

BEFORE THE BOARD OF COUNTY COMMISSIONERS

FOR COLUMBIA COUNTY, OREGON

In the Matter of Amending the Columbia County
Zoning Ordinance Sections 1170 and 1180 and
the Columbia County Comprehensive Plan Part
XVI

ORDINANCE NO. 2023-4

The Board of County Commissioners for Columbia County, Oregon, ordains as follows:

SECTION 1. TITLE

This Ordinance shall be known as Ordinance No. 2023-4.

SECTION 2. AUTHORITY

This Ordinance is adopted pursuant to ORS 203.035, ORS 203.045, and ORS 197.175.

SECTION 3. PURPOSE

The purpose of this Ordinance is to amend the Columbia County Zoning Ordinance (“CCZO”) Sections 1170 and 1180, as well as the Columbia County Comprehensive Plan (“CCCP”) Part XVI. The amendments remove the County-wide inventory of significant wetlands based on the State Wetlands Inventory, reduce County protections provided by CCZO Sections 1170 and remove CCZO Section 1180. The amendments retain the County-wide inventory of significant fish-bearing lakes, rivers and streams but reduce protections for locally-defined (as opposed to State-defined) riparian corridors, and remove protections for non-fish-bearing rivers and streams.

SECTION 4. FINDINGS AND CONCLUSIONS

In support of its decision, the Board adopts the findings and conclusions in the Staff Report dated May 24, 2023, together with its attachments (including but not limited to the Columbia County Water Resources and Related Fish and Wildlife Habitat: Goal 5 ESEE Analysis and Program Recommendations (the “ESEE Analysis”), but excluding Attachment 8 thereto (“Written Comments”)), attached hereto as Exhibit A and incorporated herein by this reference, to the extent those findings and conclusions are not inconsistent with the Board’s decision. In addition, the Board adopts the Supplemental Findings of Fact and Conclusions of Law attached hereto as Exhibit B and incorporated herein by this reference, to the extent those findings and conclusions are not inconsistent with the Board’s decision.

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SECTION 5. AMENDMENT AND AUTHORIZATION

The Columbia County Zoning Ordinance and Columbia County Comprehensive Plan are hereby amended as shown in Attachments 2, 3, and 4 of Exhibit A, which has been attached hereto and incorporated herein pursuant to Section 4 of this Ordinance, above. Changes to the text of the applicable sections of the CCZO and CCCP are reflected in Attachment 5 of Exhibit A.

SECTION 6. SEVERABILITY

The provisions of this Ordinance are severable. If any provision of this Ordinance is determined to be invalid by a court of competent jurisdiction, such provision shall be considered a separate, distinct and independent provision, and the decision shall not affect the validity of the remaining portions thereof.

SECTION 7. SCRIVENER'S ERRORS

A scrivener's error in any portion of this Ordinance or its attachments may be corrected by order of the Board of County Commissioners.

DATED this 12th day of July, 2023.

Approved as to Form

By: [Signature]
Office of County Counsel

BOARD FOR COUNTY COMMISSIONERS
FOR COLUMBIA COUNTY, OREGON

By: [Signature]
Casey Garrett, Chair

Recording Secretary

By: [Signature]
Jacyn Normine

By: [Signature]
Kellie Jo Smith, Commissioner

By: [Signature]
Margaret Magruder, Commissioner

First Reading: June 28, 2023
Second Reading: July 12, 2023
Effective Date: Oct. 12, 2023

Exhibit A

**COLUMBIA COUNTY BOARD OF COMMISSIONERS
STAFF REPORT
May 24, 2023**

**Comprehensive Plan and Zoning Ordinance Text Amendments – Legislative Process
Related to Water Resources and Fish and Wildlife Habitat**

HEARING DATE: May 31, 2023

FILE NUMBER: PA 22-02 & TA 22-02

APPLICANT/OWNER: Columbia County
Land Development Services
230 Strand Street
St. Helens, OR 97051

REQUEST: Adoption of a limited water resource protection program, while retaining most local protection measures for significant fish and wildlife habitat. The proposed program includes amendments to the:

- **Columbia County Comprehensive Plan (CCCP) Part XVI Goal 5: Open Space, Scenic and Historic Areas, and Natural Areas focusing on Article X Water Resources and Article VIII Fish and Wildlife Habitat; and**
- **Columbia County Zoning Ordinance (CCZO) Section 1170 Riparian Corridors, Wetlands, Water Quality, and Fish and Wildlife Habitat Protection Overlay Zone and deletion of Section 1180 Wetland Area Overlay Zone.**

APPLICABLE CRITERIA:

Columbia County Zoning Ordinance (CCZO): Section 1606 Legislative Hearing, Section 1607 Consistency with the Comprehensive Plan, Section 1611 Notice of Legislative Hearing

Columbia County Comprehensive Plan (CCCP): Part I Administrative Procedures

Columbia County Comprehensive Plan (CCCP): Part XVI Goal 5 Process

Oregon Administrative Rules: OAR 660-023 – Goal 5 Rule

Oregon Revised Statutes: ORS 215.503 Measure 56 Notice (all affected property owners)

ATTACHMENTS:

1. Published Notice of Legislative Hearing before the Board of Commissioners
2. Final Draft of CCCP Article X Related to Goal 5 Water Resources and Fish and Wildlife Habitat Areas
3. Final Draft of CCZO Section 1170 Riparian Corridors
4. Columbia County Water Resources and Related Fish and Wildlife Habitat: Goal 5 ESEE and Program Recommendations (May 2, 2023)
5. Final Draft of CCCP Article X Related to Water Resources and Fish and Wildlife Habitat Areas (legislative format)
6. Final Draft of CCZO Sections 1170 Riparian Corridors and 1180 Wetlands (legislative format)
7. Planning Commission Recommendation dated August 8, 2022
8. Written Comments

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BACKGROUND

In 2022, the Columbia County Board of County Commissioners (BOCC) authorized Winterbrook Planning to prepare a Statewide Planning Goal 5 (Natural Resources) analysis of the economic, social, environmental and energy consequences (ESEE Analysis) of (1) continuing to apply the Wetland and Riparian Corridor overlays to mapped significant wetlands and riparian corridors, and (2) replacement of these overlays with an updated and less restrictive Water Resources (WR) program.

