over the past decade only a small portion of the habitat in the region received the attention needed. There is a much greater need for restoration dollars; technical assistance for landowners, developers, and local jurisdictions; and permanent protection for critical habitats than is currently available.

There are many types of non-regulatory tools that could be used to protect and restore fish and wildlife habitat in the region. All of these tools require some type of funding, whether to pay for staff or provide direct dollars to purchase or restore land. Many of the non-regulatory tools could be implemented at either the local or regional level. Below is a list of tools identified in this report:

- Stewardship and recognition programs
- Grants for restoration and protection
- Information resources
- Technical assistance program
- Habitat education activities
- Volunteer activities
- Agency-led restoration activities
- Acquisition

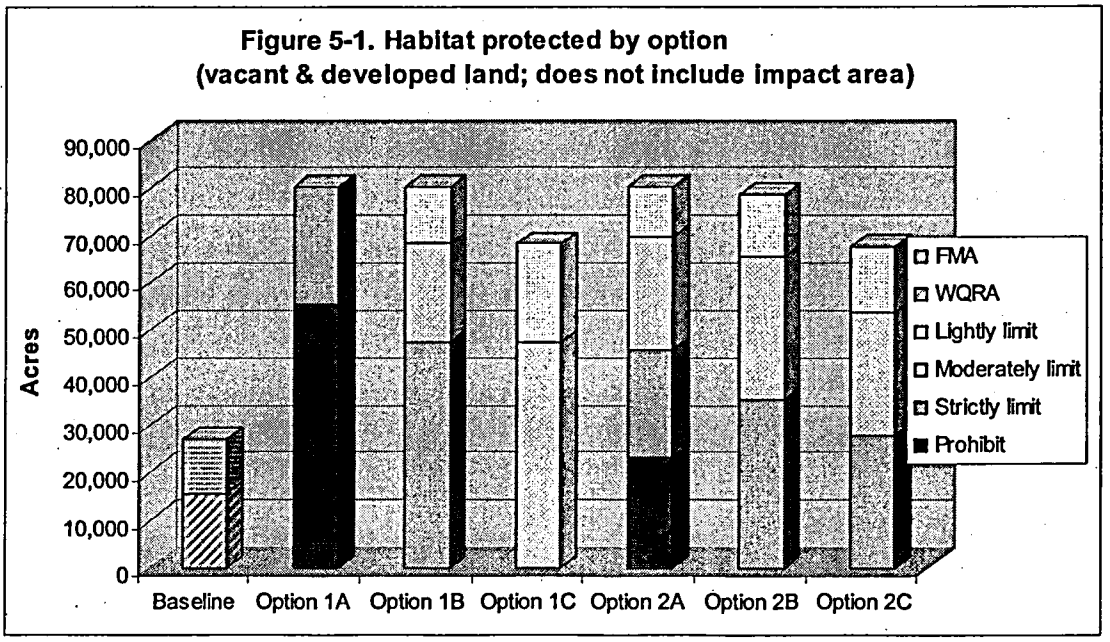
Acquisition is the most effective non-regulatory tool to achieve habitat protection. Acquisition achieves permanent protection and also preserves land to be restored at a later date. However, the high cost of purchasing land, especially within the urban growth boundary, and the dependence of an acquisition program on willing sellers limits the effectiveness of such a program.

Many of the other non-regulatory habitat protection and restoration tools considered in this report are most effective when used in combination with each other and/or along with a regulatory program. A regulatory program can provide the incentive and motivation to develop innovative solutions to land development while protecting habitat. Grants and technical assistance are the tools that could be most effective in protecting and restoring habitat, in the absence of an acquisition program. A stewardship recognition program could help promote grants and serve to educate others about innovative practices. Coordinating with existing agencies and volunteer groups that conduct restoration as well as providing funds to focus efforts could be effective in enhancing regionally significant habitat.

Comparison of regulatory options

Metro developed six regulatory options to protect land classified as regionally significant fish and wildlife habitat. Three of the options consider habitat quality (1A, 1B, and 1C) and three options (2A, 2B, and 2C) consider habitat quality and urban development value. Five possible treatments are applied in the options, identifying whether development would be allowed, lightly limited, moderately limited, strictly limited, or prohibited. The six options were evaluated based on how they met 19 criteria. Most of the criteria were based on the issues identified in Metro's general evaluation of the economic, social, environmental, and energy tradeoffs, two criteria were based on how well the options met the federal Endangered Species Act and Clean Water Act. Figure 5-1 graphically illustrates how the five treatment levels are applied in the six options as compared to the baseline regulations (Title 3).

Figure 5-1. Habitat protected by option
(vacant & developed land; does not include impact area)



Overall, the options that protect the highest-value habitat (Options 1A and 2A) perform similarly. The option that provides the least protection for the highest-value habitat (Option 1C) and the option with the lowest level of protection in the industrial and commercial areas (Option 2C) also perform similarly. However, Option 2C favors factors important for urban development while Option 1C reduces protection levels equally for all land uses. Table 5-1 compares the tradeoffs of applying the six regulatory options.

Table 5-1. Comparing the regulatory options.

Options 1A, 2A	Options 1B, 2B	Options 1C, 2C
• Reduces development opportunities within the existing urban growth boundary • Increases possibility of expanding the urban growth boundary, potentially increasing development costs (such as streets and utility connections) • Potentially adds to the cost of urban development (such as environmental review process, low impact development standards) • Protects the most habitat and restoration opportunities • Preserves the most ecosystem services (such as flood management and water quality) • Promotes conservation of sensitive species (such as Pileated woodpeckers and painted turtles) and at risk habitats (such as white oak forests and wetlands) • Supports cultural heritage (such as salmon), regional identity (such as proximity to open spaces), and amenity values (such as property values) • Greatest affect on the location and choices for jobs and housing • Increases property owner concerns about limiting use of land, especially single family residential	These options provide the middle ground between the most restrictive and least restrictive options.	• Provides the most development opportunities within the current urban growth boundary • Minimizes need to expand the urban growth boundary by allowing compact urban development • Supports urban centers and industrial areas by not applying new regulations (Option 2C) • Minimizes habitat protection and preserves the fewest restoration opportunities (but may increase future cost to restore ecosystem services such as flood control) • Increases habitat fragmentation along streams and between streams and upland habitats • Reduces variety of plants and animals that make up a healthy ecosystem • Increases energy demand for cooling air and water temperatures by removing trees and vegetation • Reduces opportunity for future generations to enjoy fish and wildlife habitat and their associated benefits • Minimizes property owner concerns about limiting use of land, especially residential and business land