Columbia County currently has among the most restrictive rural wetland and riparian corridor protection programs in Oregon. This program consists of CCCP XIV, Article X Water Resources CCZO as implemented by CCZO Chapter 1170 Riparian Corridors, Wetlands, Water Quality and Fish and Wildlife Protection (Riparian Corridor) Overlay Zone and CCZO Chapter 1180 Wetlands Overlay Zone. These two zones work in tandem to prohibit most development on approximately 65,000 acres of inventoried water resource areas in unincorporated Columbia County.

However, this water resources protection program has not been systemically implemented by the county for the last 20 years since its adoption; rather, the County has relied consistently on referrals to the Department of State Lands (DSL) to protect significant water resources. At work sessions held on October 26, 2022 and March 29, 2023, the BOCC confirmed its policy position to remove local

restrictions on development within and adjacent to the county's vast inventory of significant wetlands in rural areas –and instead continue to rely on state and federal regulatory programs to protect wetlands as it has done for the last 20 years.

On the other hand, BOCC recognized the value of continuing to:

- Protect four significant natural areas identified in the Oregon Natural Heritage Inventory;
- Protect significant fish and wildlife habitat through overlay zones that limit land uses and activities that conflict with fish and wildlife protection (i.e., Section 1100 Flood Hazard Overlay, Section 1120 Bird Habitat Overlay, Section 1140 Greenway Overlay, Section 1185 Natural Areas Overlay, and Section 1190 Big Game Habitat Overlay);
- Provide limited local protection for fish-bearing lakes, rivers and streams and their respective riparian corridors;
- Recognize adopted urban growth management agreements (UGMAs) with cities, which in some have city comprehensive plan policies related to water resource protection¹; and
- Coordinate with the Oregon Departments of Agriculture and Forestry, which have programs that limit conflicts with water resources and fish and wildlife habitat.

STATE AGENCY COORDINATION, PLANNING COMMISSION RECOMMENDATION AND SUBSEQUENT PROGRAM REVISIONS

The Columbia County Planning Commission held a work session on proposed water resource amendments on May 2, 2022 and held its first public hearing on proposed water resource program amendments on August 1, 2022.

This proposed program had three primary components:

1. Retain the county-wide inventory of significant wetlands based on the State Wetlands Inventory (SWI) – but remove local protection provided by CCZO Section 1180 Wetland Overlay;
2. Retain the county-wide inventory of significant fish-bearing lakes, rivers, and streams – but provide limited protection for locally-defined (rather than state-defined) riparian corridors measured 25 to 50 feet from the top-of-bank; and
3. Provide no local protection for non-fish-bearing rivers and streams.

State agency testimony (written comments received the day of the public hearing) focused on these three components and suggested that the ESEE Analysis did not adequately consider the effect on fish and wildlife habitat that resulted from the reduced Water Resources protection program. Commenters included the Department of Land Conservation and Development (Amanda Punton), the Department of State Lands (Jevra Brown), and the Oregon Department of Fish and Wildlife (Charles Barr, Benjamin Cate, and Joy Vaughan). DLCD noted that the water resource program adopted by the County in 2003 did comply with some provisions of the Goal 5 rule.

¹ County wetland and riparian corridor regulations also protect significant wetlands within unincorporated areas of city UGBs. Four Columbia County cities (St. Helens, Scappoose, Clatskanie and Vernonia) have local wetland inventories (LWI) that identify significant wetlands within unincorporated urban growth areas. Two cities (St. Helens and Scappoose) have adopted limited protection programs for riparian corridors and wetlands within their UGBs. Amending these plans (and related Goal 5 protection measures) requires coordination between the city and the county.

Despite the agency concerns raised, the Planning Commission voted unanimously to recommend approval of the proposed Goal 5 program as presented.

However, over the six months following the Planning Commission public hearing, Staff have met with DLCD staff and communicated with DSL and ODFW representatives on several occasions to better understand the agency concerns and to devise appropriate solutions consistent with the broader BOCC policy direction that was provided to staff.

- Additional DLCD meetings were held on September 8 and 19, November 30, and December 29, 2022 and March 27, 2023.
- Additional DSL comments were received on December 28, 2022 and March 17, 2023.
- Additional ODFW comments were received on March 17, 2023.²

As a result of these meetings and revisions to the proposed Goal 5 water resources and fish and wildlife habitat protection programs, Staff's understanding is that the affected state agencies no longer have any objections to the revised Goal 5 limited protection program as presented to the BOCC.

THE REVISED WATER RESOURCES AND FISH AND WILDLIFE HABITAT LIMITED PROTECTION PROGRAM

The Columbia County Water Resources and Related Fish and Wildlife Habitat: Goal 5 ESEE and Program Recommendations (ESEE Analysis) provides the primary evidentiary and analytical basis for the revised Goal 5 program changes, consistent with the Goal 5 rule. The BOCC preliminarily reviewed the revised WR program at a public work session held on March 29, 2023.