Interaction of non-regulatory and regulatory tools

A program to protect fish and wildlife habitat may be most effective if it includes a variety of tools and approaches, both non-regulatory and regulatory. Both approaches have strengths and weaknesses, for example non-regulatory tools rely heavily on funding and willing landowners, while regulations only apply when triggered by a land use action. While regulatory and quasi-regulatory tools can offer some flexibility, regulations can and often are used to achieve a baseline level of protection. Protection can be greatly enhanced by supplementing a regulatory component with non-regulatory tools for fish and wildlife habitat protection. If a program option is chosen that includes less regulatory protection then it may be necessary to apply more non-regulatory approaches and a higher level of funding if the same level of habitat protection is

desired. The following constitutes a brief summary of how acquisition and incentives can interact with and increase the effectiveness of regulatory tools.

Incentives and regulations

When used in conjunction with regulations, the opportunity of incentives to encourage fish and wildlife habitat protection on private lands cannot be overstated. Through tax benefits, regulatory certainty, public recognition, cost sharing, and other incentives, landowners can be encouraged and rewarded for protecting valuable fish and wildlife habitat on their property. Takings issues, whether actual or perceived, are important to many property owners, thus regulatory programs may be unpopular. The application of incentives, however, can provide willing landowners some kind of compensation for conserving habitat on their land. Incentives can thus be used to support compliance with regulations or to fill in protection gaps for regionally significant habitat where regulations are not applied.

The Riparian Lands Tax Incentive Program (RLTIP), for example, can potentially apply in already urbanized areas to protect regionally significant riparian corridors adjacent to private property where the standards of buffer programs may be difficult to implement. Inside the UGB, where most of the significant riparian corridor habitat is developed rather than vacant, incentives can offer a tremendous opportunity to encourage voluntary protection and restoration. Other incentives[40] can apply to new development or redevelopment where habitat-friendly development is a feasible option for stormwater management and erosion and sediment control.

Acquisition and regulations

Just as incentive programs and regulatory tools can work together to protect significant habitat, combining acquisition with regulatory and quasi-regulatory approaches can create a more comprehensive protection strategy for fish and wildlife habitat. Further, where regulatory tools and incentive programs fail to provide adequate protection, acquisition of land from willing sellers offers a last line of defense for the habitat. Acquisition, by willing sellers, can be applied to conserve some of the remaining significant habitat.

Regulatory flexibility

Regulations to protect fish and wildlife habitat limit development options on land with habitat value. Some ways in which regulations could limit development include lowered density, minimum disturbance areas, and setbacks from significant resources. Incentives can work with regulations to allow development to occur in a manner that reduces the impact on the habitat. For example, cluster development, streamside buffers, and habitat-friendly development

[40] Such as: the City of Portland's Bureau of Environmental Services (BES) Ecobiz and Ecoroof Programs, the city's Office of Sustainable Development's (OSD) G-Rated Program, and Oregon Department of Environmental Quality's (DEQ) Nonpoint Source Pollution Control Facility Tax Credit Program (NSPCFTC). BES's Ecoroof Program, for example, provides developers with sewer rate discounts for building greenroofs on new buildings or for retrofits, while the DEQ's NSPCFTC program provides cost share opportunities for other innovative LID stormwater management designs. The soon-to-be-implemented Ecobiz program will serve to further encourage the use of LID for new and redevelopment by publicly recognizing landscapers who use these designs.

techniques can all provide some level of regulatory flexibility that allows development to occur while protecting habitat.

Cluster development

Clustering and open space development are land division and development tools used to conserve land on one portion of a site in exchange for concentrated development on another portion of the site. Typically, road frontages, lot sizes and setbacks are relaxed to allow the preservation of open space areas. Clustering has the potential for regulatory flexibility because ordinances implementing these tools can be designed to establish performance standards with objective evaluation criteria for protecting resources from development.

Riparian buffer performance standards

Riparian buffers frequently establish predominantly fixed-width setback standards to protect habitat in and around streams, wetlands and riparian areas. Buffer programs tend to regulate actions rather than establish standards to achieve a specific outcome or performance. However, the potential exists to establish performance standards when implementing buffer programs and to protect fish and wildlife habitat. Some of these standards can include, but are not limited to: variable-width provisions that allow a buffer to expand and contract with the landscape; maintaining or enhancing percentages of native forest cover within buffer areas; and reducing impervious surfaces and road crossings through buffer areas.

Low impact, habitat-friendly development

Low Impact Development (LID) tools, especially those for reducing impervious surfaces and controlling stormwater, contain the most flexible standards from a performance-based perspective. Since the primary objectives of LID are to improve hydrologic conditions and increase water quality in urban watersheds, many LID ordinances, whether mandatory or voluntary, provide flexibility in the types of practices that can be used to meet these objectives. Since LID tools also focus on improving water quality, many jurisdictions specify objective criteria that can be used to evaluate the outcome or performance. Such criteria include, but are not limited to: the number and lengths of roads and other impervious surfaces reduced; percentages of tree canopy maintained or created; maintenance or reduction of stream temperatures; amount of sediment, nutrient, and pollutant loading to water reduced; and the minimization of runoff volumes.

Funding

Protecting and restoring fish and wildlife habitat costs money, with either a non-regulatory focus, regulatory approach, or a combination of the two. All non-regulatory programs would require some type of funding, either to purchase land, restore habitat, provide grants for habitat-friendly development, or to retain staff to develop a technical assistance or stewardship recognition program. Nor are regulations without cost. Staff time (regional and local) is used to develop ordinances and implement new laws and changes in development capacity may result in a reduced property tax base for local partners.

Funding for habitat protection programs could be provided by a non-specific mechanism such as a bond measure or Metro's excise tax on solid waste, or a funding source could be tied to

specific activities that impact fish and wildlife habitat. Below are several ideas for raising funds for protecting and restoring fish and wildlife habitat that could be implemented at the regional or local level.

Increase Metro's excise tax

Metro collects an excise tax on each ton of solid waste produced within the region. An additional per ton fee could be added that would be dedicated to funding the protection and restoration of fish and wildlife habitat. Such a decision would require an action of the Metro Council.