The proposed limited protection WR program has the following key provisions:

1. **Rural Wetlands:** The County will remove wetlands on the Statewide Wetland Inventory (SWI) from the county inventory of significant wetlands and will rely on the DSL and the US Army Corps of Engineers programs to protect these wetlands from development impacts.
2. **DSL Wetland Delineation Concurrence Required.** The County will not issue final land use approval for development that would disturb a mapped wetland or fish-bearing stream until DSL has concurred in any required wetland delineation. The County may conditionally approve a land use application based on a wetland delineation provided by a certified wetland scientist.
3. **Wetlands on City Local Wetland Inventories.** For cities with adopted local wetland inventories, the County will implement city wetland protection programs within unincorporated urban growth areas consistent with city comprehensive plan policies and applicable urban growth management agreements.
4. **Significant Natural Areas.** The County will protect significant natural areas and fish and wildlife habitat per amended CCCP Part XIV, Articles X and VIII.
5. **Riparian Corridors.** Consistent with the "safe harbor" provisions of OAR 660-023-0090 Riparian Corridors and the revised CCZO Section 1170 Riparian Corridors (RC Overlay), the

² ODFW noted that ODFW maps may not be consistent with ODF maps, so Winterbrook prepared additional analysis relating to the differences in GIS data between these sources. ODFW mapping includes more fish-bearing stream reaches than Oregon Department of Forestry Maps originally relied upon by the County in 2003, as well as ODF GIS data included in earlier drafts of Winterbrook's analysis.

County will provide limited protection for significant fish-bearing lakes, rivers and streams and their respective riparian corridors.

- a. The state-sanctioned riparian corridor widths are 75 feet from the top-of-bank of the Columbia River, and 50 feet from the top-of-bank for other fish-bearing lakes, rivers and streams.
- b. Water-dependent and water-related uses and planned transportation and other public facilities are permitted where there is no reasonable alternative.
- c. No protection will be provided for non-fish-bearing streams or wetlands that extend beyond defined riparian corridor boundaries.
- d. Adjustments to riparian corridor widths may be allowed to address hardships or expansion of non-conforming uses, subject to mitigation requirements.

Table 1 (also included as Table 3 in the ESEE Analysis) provides a comparison of Columbia County's existing WR protection program and the proposed WR program (implemented by the revised RC Overlay, existing habitat protections overlays, and existing LWIs):

Table 1: Existing and Proposed Water Resource Protection Program Elements

Resource Category	Existing County WR Program	Proposed County WR Program
Water Areas: Rivers, Streams, Wetlands and Lakes		
Fish-Bearing Riverine Wetlands (Rivers and Streams)	Full Protection for water area between tops-of-bank and related fish and wildlife habitat	Limited Protection for water area between tops-of-bank and related fish and wildlife habitat
Non-Fish-Bearing Riverine Wetlands (Streams)	Full Protection for water area between tops-of-bank	No Protection for water area between tops-of-bank (other than DSL notification)
Associated Wetlands (within or partially within riparian corridor setback areas)	Full Protection for associated wetlands and related fish and wildlife habitat	Limited Protection for wetlands within 50-75 foot stream or river riparian buffer area (see below) and related fish and wildlife habitat
Isolated Wetlands (not within or partially within riparian corridor setback areas)	Full Protection for isolated wetlands and related fish and wildlife habitat	No Protection for isolated wetlands (unless fish-bearing lakes or Natural Areas) and related fish and wildlife habitat overlays
Fish-Bearing Lakes (usually are also wetlands)	Full Protection for water area of the lake itself + limited protection for 50' riparian setback area, including related fish and wildlife habitat	Limited Protection for lake itself and its 50' riparian buffer (see below) and related fish and wildlife habitat
Significant Natural Areas (two lakes/wetlands and one island owned by Nature Conservancy)	Limited protection for resource area and related fish and wildlife habitat	No change in program. Protection for resource area and related fish and wildlife habitat
SWI and LWI Wetlands within City UGBs	Full Protection for all mapped SWI and LWI wetlands (regardless of significance)	Limited Protection: Implement adopted city protection programs (per UGMA) for <u>significant</u> LWI wetlands within unincorporated urban areas
Riparian Corridors: River, Stream, and Lake Riparian Setback Areas (Buffers)		

Resource Category	Existing County WR Program	Proposed County WR Program
Columbia River Riparian Buffer	Limited Protection – for 75’ buffer measured from river top-of-bank or associated wetland edge – whichever is greater – including wetlands, native vegetation, related fish and wildlife habitat	Limited Protection – for 75’ buffer measured from river top-of-bank – including wetlands, native vegetation, and related fish and wildlife habitat – greater flexibility for allowing expansion of existing development with mitigation within riparian setback area
Fish-Bearing Lakes, Other Fish-Bearing River and Stream Buffer	Limited Protection – for 50’ setback measured from top-of-bank or associated wetland edge – whichever is greater (including native riparian vegetation, wetlands, related fish and wildlife habitat)	County inventory expanded to include all ODFW fish-bearing streams. Limited Protection – for 50’ setback measured from river top-of-bank (including related riparian vegetation, wetlands, and fish and wildlife habitat) – greater flexibility for allowing expansion of existing development within riparian setback areas with mitigation
Non-Fish-Bearing Stream Buffer	Limited Protection – for 25’ setback measured from top-of-bank or associated wetland edge – whichever is greater (including related fish and wildlife habitat)	No local protection other than DSL notification
<p>Notes: “Full Protection” means all uses allowed by the underlying zoning district are prohibited (because all development, including native vegetation removal, grading and construction is prohibited). “Limited Protection” means that water-related and water-dependent uses, and planned public and transportation facilities are permitted, if (a) there are no practicable alternatives, (2) disturbance of native vegetation, grading and impervious surface area is minimized, and (3) DSL requirements are met.</p>		

The ESEE Analysis (Attachment 4) supports a straightforward, limited protection approach to protecting natural areas and riparian corridors, and related fish and wildlife habitat, while removing local wetland protection measures. Proposed CCCP and CCZO text amendment recommendations are provided as:

- Attachments 3 (showing a clean version of revised Part XVI Goal 5 Resources) and 5 (showing the amended Part XVI in legislative format).
- Attachments 2 (showing a clean version of the revised CCZO Chapter 1170 Riparian Corridors) and 5 (showing amendments to Chapter 1170 and removal of Chapter 1180 Wetlands in legislative format).