Urban area inclusion fee

Metro manages the region's urban growth boundary (UGB), expanding it according to development needs as the region grows. Land outside the UGB is not allowed to develop at urban capacities. When the boundary expands the new lands increase in value due to the increased ability to develop. An urban area inclusion fee would capture a portion of this increase in the value of property due to inclusion within the UGB. Funds raised could be used to purchase or restore habitat land within Metro's jurisdiction. It could be targeted to lands in the expansion areas as they are developed.

The *Incentives Report* included substantial review of this tool. Based on that study, a partition fee seemed to have the best potential for successful implementation as a method of collecting revenue. A partition fee could be imposed as a flat fee uniformly applied across all land parcels on a per lot or per acre basis. Since the fee would be collected when land is partitioned (typically a one-time event), it would not be assessed multiple times on the same property. Revenue would depend on the amount of developable land brought inside the UGB, the pace of development in the expansion areas, and the proposed fee rate.

Systems development charge (SDC) program

Local jurisdictions, typically municipalities, across the state regularly apply SDCs to new development in an attempt to pay for the cost of new infrastructure. SDCs can only be charged for specified purposes, *water supply, treatment and distribution, drainage and flood control,* and *parks and recreation* all could be construed to relate to the protection and restoration of fish and wildlife habitat. SDCs are a major cost for new development, and the imposition of any additional charge is likely to be challenged in a court of law.

An SDC could be collected to fund mitigation of the environmental impacts of development on fish and wildlife habitat. Fees would be collected by the permitting agency. However, fees generated through an SDC must be used on "capacity increasing capital improvements " that "increase the level of performance or service provided by existing facilities or provides new facilities" (ORS § 223.307(2)). It may be difficult to tie protection or restoration of habitat to a capacity increasing improvement. A more legally viable argument could be made if a regional SDC was collected for stormwater management.

Stormwater management fee

Water providers (e.g., Clean Water Services, Portland Bureau of Environmental Services) collect fees for stormwater management purposes. Some of these funds are currently used for restoration activities, but Metro could encourage these agencies to devote more dollars to habitat protection and restoration. Metro could also impose a regional fee to be used for restoration and protection of significant fish and wildlife habitat to be collected by the water providers.

Bond measure

Metro could put forth a regional bond measure to raise funds to purchase or restore habitat lands from willing sellers. The 1995 Parks and Openspaces bond measure was very successful and allowed the creation of a system of regional parks and trails that will be appreciated for generations. A similar approach could be taken focused on Metro's fish and wildlife habitat inventory. The voters would need to pass a bond measure, and polling has shown that a targeted approach is most likely to be successful. Fish and wildlife habitat targets could include purchasing and restoring Habitats of Concern and floodplains. Funds could also be used to purchase properties that are significantly affected by new regulations.

Funds from outside sources

There are funds to protect fish and wildlife habitat that could be raised from other sources such as national non-profits and federal agencies. Land conservancy organizations could be contacted to encourage the purchase of targeted habitat types (e.g., Nature Conservancy, Trust for Public Land). The US Fish and Wildlife Service has funds available for restoration in urban areas, and has worked in partnership with Metro's Parks Department to provide grants to property owners and organizations to conduct restoration activities. The City of Portland received a grant from the Federal Emergency Management Agency (FEMA) to acquire lands in the Johnson Creek floodplain after the floods of 1996. Additional partnerships with federal agencies could be pursued. Such an effort would require staff time to develop and implement programs for protection or restoration.

Next steps

The Metro Council is scheduled to consider a program direction, including non-regulatory and regulatory components, in May 2004 after a rigorous review process during which the public, local partners, and interested stakeholder groups will have the opportunity to provide input on the best approach for protecting fish and wildlife habitat in the region. Metro will then develop a program to protect fish and wildlife habitat to be considered by the Council in December 2004. Metro's program would include a standard ordinance and may include provisions for a riparian or wildlife district plan as a means of substantial compliance.

I:\gm\long_range_planning\projects\Goal 5\Goal 5 Report REVISION\ESEE\Phase II\Phase II report.doc

DRAFT STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO 04-3440 FOR THE PURPOSE OF ENDORSING METRO'S DRAFT GOAL 5 PHASE II ESEE ANALYSIS, MAKING PRELIMINARY DECISIONS TO ALLOW, LIMIT, OR PROHIBIT CONFLICTING USES ON REGIONALLY SIGNIFICANT FISH AND WILDLIFE HABITAT; AND DIRECTING STAFF TO DEVELOP A PROGRAM TO PROTECT AND RESTORE REGIONALLY SIGNIFICANT FISH AND WILDLIFE HABITAT.

Date: April 7, 2004 Prepared by: Andy Cotugno and Chris Deffebach

CONTEXT AND BACKGROUND

The region's 2040 Growth Concept and other policies call for protection of natural areas while managing housing and employment growth. In 1998 the Metro Council adopted Title 3 of the Urban Growth Management Functional Plan to protect water quality and for flood management. Title 3 also included a commitment to develop a regional fish and wildlife habitat protection plan. As defined in a Vision Statement that was developed in cooperation with local governments at MPAC in 2000, the overall goal of the protection program is: "...to conserve, protect and restore a continuous ecologically viable streamside corridor... that is integrated with the urban environment." The Vision Statement also refers to the importance that "...stream and river corridors maintain connections with adjacent upland habitats, form an interconnected mosaic of urban forest and other fish and wildlife habitat..." Metro is currently developing this program, following the 3-step process established by the State Land Use Planning Goal 5 administrative rule (OAR 660-023).

In the first step, Metro identified regionally significant fish and wildlife habitat using the best available science, computer mapping, and fieldwork. In 2002, after review by independent committees, local governments and residents, Metro Council adopted the inventory of regionally significant fish and wildlife habitat lands. The inventory includes about 80,000 acres of habitat land inside Metro's jurisdictional boundary.

The second step of the process is to evaluate the Economic, Social, Environmental and Energy (ESEE) consequences of a decision to allow, limit or prohibit conflicting uses on these regionally significant habitat lands and on impact areas adjacent to the habitat areas. The impact areas add about 16,000 acres to the inventory. Metro is conducting the ESEE analysis in two phases. The first phase was to evaluate the ESEE consequences at a regional level. This work was completed and endorsed by the Metro Council in October 2003 (Resolution #03-3376). The resolution also directed staff to evaluate six regulatory program options and non-regulatory tools for fish and wildlife habitat protection in Phase II of the ESEE analysis. Staff has completed the Phase II ESEE analysis and is seeking direction from Metro Council on where conflicting uses within the fish and wildlife habitat areas and impact areas should be allowed, limited, or prohibited, as required in the Goal 5 administrative rule.

The Phase II analysis evaluates the ESEE consequences of possible protection and restoration options that include a mix of regulatory and non-regulatory components. Five potential

regulatory treatments are applied in each of the six regulatory options, ranging from allowing conflicting uses to prohibiting conflicting uses in habitat and impact areas. The consequences identify the effects on key ESEE issues identified in the Phase I analysis, including:

- Economic implications of urban development and ecosystem values
- Environmental effects including ecological function loss, fragmentation and connectivity
- Social values ranging from property owner concerns about limitations on development to concerns about loss of aesthetic and cultural values
- Energy trade-offs such as temperature moderating effects of tree canopy and potential fuel use associated with different urban forms.

In addition, the analysis considered how well the six regulatory options would assist in meeting the requirements of the federal Endangered Species Act and the Clean Water Act.

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

Cities and counties in the region currently have varying levels of protection for fish and wildlife habitat. As a result, similar quality streams or upland areas in different parts of the region receive inconsistent treatment. In addition, one ecological watershed can cross several different political jurisdictions – each with different approaches to habitat protection. With the adoption of the regional habitat protection program, cities and counties will adjust their protection levels, to a greater or lesser degree, to establish a consistent minimum level of habitat protection.

In January 2002 Metro entered into an intergovernmental agreement with local governments and special districts in the Tualatin Basin setting forth a cooperative planning process to address regional fish and wildlife habitat within the basin. The Tualatin Basin recommendation will be forwarded to the Metro Council for final approval as part of the regional habitat protection plan.

Current Action

Based on the results of the Phase II ESEE analysis and public comment, Resolution 04-3440 presents the staff recommendation for Metro Council consideration on a regulatory approach to fish and wildlife habitat protection and requests Council direction to staff on developing a program to implement the regulatory approach and to further develop non-regulatory options.

These recommendations and the key issues for Council consideration are highlighted below.

Public comment

Metro's fish and wildlife habitat protection (Goal 5) communications and community involvement program is designed to support the technical work and Council decision-making process. Its goal is to provide effective means of informing and engaging citizens in the making of important regional habitat protection policy. Metro held public outreach events, mailed notices to property owners in fall 2001 and summer 2002, and held public hearings prior to identifying regionally significant habitat. Upon completion of Phase I of the ESEE analysis, Metro conducted public outreach and held public hearings on Resolution 03-3376.

In the spring 2004 public outreach effort there were many opportunities for citizens to be informed and participate in the decision-making process: newspaper advertisements, information materials and interactive maps (by mail, online), property owner notices (mailed), comment cards (by mail, online), non-scientific survey (keypad, online), workshops, community stakeholder meetings and special events, open houses and formal public hearings.

Generally, people were supportive of habitat protection. Very few people expressed opposition to protecting habitat in the metropolitan area. Rather, opposition expressed was towards imposed regulations, especially those that reduce the development potential or economic value of private property. Overall, there seems to be a desire for a balance between regulatory and non-regulatory program options. Support is expressed for a variety of protection tools and recognition is generally given to the need for a mixed approach to protection. For a complete summary of the comments received see the March 2004 Public Comment Report in Attachment 1.

Technical review
This resolution and staff report will be reviewed by Metro's advisory committees including Economic Technical Advisory Committee (ETAC), Goal 5 Technical Advisory Committee (Goal 5 TAC), Water Resources Policy Advisory Committee (WRPAC), the Independent Economic Advisory Board (IEAB), and Metro Technical Advisory Committee (MTAC). The staff report will be updated to reflect technical committee comments.

Policy review
The Metro Policy Advisory Committee (MPAC) will review this resolution and staff report. This staff report will be updated to reflect MPAC comments.

1. RECOMMENDATION ON REGULATORY OPTIONS

Staff analyzed six regulatory options and evaluated their performance in the ESEE analysis. Three of the options apply regulatory treatments based on habitat quality alone (Options 1A, 1B and 1C), while three options (2A, 2B, 2C) apply regulatory treatments based on habitat quality and urban development value.

Habitat quality was measured during Metro's Goal 5 inventory process and was based on landscape features (e.g., trees, woody vegetation, wetlands, etc.) and the ecological functions they provide (e.g., shade, stream flow moderation, wildlife migration, nesting and roosting sites, etc.). The inventory was then classified into six categories for the ESEE analysis (Class I-III riparian/wildlife corridors and Class A-C upland wildlife habitat) to distinguish higher value habitat from lower value habitat. Class I riparian/wildlife corridors and Class A upland wildlife habitat are the highest valued habitats and include the identified habitats of concern (HOC) in the region, such as wetlands, bottomland hardwood forests, oak woodlands and other rare and declining habitat types.

Urban development values were categorized as high, medium or low. Areas without urban development value – parks and open space (both inside and outside the UGB) and rural areas outside the UGB – were not assigned a value. All other areas were assigned to categories based

on commercial and industrial land value, employment density, and 2040 design type. In the recent expansion areas, interim design types were used to determine urban development value. Areas receiving a high score in any of the three measures are called "high urban development value", areas receiving no high scores but at least one medium score are called "medium urban development value", and areas receiving all low scores are called "low urban development value." High priority 2040 Growth Concept design types include the central city, regional centers and regionally significant industrial areas. Medium priority 2040 Growth Concept design types include town centers, main streets, station communities, other industrial areas and employment centers. Inner and outer neighborhoods and corridors are considered low priority 2040 Growth Concept design types.

In Resolution 03-3376 Council directed staff to define regionally significant public facilities, including major educational and medical institutions, and recommend the appropriate urban development value rank during Phase II of the ESEE analysis to determine appropriate habitat protection levels for these land uses. Staff is still working on this issue and expects that additional consideration will be appropriate during the program development phase. This analysis could lead to modifications in the recommendation for these locations.