FINDINGS:

Columbia County Comprehensive Plan

Review of the following Columbia County Comprehensive Plan Goal & Policies:

The Columbia County Comprehensive Plan has 21 parts, each with a set of general Goals and implementing Policies. These Goals and Policies are implemented by overlay zones in the CCZO. The proposal amends existing Goals and Policies of Part XVI, Goal 5 Resources focusing on Article X, Water Resources and related revisions to Article VIII Fish and Wildlife Habitat.

The applicable administrative portions of the Comprehensive Plan are Part I – Administrative Procedures for Zoning Text Amendments, and Part XVI – Goal 5, are reviewed below.

Part 1 Administrative Procedures

Goals:

1. To assure the goals and policies of this plan are implemented.
2. To provide review and revision procedures which include provisions for participation by citizens and affected interest groups.
3. To provide an understandable framework for reviewing and revising this plan.

Policies:

5. Provide a framework by which the Comprehensive Plan may be reviewed, revised and amended. Amendments to the Comprehensive Plan and its implementing ordinance(s) shall be in accordance with the following procedures and guidelines:
 - A. Amendments may be initiated by the Board of Commissioners, the Planning Commission, the Planning Director or the owner(s) of the affected property.
 - B. A Citizen Planning Advisory Committee may, upon a majority vote of its members, formally request either the Board of Commissioners or the Planning Commission initiate an amendment.
 - C. Revisions or amendments will follow the same process as initial adoption – CPAC review, Planning Commission public hearing and recommendation, and Board hearing and adoption of revisions or amendments.
 - D. For quasi-judicial amendments, all property owners within two hundred and fifty (250) feet of the affected area shall be notified of the hearing date and the requested amendment at least ten (10) days prior to the first scheduled public hearing.
 - E. For legislative amendments, notice of the public hearing and a copy of the proposed amendment, will be mailed to all Citizen Planning Advisory Committees and interested parties at least ten (10) days prior to the first scheduled public hearing.

Finding 1: The proposed amendments were initiated by the Board; the Board initiated the CCZO text amendment and authorized staff to evaluate the current program, perform an ESEE Analysis, and propose a new program. This project was not initiated by a CPAC and is not a quasi-judicial decision. Adoption of the proposed Water Resources program has followed and will continue to follow the process for a legislative amendment with notice and opportunity to comment given to CPAC's and local newspapers followed by a Planning Commission public hearing and recommendation and then a Board of Commissioners public hearing and adoption of amendment. Notice to CPAC's was more than 10 days before the first scheduled public hearing with the Planning Commission on August 1, 2022. A Measure 56 notice is not required for the proposed amendments as the changes do not "limit or prohibit land uses previously allowed in the affected zone" as required under ORS 215.503(9). Reference Findings 3-6 for specific details of the notice. Staff finds the process used for this legislative text amendments to the Comprehensive Plan and CCZO is consistent with Part 1 of the Comprehensive Plan. These criteria are satisfied.

Part XVI Goal 5

Finding 2: Part XVI is the Goal 5 Part, and Part XVI, Article II directly references OAR 660-023 requirements for process to amend Goal 5. OAR 660-023 findings are addressed in this Staff Report in the OAR 660-023 section.

Columbia County Zoning Ordinance

This request is being processed under Section 1606 (Legislative hearing) and Section 1611 (Notice of Legislative Hearing) of the CCZO. The pertinent sections of the ordinance are reviewed as follows:

1606 Legislative Hearing:

Requests to amend the text of the Zoning Ordinance or to change a large area of the Zoning Map of Columbia County in order to bring it into compliance with the Comprehensive Plan are legislative hearings. Legislative hearings shall be conducted in accordance with the following procedures.

- .1 A legislative amendment to the Zoning Ordinance Text or Map may be initiated at the request of the Board of Commissioners, a majority of the Commission, or the Director, or any citizen of the County may petition the Commission for such a change.

Finding 3: This legislative amendment to the CCZO to revise Section 1170 Riparian Corridors and remove Section 1180 Wetlands was initiated by the BOCC. This criterion is satisfied.

Continuing with the Columbia County Zoning Ordinance:

- .2 Notice of a Legislative Hearing shall be published at least twice, one week apart in newspapers of general circulation in Columbia County. The last of these notices shall be published no less than 10 calendar days prior to the Legislative Hearing. The mailing of notice to individual property owners is not required but shall be done if ordered by the Board of Commissioners.

Finding 4: A hearing notice was published in the Columbia County Spotlight Newspaper and the Chronicle on July 15, 2022, and on July 22, 2022. Both notices in each newspaper were published more than 10 days prior to the first Planning Commission hearing date of August 1, 2022. Notice and Referral to CPAC's and affected Federal, State, and Local agencies was mailed on July 22, 2022. Subsequent hearing notices for the May 31, 2023 Board of Commissioners hearing were published on May 10 and May 17th, 2023 in the Columbia County Spotlight. Staff finds that these notices were published at least twice, one week apart, the last of which was published no less than 10 calendar days prior to May 31, 2023. This criterion has been met.

Continuing with the Columbia County Zoning Ordinance:

1607 Consistency with the Comprehensive Plan:

All amendments to the Zoning Ordinance Text and Map shall be consistent with the Comprehensive Plan Text and Maps.

- .1 The Commission shall hold a hearing to consider the proposed amendments and shall make a recommendation to the Board of Commissioners with regard to the proposed amendments. The Board of Commissioners shall hold at least one hearing to consider the proposed amendments. Both the Commission and the Board of Commissioners hearings will require notice in the manner outlined in Section 1611.