Based on the ESEE analysis and public comment, staff recommends Option 2B, with a few modifications, as a starting place for Metro Council consideration for fish and wildlife habitat protection. Option 2B reflects the balancing of habitat protection and development needs described in Phases I and II of the ESEE analysis. This option applies a low level of habitat protection in high urban development value areas and a moderate to strict level of protection in other areas. This option recognizes habitat values and urban development values, accounting for the goals described in the 2040 Growth Concept. Option 2B ranked third or fourth (out of six) on all the ESEE consequences described by the evaluation criteria – falling in the middle of the range of regulatory options and balancing the conflicting goals of habitat protection and allowing conflicting uses.

The Phase II ESEE analysis and public comments highlighted the importance of accounting for urban development values in the development of a regional fish and wildlife habitat protection plan. Option 2A applies a very strict level of protection to Class I Riparian, including a *prohibit* treatment in low urban development value areas. Prohibiting conflicting uses on most residential land does not address the social considerations or potential impact on housing capacity within the existing urban growth boundary. On the other hand, Option 2C applies an *allow* treatment to all habitat types in high urban development value areas while substantially limiting conflicting uses in residential lands. This option does not balance habitat protection with the other ESEE factors.

While Option 2B best balances the ESEE factors, staff has recommended areas where changes to the option could improve its performance and identified issues associated with Option 2B for further Council consideration. The 2B Option, recommended modifications and other issues for consideration are described below.

Option 2B: Low level of protection in high urban development value areas, moderate level of protection in other areas.
(Modifications are shown)

Fish & wildlife habitat classification	HIGH Urban development value	MEDIUM Urban development value	LOW Urban development value	Other areas
	Primary 2040 components,[1] high employment value, or high land value[4]	Secondary 2040 components,[2] medium employment value, or medium land value[4]	Tertiary 2040 components,[3] low employment value, or low land value[4]	Parks and Open Spaces, no design types outside UGB
Class I Riparian/Wildlife	~~LL~~ ML	~~ML~~ SL	SL	SL
Class II Riparian/Wildlife	LL	LL	ML	ML
Class III Riparian/Wildlife	A LL	LL	LL	ML
Class A Upland Wildlife	LL	ML	ML	SL
Class B Upland Wildlife	LL	LL	ML	ML
Class C Upland Wildlife	A LL	LL	LL	ML
Impact Areas	A	~~LL~~ A	~~LL~~ A	~~LL~~ A

[1]Primary 2040 components: Regional Centers, Central City, Regionally Significant Industrial Areas
[2]Secondary 2040 components: Town Centers, Main Streets, Station Communities, Other Industrial areas, Employment Centers
[3]Tertiary 2040 components: Inner and outer neighborhoods, Corridors
[4] Land value excludes residential lands.

Key to abbreviations
SL = strictly limit
ML = moderately limit
LL = lightly limit
A = allow

Recommended modifications and issues for Council consideration on regulatory option 2B

A. ***No allow treatments of habitat.*** Option 2B applies an allow treatment in high urban development areas to Class III riparian habitat and Class C upland habitat. To ensure that existing functions are preserved and to maintain opportunities for mitigation, staff recommend that Class III Riparian and Class C Wildlife areas in high urban development value areas receive a ***lightly limit*** treatment instead of an allow treatment. Over eighty percent of Class III Riparian habitat is currently developed and would not be subject to new regulatory programs until redevelopment. Much of the Class III habitat is developed floodplain where low impact development techniques such as pervious pavers and stormwater runoff containment can improve nearby stream quality. In Class III areas with high urban development value, 96% is developed. If an allow decision is applied to these areas the opportunity to require redevelopment standards would be lost. Class C Wildlife habitat provides important connections between riparian areas and other upland wildlife habitats and 60% of this habitat area is currently vacant. The loss of Class C areas can subsequently reduce the quality of nearby higher quality habitats and can also reduce opportunities for restoration in the future. In Class C areas with high urban development value, 80% is vacant.

B. ***Impact areas.*** Option 2B applies an allow treatment to impact areas in high urban development value areas and a lightly limit treatment to impact areas in other urban development value categories. To achieve a better balance between environmental

effectiveness and regulatory effort, staff recommends that impact areas have an **allow** treatment. Much of the impact areas are developed (66%), and are, by definition, adjacent to the habitat and not the habitat itself. However, development or redevelopment in these areas can affect habitat conditions. Impact areas add 15,721 acres to the inventory, about half of which (7,152 acres) is residential land. Regulatory treatments applied to the impact area affect a large number of property owners. Yet, because the land has no resource value now, regulations would have a minor effect on improving habitat values until it redevelops. Metro staff identified two types of impact areas: riparian impact areas (land with no regionally significant habitat value within 150 feet of a stream) and other impact areas (a 25-foot buffer around all other habitat areas). Land uses within the riparian impact area have a direct effect on the stream due to their proximity. This affects the ecological integrity of the riparian habitat and water quality. Land uses within the other 25-foot impact area have more of an indirect effect on the surrounding habitat, especially when conflicting uses are allowed within the habitat lands. Staff recommends that the effects of conflicting uses in impact areas be addressed in broader watershed planning efforts that apply low impact design standards and other stormwater management tools to the broader area. Staff also recommends that the areas within 150 feet of a stream be considered when developing a restoration strategy. As an alternative, Council may want to consider regulations in the riparian-related impact areas only, where the negative environmental effects of development affect stream health most directly.

C. ***High value habitat land.*** Option 2B applies a lightly limit treatment to the highest value habitat (Class I Riparian and Class A Wildlife) in high urban development value areas, while applying a moderate or strict level of protection in the other areas. Staff recommends increasing the level of protection for the Class I Riparian habitat in high urban development value lands to **moderately limit** and in medium urban development value lands to **strictly limit**. Staff also identifies the need for additional Council consideration of whether to increase protection in the Class A habitat, particularly for steep slopes and other sensitive areas in the program phase. The level of protection for these habitat types is important for several reasons. These habitat types encompass Habitats of Concern, which have been identified as the most scarce and declining habitats in the region. Class I Riparian habitat is critically important to maintain the ecological health of the stream system and connectivity of the riparian corridor. While many environmental issues are important to supporting requirements of the Endangered Species Act and the federal Clean Water Act, efforts to protect and improve the functions provided along the streams are some of the most important. Class I Riparian habitat is also associated with some of the strongest cultural and amenity values from the social perspective. Existing Title 3 Water Quality and Floodplain Protection standards cover about 72 percent of Class I Riparian habitat, which establishes an existing level of protection and limits on development.

Class A Wildlife habitat provides the most valuable environment for many species of concern and also provides important connections to and between riparian corridors. High value upland habitat areas are located in medium, low and other urban development areas. Title 3 Water Quality and Foodplain protection standards cover a little over one percent of Class A wildlife, which leaves it most vulnerable to loss. On the other hand, while protection

of the high value Class I and Class A habitat is critical from the ecological standpoint, this land also encompasses a large percent of the region's vacant and buildable land. About 42 percent (19,922 acres) of this high value habitat is currently in park status, 14 percent (6,578 acres) is considered developed, and 44 percent (21,057 acres) is vacant. High levels of habitat protection could impact the region's ability to meet housing and employment needs within the existing urban growth boundary. In high urban development value areas, 87% of the Class I Riparian is vacant, 41% of the vacant Class I habitat is not constrained for development by Title 3, utility location, or other factors (other than local regulations). A similar proportion of Class A habitat is vacant (75%), but of that vacant habitat most (78%) is considered buildable. A smaller number of vacant acres, about 200, is high urban value in Class A habitat. Any decision on Class I and A will have a significant impact because these areas include the greatest percentage (60 percent) of the habitat inventory.

An important consideration in weighing the choices between lightly, moderately and strictly limit treatments is the extent to which loss of buildable land can be replaced elsewhere within the UGB or outside of the UGB on non-habitat land. Staff recommends that Council provide direction to fully explore tools such as transfer of development rights to mitigate the loss of building capacity as part of developing the protection program. In the program development phase, based on this analysis, Council may want to reconsider the recommendations for Class I and Class A habitat.

Class II Riparian, like Class I Riparian, is also important for riparian corridor health, but provides fewer primary functions than Class I. Council may want to consider increasing the level of protection in Class II riparian areas and to more closely match the level of protection in the Class I habitat areas.

D. Definition of urban development value and appropriate applications of different treatments. The modified Option 2B varies the level of protection by different urban development values. The 2040 design types in high, medium and low urban development values were defined by Council for the ESEE analysis. The staff recommendation recognizes the need to meet capacity needs in the Regional Centers, Central City and regionally significant industrial areas by reducing protection in areas of high urban development value compared to protection in low urban development value areas. Staff do not recommend changes to these definitions or to the range of protection, from lightly limit to strictly limit, from low to high development value. However these definitions and ranges of protection will require further consideration as the program develops. Another consideration may be redefining the boundaries of regional centers to avoid habitat areas.

E. Residential Land. In Option 2B, the residential land that makes up a significant portion of "low urban development value" receives stronger regulatory treatment (strictly or moderately limit) than the commercial and industrial land that comprises "high" and "medium" urban development value areas. Residential land makes up a significant portion of the habitat inventory (34 percent), especially within the UGB (48 percent) making development on vacant residential land and consideration of existing residential areas an important part of the fish and wildlife habitat protection program. While staff does not recommend a change in

the treatment of "low" urban development value, staff recognizes this as a continuing issue for consideration in the development of the program.

2. DIRECTION ON DEVELOPING A REGULATORY PROGRAM

The third step of the Goal 5 process calls for the development of a program to protect habitat areas by allowing, limiting, or prohibiting conflicting uses on habitat land based on the results of the ESEE analysis. Based on comments from public open houses and technical committees, the Metro staff has identified several areas of concern when developing a regulatory program. Staff requests Metro Council to give staff direction in these areas.

A. Defining limit in the program phase

The most commonly asked question from the public and technical review committees relates to how limit is defined in the program. The definitions of limit that have been described generally in the ESEE analysis will be further defined in the program phase. The definition of limit describes how well habitat is protected while maintaining development opportunities. The definition of limit will be one of the most important tasks in the program phase. As a guiding principle, the intent is to first avoid, then limit, and finally mitigate adverse impacts of development to protect fish and wildlife habitat. Some of the key issues in the definition relate to impacts on housing and employment capacity, disturbance area, mitigation, and allowable public uses such as roads, trails and other infrastructure as illustrated below:

- **Strictly Limit** – This treatment applies a high level of habitat protection. It would include strict avoidance of the habitat (especially Habitats of Concern) with maximum allowable disturbance areas and mitigation requirements. Based on technical review, Metro staff proposes to allow trails, roads and other public access to meet the public good (e.g., construction and maintenance of public utilities such as water storage facilities) subject to minimize and mitigate. Applying strong habitat protection would result in some overall loss of development capacity; however, there are some tools such as transfer of development rights (TDR) or cluster development that could compensate somewhat for lost development capacity.
- **Moderately Limit** – This treatment balances habitat protection with development needs, and does not preserve as much habitat as strictly limit. It would avoid habitat, limit disturbance areas, require mitigation, and use design standards and other tools to protect habitat (especially Habitats of Concern) while striving to achieve goals for employment and housing densities. Metro staff would work to define moderately limit to minimize the loss of development capacity, which could include development of a TDR program and other tools to compensate for lost capacity.
- **Lightly Limit** – This treatment would avoid habitat as possible to preserve habitat function (especially Habitats of Concern) while allowing development to occur. It would include less restrictive limits on disturbance area and encourage other low impact design considerations and mitigation requirements. Metro staff assumes that application of lightly limit treatments would result in no loss of development capacity.

B. Effect on existing development and redevelopment

Many of the comments received from the public were focused on how a regulatory program to protect habitat would affect existing development. Due to the fact that a substantial portion of the habitat inventory is on developed residential land (15,271 acres) there are

many property owners concerned with the results of the program phase. Since Metro's regulatory program would be triggered by land use activities it would not apply to actions that do not require a land use permit (such as gardening, lawn care, routine property maintenance, and actions necessary to prevent natural hazards). However, many citizens will not be aware that their activities would not be affected; therefore the program clarification would help people understand the potential effect on existing development. Redevelopment (subject to some threshold size or valuation) offers the potential to restore habitat functions in areas in which development patterns have not protected the habitat. Clarification in the program of the intended effects on redevelopment will be important.