Finding 5: The proposed CCZO text amendments were prepared concurrently with, and implement, CCCP text amendments to CCCP Part XVI with a focus on Articles X Water Resources and VIII Fish and Wildlife Habitat. The ESEE Analysis (Attachment 4) explains the relationship between CCCP and CCZO amendments. This staff report presents the proposed amendments to the BOCC.

The Planning Commission held a duly-noticed hearing August 1, 2022. The BOCC scheduled a hearing May 31, 2023 to consider the proposed amendments. Notice was provided for the BOCC hearing as discussed under Section 1606.2 findings above.

Continuing with the Columbia County Zoning Ordinance:

1611 Notice of Legislative Hearing:

The notice of a legislative hearing shall contain the following items:

- .1 Date, time and place of the hearing;
- .2 A description of the area to be rezoned or the changes to the text;
- .3 Copies of the statement for the proposed changes are available in the Planning Department. These proposed changes may be amended at the public hearing;
- .4 Interested parties may appear and be heard;
- .5 Hearings will be held in accordance with the provisions of the Zoning Ordinance.

Finding 6: Attachment 1 includes the information presented in the notice. As shown in Attachment 1, all of the above information was included in the Board of Commissioner's Notice of Public Hearing published twice in the Columbia County Spotlight for the initial hearing on May 31, 2023. With this information, staff finds that this criterion is met.

The following Oregon Administrative Rules are applicable to the proposed Goal 5 plan amendment package:

OAR 660-023 Procedures and Requirements for Complying with Goal 5

OAR 660, Division 23 "establishes procedures and criteria for inventorying and evaluating Goal 5 resources and for developing land use programs to conserve and protect significant Goal 5 resources. This division explains how local governments apply Goal 5 when conducting periodic review and when amending acknowledged comprehensive plans and land use regulations." (OAR 660-023-0000)

The Goal 5 rule provides for two general paths (OAR 660-023-0020) to comply with Goal 5:

1. The standard Goal 5 process including an Inventory (OAR 660-023-0030), ESEE Decision Process (OAR 660-023-0040), and Programs to Achieve Goal 5 (OAR 660-023-0050); or

2. A "safe harbor" consisting of "of an optional course of action that satisfies certain requirements under the standard process. Local governments may follow safe harbor requirements rather than addressing certain requirements in the standard Goal 5 process. For example, a jurisdiction may choose to identify "significant" riparian corridors using the safe harbor criteria under OAR 660-023-0090(5) rather than follow the general requirements for determining "significance" in the standard Goal 5 process under OAR 660-023-0030(4). Similarly, a jurisdiction may adopt a wetlands ordinance that meets the requirements of OAR 660-023-0100(4)(b) in lieu of following the ESEE decision process in OAR 660-023-0040."

Finding 7: The ESEE Analysis (Attachment 4) explains how the County has considered and applied the Goal 5 rule to the proposed water resource and fish and wildlife habitat program.

1. **Wetland Inventory.** The County proposes removal of wetlands on the SWI from the County inventory of significant wetlands. The remaining steps in the Goal 5 process (conflicting use identification, ESEE analysis, program adoption) apply only to “significant” wetlands; thus, the County is not required to conduct an ESEE analysis and cannot adopt local wetland protection measures. However, because removal of SWI wetlands from the County’s inventory of significant wetlands has the *effect* of (a) removing adopted local wetland protection measures (CCZO Section 1180 Wetlands) and (b) reduces the area protected by Section 1170 Riparian Corridors.³ Because this outcome may not have been anticipated by the Goal 5 rule, and in an abundance of caution, the County has conducted the ESEE Analysis to consider the ESEE consequences of this inventory decision.
2. **Riparian Corridor Inventory** Retain Columbia County’s existing inventory of fish-bearing streams based on ODF maps of fish-bearing streams based on the safe harbor provisions of OAR 660-023-0090 Riparian Corridors and add a few small reaches shown in more recent ODFW inventories (Attachment 4, Section 1 Inventory).
3. **Identify Conflicting Uses.** The ESEE Analysis identifies uses and activities that are currently allowed by the underlying base zone but which are not allowed under the existing program, and identifies by zoning category the spatial impact of removing wetland protection outside of safe harbor riparian corridors (Attachment 4, Section 2 Conflicting Uses).
4. **ESEE Consequences Analysis.** Consistent with OAR 660-023-0040 (Attachment 4, Section 3 ESEE Analysis), the ESEE Analysis considers the consequences of the existing (almost) full protection program, of the proposed limited protection program, and of having no local water resources program.
5. **Proposed Limited Protection Program.** The proposed Goal 5 program amendments (changes to CCCP Part XVI and CCZO Sections 1170 and 1180) are described and provided (Attachment 4, Sections 4 Program to Achieve the Goal). The revised CCCP and CCZO text is found in Attachments 2-3 and 5-6).

The ESEE Analysis and proposed CCCP Part XVI amendments demonstrate compliance with applicable OAR 660 Division 023 requirements. The ESEE Analysis includes the following key findings in support of a revised and limited Water Resources protection program (CCCP and CCZO amendments, Attachments 2-4):

“Overall ESEE Findings and Conclusions

The ESEE Analysis below relies on the following key findings in support of a revised WRPP as described in Appendix B:

³ OAR 660-023-0090(5(c) states “Where the riparian corridor includes all or portions of a significant wetland as set out in OAR 660-023-0100, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland.” The act of removing SWI wetlands from the County’s inventory of significant wetlands substantially reduces the area currently protection by CCZO Section 1170 Riparian Corridors as well as the area that the County is allowed to protect under the Goal 5 rule riparian corridor safe harbor. A major reason why the 2003 County water resource protection program covers such a large land area is that many streams have “associated wetlands” that extend the riparian corridor buffer area to include otherwise buildable land. Removal of SWI wetlands from the County inventory of “significant wetlands” thus greatly reduces the land area protected by the County’s water resource program (that is, the area protected by CCZO Sections 1170 and 1180 Riparian Corridor and Wetlands overlay zones).