C. Regulatory flexibility

Regulations to protect fish and wildlife habitat limit development options on land with habitat value. Some ways in which regulations could limit development include lowered density, minimum disturbance areas, and setbacks from significant resources. Development can occur in a manner that avoids or reduces the impact on the habitat, for example: cluster development, streamside buffers, and habitat-friendly development techniques can all provide some level of regulatory flexibility that allows development to occur while protecting habitat. A transfer of development rights (TDR) program could also compensate for loss of development capacity. Providing flexible regulations and tools to allow for development while protecting as much habitat as possible could allow Metro's goals of habitat protection and maintaining housing and job capacity within the UGB to be met. In addition, variations for local governments to implement the program at the district or other discretionary sites will be considered in the program phase, as described in section E below.

D. Mitigation, mitigation banking and restoration

Development within habitat areas degrades existing ecological function. To better achieve the goals described in Metro's Vision Statement, mitigation for these negative impacts could be required to reduce the effect of allowing conflicting uses on habitat lands. The regulatory program could include mitigation ratios and mitigation banking to facilitate efficient and effective use of mitigation to restore valuable habitat areas. Development on high value habitat land could require more mitigation than on low value habitat land, since the environmental effects would be greater. There will also be the question of where mitigation occurs – on-site, in the same stream reach, within the same watershed, in a neighboring watershed, or anywhere in the region. Mitigation banking could preserve the opportunity to require mitigation when there are no opportunities on-site by requiring funds to be paid into a bank, to be spent at a later date in an area identified through a subwatershed or watershed restoration plan. Monitoring and enforcement of mitigation requirements are an important component of maintaining ecological health. Long-term monitoring can measure the success of mitigation efforts to direct and adjust the magnitude of mitigation requirements. Enforcement of mitigation requirements is essential to ensure that the impacts of development on habitat are minimized. Mitigation can be targeted in accordance with an overall restoration plan.

E. Program specificity and flexibility

Local jurisdiction partners have indicated a need for a regulatory program that could serve both as a general framework for local jurisdictions to implement and as a specific program

that could be implemented without further local analysis. Stakeholder groups have continued to express interest in the possibility of planning for the unique habitat and economic concerns within a smaller area, such as in the existing major medical and educational campuses as regional public facilities, other regional public facilities and in riparian or wildlife districts.

In addition, questions about the reasonable timeframe for local implementation of fish and wildlife habitat have also been raised. Title 3 currently exempts some local jurisdictions from complying with a regional habitat protection until their next scheduled periodic review. This could be a challenge for developing regionally consistent protection and standards in the region, especially since the State may not be reviewing local plans with as much frequency as they have in the past. Review of the implementation schedule during the development of the program will be an important consideration.

F. Map corrections and inventory maintenance

The resolution adopting the regionally significant habitat inventory included a process for accepting habitat inventory corrections and requires Metro to complete the map correction process when the final program is adopted and to develop a post-adoption correction process. Metro has been accepting corrections to the habitat inventory map since it was released in 2002. Metro staff will continue reviewing map corrections and will adjust the inventory maps as required until the adoption of the final program. Direction during the program phase for the on-going responsibilities between Metro and local governments regarding maintaining the inventory maps in the post-adoption phase of the program will be important and will have implications for Metro's budget.

G. Long-term monitoring

Monitoring is important to mitigation as described above, but it is also critical to the success of the overall fish and wildlife habitat protection program. Monitoring how well the regulatory and non-regulatory program elements protect fish and wildlife habitat while meeting housing and employment capacity will be important in determining the effectiveness of Metro's efforts and identifying potential adjustments to the program in the future. Monitoring could be included as part of Metro's Performance Measures efforts.

3. DIRECTION ON NON-REGULATORY PROGRAMS

While not a requirement of the Goal 5 rule, Metro has committed to include incentives and non-regulatory tools to protect and restore habitat to complement regulatory program elements. Non-regulatory tools are a key component of a strategy to protect fish and wildlife habitat. Incentives, education, and acquisition strategies are popular among landowners and can be used in situations where regulations do not apply. For example, regulations only come into effect when a land use action is taken. Non-regulatory strategies can apply to other activities such as landscaping, reducing pesticide/herbicide use, and voluntary restoration.

Restoration is a critical component of an effective fish and wildlife habitat protection program. Without active restoration efforts, ecological conditions will likely deteriorate further, even if most habitat lands are protected through regulations. Mitigation for the negative environmental impacts of development may be included as part of a regulatory program. However, actions to

restore habitat to a condition better than exists today cannot be required as part of a regulatory program; restoration could be included as a major part of a non-regulatory approach. Regulations can protect land that can then be restored through non-regulatory approaches to provide better functioning habitat.

Metro staff examined the following potential non-regulatory tools:

- Stewardship and recognition programs
- Financial incentives (grants, incentives for green streets, property tax reduction)
- Education (information center, technical assistance, other education activities)
- Volunteer activities
- Agency-led restoration
- Acquisition (outright purchase, conservation easements, revolving acquisition fund)

Based on public comments and staff analysis of the effectiveness of non-regulatory programs, staff recommends that the program phase include further development of technical assistance, restoration grants, acquisition programs and property tax reduction incentives. Key issues for consideration in further development include the level of funding or commitment that would be needed, possible funding sources, an implementation schedule and an assessment of responsibilities between local and regional governments, the private sector and non-governmental organizations. Staff request Metro Council to give direction in how these issues are further developed as non-regulatory approaches to habitat protection.

A. ***Technical assistance.*** Whether directed at individual owners, developers, or local jurisdiction staff, technical assistance could assist in the implementation of habitat-friendly development techniques, better stewardship of habitat, and restoration on public and private land. Technical assistance would be particularly useful in conjunction with the application of limit treatments to allow for development within habitat areas that protects the most habitat while also meeting capacity needs. Habitat-friendly, low-impact development and green building techniques are innovative methods of minimizing the impacts of the built environment on surrounding habitat. Assistance in these areas for developers, citizens, and local jurisdictions could help to ensure the success of a regulatory program.

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

   Metro could work with local partners to develop technical assistance, incentives, recognition programs, and awards for development that helps protect fish and wildlife habitat. Metro, in conjunction with local partners, could develop regional low impact development standards to

reduce development impacts on fish and wildlife habitat. The Green Streets Handbook serves as a successful model of technical assistance aimed at minimizing environmental impacts of transportation infrastructure. The cost of providing technical assistance could vary depending on the use of existing staff or the need to use new staff and other resources.