1. The Riparian Corridor and Wetland inventory and overlays adopted in 2003 cover a much larger area than county staff or elected officials originally thought, did not meet key Goal 5 rule requirements when adopted, and are more restrictive than previously recognized.
2. The existing Riparian Corridor and Wetland overlays have not been consistently applied or enforced since their adoption in 2003 due in part because they did not fully comply with Goal 5 rule requirements, and in part due to limited staff resources and expertise.
3. The existing Riparian Corridor and Wetlands regulations place an undue burden on small landowners who lack the resources to address local regulatory requirements in addition to state and federal regulations.
4. The existing Wetland overlay has a much greater adverse impact on development allowed by the underlying zoning district than originally thought and thus has substantial adverse economic and social consequences.
5. The County lacks the authority to protect wetlands in agricultural and forest zones, which cover over 50,000 acres of rural land in Columbia County – and are already protected by state forest and agricultural practices regulations.
6. The County lacks staff resources and expertise to review proposed development on rural industrial, commercial, and residential exception areas with SWI wetlands; existing county wetland regulations thus have adverse social and economic consequences for taxpayers, property owners and limited local government resources.
7. Enforcement of existing county wetland regulations makes it impossible to implement county economic development policies, given that almost a third of the County's rural industrial land supply is covered by significant wetlands and riparian corridors.
8. State and federal agencies are better equipped to regulate development impacts on SWI wetlands than the County, because they have the requisite expertise and experience managing water resource protection programs.
9. The County has adopted several habitat-specific overlay zones to protect big game, Columbia white-tailed deer, fish, wildfowl, and non-game habitat. For this reason, and because wetlands and fish and wildlife habitat are already protected on a limited basis by a variety of state and federal programs, most adverse environmental and fish and wildlife habitat impacts will be effectively mitigated.
10. Limited protection of the County's riparian corridors recognizes that stream banks can erode and that stream channels can change over time; limited protection of riparian corridors reduces risks from flood hazards and supports the County's fisheries and sports fishing industries.
11. On balance, local protection of significant wetlands outside of riparian corridors has negative economic and social consequences, given limited staff resources and recognizing that state and federal regulations already provide a reasonable level of protection to wetland resources.
12. On balance, the ESEE consequences of continuing to provide limited protection for significant natural areas, some significant LWI wetlands within city UGBs and Natural Areas, and the riparian corridors of fish-bearing lakes, rivers and streams in Columbia County are positive.

For the reasons stated above, the County concludes that conflicting uses and activities related to wetlands outside of locally-defined riparian corridors should be allowed fully (i.e., no local protection). The County is committed to implementing the proposed locally-defined riparian corridor protection program and a series of adopted county environmental overlay zones designed to protect

fish and wildlife habitat, to notifying DSL of projects that could impact wetlands and water areas as required by state law, and to coordinating with ODFW and other state and federal agencies to ensure effective fish and wildlife habitat protection.”

The following Oregon Revised Statute related to public notice is not applicable to this post-acknowledgement comprehensive plan and zoning ordinance amendment package because the changes will decrease – rather than increase – local regulations applicable to private property in Columbia County:

Measure 56 Notice

NOTICE TO PROPERTY OWNERS (Required by Measure 56)

ORS 215.503 Legislative act by ordinance; mailed notice to individual property owners required by county for land use actions.

- (1) As used in this section, “owner” means the owner of the title to real property or the contract purchaser of real property, of record as shown on the last available complete tax assessment roll.
- (2) All legislative acts relating to comprehensive plans, land use planning or zoning adopted by the governing body of a county shall be by ordinance.
- (3) Except as provided in subsection (6) of this section and in addition to the notice required by ORS 215.060, at least 20 days but not more than 40 days before the date of the first hearing on an ordinance that proposes to amend an existing comprehensive plan or any element thereof or to adopt a new comprehensive plan, the governing body of a county shall cause a written individual notice of land use change to be mailed to each owner whose property would have to be rezoned in order to comply with the amended or new comprehensive plan if the ordinance becomes effective.
- (4) In addition to the notice required by ORS 215.223 (1), at least 20 days but not more than 40 days before the date of the first hearing on an ordinance that proposes to rezone property, the governing body of a county shall cause a written individual notice of land use change to be mailed to the owner of each lot or parcel of property that the ordinance proposes to rezone.
- (5) An additional individual notice of land use change required by subsection (3) or (4) of this section shall be approved by the governing body of the county and shall describe in detail how the proposed ordinance would affect the use of the property. The notice shall:
 - (a) Contain substantially the following language in boldfaced type across the top of the face page extending from the left margin to the right margin:

This is to notify you that (governing body of the county) has proposed a land use regulation that may affect the permissible uses of your property and other properties.

 - (b) Contain substantially the following language in the body of the notice:

On (date of public hearing), (governing body) will hold a public hearing regarding the adoption of Ordinance Number _____. The (governing body) has determined that adoption of this ordinance may affect the permissible uses of your property, and other properties in the affected zone, and may change the value of your property.

Ordinance Number _____ is available for inspection at the _____ County Courthouse located at _____. A copy of Ordinance Number _____ also is available for purchase at a cost of _____.

For additional information concerning Ordinance Number _____, you may call the (governing body) Planning Department at _____.

-
- (6) At least 30 days prior to the adoption or amendment of a comprehensive plan or land use regulation by the governing body of a county pursuant to a requirement of periodic review of the comprehensive plan under ORS 197.628, 197.633 and 197.636, the governing body of the county shall cause a written individual notice of the land use change to be mailed to the owner of each lot or parcel that will be rezoned as a result of the adoption or enactment. The notice shall describe in detail how the ordinance or plan amendment may affect the use of the property. The notice also shall:

(a) Contain substantially the following language in boldfaced type across the top of the face page extending from the left margin to the right margin:

This is to notify you that (governing body of the county) has proposed a land use that may affect the permissible uses of your property and other properties.