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

B. ***Grants for restoration and protection.*** Achieving restoration on private and public lands typically requires some type of financial incentive to induce property owners to conduct activities such as planting of native vegetation, removal of invasive species, and other habitat improvements. Grants could be aimed at individual property owners, at public agencies that create model examples of habitat restoration, habitat-friendly development, or green streets, wildlife crossings, and culvert replacements. Grants could also be targeted to agency-led efforts to restore habitat on public land, possibly utilizing volunteers. Defining restoration priorities is important to effectively allocate restoration efforts and investments.

Grants for restoration can provide the incentive for supportive landowners and other organizations to restore habitat on private and public lands. A small grant program, targeted to watershed councils, friends organizations, or local governments could be created similar to Metro's recent grants for Regional and Town Center planning efforts. Applicants could submit projects one or two times per year, and they could be reviewed and ranked based on set criteria. Small grants given in strategic places could build on existing work and encourage more efforts in targeted areas.

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

C. ***Willing-seller Acquisition.*** The most certain way to protect habitat is to publicly acquire it for open space preservation. There are various ways to acquire land (outright purchase, easements, development rights, transfers, etc.) and all acquisition programs involve the expenditure of a significant amount of money. Acquisition is the most effective non-regulatory tool to achieve definitive habitat protection. Acquisition can achieve permanent

protection and also preserves land to be restored at a later date. However, the high cost of purchasing land, especially within the urban growth boundary, and the dependence of an acquisition program on willing sellers limits the effectiveness of such a program.

If additional funding to purchase habitat land was secured, an acquisition program could focus on regionally significant fish and wildlife habitat, targeted to achieve specific goals. The goals could include protection of Habitats of Concern, floodplains, regional connector habitat, strategically located high-value habitat, and key restoration opportunities. Acquisition may also target land when the regulatory approach could not protect it to the level desired. Riparian Class I habitat contains over 11,000 acres of undeveloped habitat land. Based on the cost of land purchased through the Metro Greenspaces Acquisition program, land costs inside the UGB average about $45,000/acre and outside the UGB average about $8,600/acre. Due to the expense, acquisition clearly is not a tool that could be used alone to protect even this most ecologically valuable habitat.

One way to maximize limited acquisition dollars is to create a revolving acquisition fund. A program could be developed to purchase habitat land, place development restrictions or conservation easements to protect the habitat areas, or subdivide the property to separate the resource land from the developable land and then sell or exchange (via land swaps) the remainder of the land for development or continued use. Funds from the sale could then be used to protect additional land. Such a program could maximize the use of conservation dollars by protecting only the habitat areas on a parcel of land, rather than the entire parcel.

Some jurisdictions currently use surface water management fees or system development charges (SDCs) to purchase land that provides habitat functions for the public good (such as floodplains); these programs could be expanded. However, there may be concerns about raising SDCs or other fees in the current economic environment

D. ***Property tax reductions.*** There are two state programs that could be applicable within the urban area; the *Riparian Habitat Tax Incentive Program (OAR 308A.350 to 308A.383)* and the *Wildlife Habitat Conservation and Management Program (2003 Oregon Laws Ch. 539).* Both of these programs would require county or city action to be implemented.

Property tax reduction is a useful tool to provide motivated landowners with an incentive to manage their land for habitat values, and can also serve as a mechanism to achieve some restoration if a habitat management plan includes requirements for enhancement of existing habitat. However, property tax reductions would reduce jurisdictional revenues. Alternatively, these properties could be included by agencies such as Metro, Portland's Bureau of Environmental Services, Water Environmental Services in Clackamas County or Clean Water Services in Washington County that conduct restoration activities. Habitat protection and restoration may be most effective ecologically if this tool is applied strategically, for example in a specific stream reach or headwater area. This tool could serve as an important incentive to encourage landowners to work in a coordinated fashion to leverage ecological improvements in a specific area. A downside to using property tax relief as a tool for habitat protection is that a landowner can leave the program at any time, the only

penalty being payment of back taxes, similar to opting out of a farm or forest tax deferral program.

ANALYSIS/INFORMATION

1. **Known Opposition.** Metro has received public comments from individuals and interest groups representing a broad spectrum of viewpoints as to whether and how Metro should protect fish and wildlife habitat. (See, for example, the "public comment" section of this staff report for a general summary of such comments received at the March 2004 public open houses.) Metro staff expect comments both in favor of, and opposed to, this draft resolution and Metro's approach to fish and wildlife habitat planning between the time this resolution is first introduced and the time a resolution is approved by the Metro Council
2. **Legal Antecedents.** Policies in Metro's Regional Framework Plan and Section 5 of Title 3 in Metro's Urban Growth Management Functional Plan support the development of a Fish and Wildlife Habitat Protection Program. In addition, the two phases of Metro's ESEE analysis continues compliance with the State Land Use Planning Goal 5 administrative rule (OAR 660-023). Metro's adoption of the Draft Regionally Significant Fish and Wildlife Habitat Inventory and a Local Plan Analysis by Resolution No. 02-3218A formed the basis for the ESEE analysis and development of a habitat protection program that this resolution endorses.
3. **Anticipated Effects.** Approval of this resolution will allow Metro to complete the ESEE analysis as required by State Land Use Goal 5 and provides a preliminary decision on where to allow, limit or prohibit development on regionally significant fish and wildlife habitat lands. With the completion of the analysis as directed by this Resolution and a Metro Council decision on an Allow/Limit/Prohibit map, the third step of the Goal 5 process, development of a protection and restoration program for adoption into Metro's Functional Plan, can begin.
4. **Budget Impacts.** The adopted budget for FY04 includes resources for staff and consultants to initiate development of a program that includes regulatory and non-regulatory components. The proposed baseline FY05 budget has identified resources to support completion of the program depending upon the breadth and scope of the program direction in this resolution. On-going implementation of non-regulatory and regulatory elements will have long-term budget and staffing implications, depending on how the program is defined and decisions by the Metro Council should be made with the intent that budget resources will be sufficient to implement the direction.

RECOMMENDED ACTION

Staff requests that Metro Council endorse the Phase II ESEE analysis as described in Exhibit A to the Resolution and direct staff to develop a program to protect fish and wildlife habitat that includes regulatory and non-regulatory components as described in Exhibits B, C and D.

ATTACHMENTS TO THE STAFF REPORT

Attachment 1. Public comment report

I:\gm\long_range_planning\projects\Goal 5\Council Resolutions\DRAFT staff report 032404.doc