(b) Contain substantially the following language in the body of the notice:

As a result of an order of the Land Conservation and Development Commission, (governing body) has proposed Ordinance Number _____. (Governing Body) has determined that the adoption of this ordinance may affect the permissible uses of your property, and other properties in the affected zone, and may change the value of your property.

Ordinance Number _____ will become effective on (date).

Ordinance Number _____ is available for inspection at the _____ County Courthouse located at _____. A copy of Ordinance Number _____ also is available for purchase at a cost of _____.

For additional information concerning Ordinance Number _____, you may call the (governing body) Planning Department at _____.

-
- (7) Notice provided under this section may be included with the tax statement required under ORS 311.250.
- (8) Notwithstanding subsection (7) of this section, the governing body of a county may provide notice of a hearing at any time provided notice is mailed by first class mail or bulk mail to all persons for whom notice is required under subsections (3) and (4) of this section.
- (9) For purposes of this section, property is rezoned when the governing body of the county:

- (a) Changes the base zoning classification of the property; or
- (b) Adopts or amends an ordinance in a manner that limits or prohibits land uses previously allowed in the affected zone.

(10) The provisions of this section do not apply to legislative acts of the governing body of the county resulting from action of the Legislative Assembly or the Land Conservation and Development Commission for which notice is provided under ORS 197.047, or resulting from an order of a court of competent jurisdiction.

(11) The governing body of the county is not required to provide more than one notice under this section to a person who owns more than one lot or parcel affected by a change to the local comprehensive plan or land use regulation.

(12) The Department of Land Conservation and Development shall reimburse the governing body of a county for all usual and reasonable costs incurred to provide notice required under subsection (6) of this section.

Finding 8: The proposal brought forth for PA 22-02 and TA 22-02 is to adopt a revised and limited Water Resource protection program by amending (1) CCCP Part XVI with a focus on Article X Water Resources and Article VIII Fish and Wildlife and (2) CCZO Section 1170 Riparian Corridors, Wetlands, Water Quality, and Fish and Wildlife Habitat Protection Overlay Zone. The limited protection program also includes (a) removal of wetlands identified and the SWI from the County's inventory of significant wetlands and removing CCZO Section 1180 Wetland Area Overlay. These proposed amendments will not change any existing base zoning and, if adopted, would not limit or prohibit land uses previously allowed in the affected zone. As such, Staff finds that a Measure 56 Notice is not required for the subject proposal.

COMMENTS:

Following the Board of Commissioner's March 29, 2023 Work Session related to the proposed changes, Land Development Services received a number of interested parties who requested notification of the subsequent hearings. As such, notice of the May 31, 2023 was sent to interested parties. As of the date of this staff report, staff have not received any written comments in favor or opposition of the proposal from these interested parties.

Attachment 8 includes written comments received from the following state agencies:

- Oregon Department of Fish and Wildlife (ODFW)
- Oregon Division of State Lands (DSL)

CONCLUSION & DISCUSSION:

The Planning Commission participated in a work session on this matter on May 2, 2022 and held a public hearing on August 1, 2022. Despite concerns from DLCD, ODFW, and DSL provided the day of the public hearing, the Planning Commission recommended approval of the Staff proposal.

However, over the next six months, Staff have coordinated with these agencies to prepare a revised draft proposal that:

1. Removes SWI wetlands for the County's inventory of significant wetlands and removes CCZO Section 1180 Wetlands Overlay Zone.
2. Amends the ESEE Analysis and CCCP Part XVI, Article VIII Fish and Wildlife Habitat to address the impacts of the proposed limited protection program on fish and wildlife habitat protection.
3. Expands riparian corridor widths based consistent with OAR 660-023-0090 "safe harbor" provisions. Rather than 25 feet for most streams and lakes and 50 feet for the Columbia River and the main stems of three other rivers, the revised proposal (agreed upon by state agencies) is 75 feet from the top-of-bank for the Columbia River and 50 feet from the top-of-bank for all other fish-bearing rivers, streams, and lakes.
4. Commits County staff to review development applications in unincorporated urban areas to ensure compliance with applicable city Goal 5 policies.

The BOCC has held work sessions on this matter on October 16, 2022 and March 29, 2023. All work sessions and the hearing provided a general overview of the proposal, considered public and agency comments, and discussed the pros and cons of adopting a limited protection program for water resources.

Notice of the Planning Commission and BOCC public hearings have been duly published in local newspapers and mailed notice was sent to Federal, State and Local agencies. All notices given meet the timelines required by State and Local notification requirements.

STAFF RECOMMENDATION:

Based upon the findings in this staff report, Staff concurs with the Columbia County Planning Commission recommendation of **APPROVAL**, adopting the proposed legislative text amendments to CCCP Part XVI and CCZO, Sections 1170 and 1180, contained in File Number PA 22-02 & TA 22-02, as explained in detail in this staff report and related attachments.

**BEFORE THE BOARD OF COUNTY COMMISSIONERS
FOR COLUMBIA COUNTY, OREGON
NOTICE OF PUBLIC HEARING**

NOTICE IS HEREBY GIVEN The Columbia County Board of Commissioners will hold a public hearing on Wednesday, May 31st, 2023, at or after 10:00 a.m. at the Courthouse Annex, 230 Strand Street, Room 310, St. Helens, Oregon 97051.

The purpose of this hearing is to consider amendments to the Columbia County Comprehensive Plan and Zoning Ordinance in order to develop a limited protection program for wetland and riparian corridors. This involves amendments to the Comprehensive Plan Articles VIII Fish and Wildlife Habitat, IX Natural Areas, and X Water Resources. This proposal also involves amendments to the Columbia County Zoning Ordinance Sections 1170 Riparian Corridors, Wetlands, Water Quality, and Fish and Wildlife Habitat Protection Overlay Zone, and 1180 Wetland Area Overlay. The local file numbers for these amendments are TA 22-02 & PA 22-02.

This hearing is to afford interested parties an opportunity to be heard on the above-referenced matter. Interested parties may appear and be heard. Any comments you wish to provide will be appreciated; however, Oregon law requires that testimony and evidence must be directed toward the decision criteria. You may present testimony at the public hearing or provide written comments to the Board of County Commissioners to jacyn.normine@columbiacountyor.gov prior to 5:00 p.m. on May 30, 2023. The Columbia County Board of Commissioners is the final local decision-maker for all County Plan and Ordinance amendments.

Applicable decision criteria are contained in CCZO 1606; CCZO 1607; CCZO 1611; the Oregon Statewide Planning Goals; the Comprehensive Plan Parts I and XVI; OAR 660-023; and any other statute or ordinance determined to apply. The specific criteria applicable to this request is listed and evaluated in the staff report. This hearing will be held in accordance with the provisions of the Zoning Ordinance. For more information contact Hayden.Richardson@columbiacountyor.gov; or phone 503-397-1501.

A copy of the application, all documents and evidence relied upon by the applicant (including copies of the proposed changes), and the staff report will be available from the Columbia County Planning Department, 445 Port Ave. St. Helens, OR 97051, and at <https://www.columbiacountyor.gov/Hearings>, at least 7 days prior to this hearing. Written comments on the issue can be submitted via email to Jacyn.normine@columbiacountyor.gov or you can send comments via U.S. Mail to Columbia County, Board of Commissioners c/o Jacyn Normine, 230 Strand Street, St. Helens, OR 97051.

You may participate in this hearing in person or virtually. To attend virtually go to <https://global.gotomeeting.com/join/357054141> or call United States (Toll Free): 1 866 899 4679. The meeting access code is: 357-054-141. The Board of Commissioners reserves the right to continue the hearing to another date and time. If the hearing is continued, no further public notice will be provided

Chronicle, please publish in your
May 10, 2023, and May 17, 2023, editions.

Amendments to Comprehensive Plan Part XVI Goal 5 Resources

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PART XVI. GOAL 5: OPEN SPACE, SCENIC AND HISTORIC AREAS, AND NATURAL AREAS

[Amended by Ordinance No. 98-01 eff. 6/29/98; Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

ARTICLE I. PURPOSE OF PLAN:

To conserve open space and protect the identified natural and scenic resources in Columbia County as defined by Statewide Planning Goal Five and the related administrative rule.

[Amended by Ordinance No. 98-01 eff. 6/29/98].

ARTICLE II. GOAL FIVE REQUIREMENTS:

- A. Evaluation Resources. All Goal 5 resources except wilderness areas, Oregon Recreational trails, critical groundwater areas, and federal/state wild and scenic waterways are found within Columbia County. Therefore, in order to meet the requirements of the Statewide Goal 5, the following resources must be evaluated according to the Goal 5 process referred to below:
1. Land needed for open space;
 2. Mineral and aggregate resources;
 3. Energy sources;
 4. Fish and wildlife areas and habitat;
 5. Ecologically and scientifically significant natural areas;
 6. Outstanding scenic views and sites;
 7. Water areas, wellands, watersheds, and ground water resources;
 8. Historic areas, sites, structures, and objects;
 9. Cultural areas;
 10. Potential and approved Oregon Recreational trails;
 11. Potential and approved federal wild and scenic waterways and state scenic waterways;

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

- B. Goal 5 Process. Procedures, criteria and definitions necessary to inventory and evaluate Goal 5 resources and to develop land use programs to conserve and protect significant Goal 5 resources are specified in Oregon

Administrative Rule (OAR) 660, Division 23 which became effective in September 1996. OAR 660, Division 23 provides standard procedures and requirements for all Goal 5 resource categories, including optional "safe harbor" provisions meeting certain requirements under the standard process and specific rules for each resource category.

The "safe harbor" option consists of an optional course of action that satisfies certain requirements under the standard process. Local Governments may follow "safe harbor" requirements rather than addressing certain requirements in the standard Goal 5 process. For example, a jurisdiction may choose to identify "significant" riparian corridors using the "safe harbor" criteria under OAR 660-23-090(5) rather than follow the general requirements for determining "significance" in the standard Goal 5 process under OAR 660-23-030(4).

OAR 660, Division 23, explains how Columbia County must apply Goal 5 when conducting periodic review and amending the Columbia County Comprehensive Plan and land use regulations affecting Goal 5 resources in the County. Columbia County's adopted 1998 periodic review work program includes amendments to the Columbia County Comprehensive Plan and implementing ordinances addressing mineral and aggregate resources and sensitive lands and habitats. All amendments to the plan map or zoning map affecting Goal 5 resources shall comply with the following OAR 660, Division 23 procedures, as follows:

1. Inventory the Goal 5 resource using the following steps as applicable. The nature and extent of the inventory process will depend on the type of Goal 5 resource and the scope of a particular post acknowledgment plan amendment (PAPA) or periodic review work task:
 - a. Collect information.
 - b. Determine the adequacy of information.
 - c. Determine significance of the resources.
 - d. Adopt a list of significant resource sites into the comprehensive plan consistent with OAR 660-23-030, Comprehensive Plan Administrative Procedures Policy 5; and Citizen Involvement Policy 4.
2. Develop a program to achieve Goal 5 for all resources determined to be significant, based on the following:
 - a. "safe harbor" provisions (where available); or
 - b. An analysis of economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit conflicting use using the following steps:
 - i. Identify conflicting uses.
 - ii. Determine the impact area.

- iii. Analyze the ESEE consequences.
- iv. Develop a program to achieve Goal 5 by allowing, limiting or prohibiting conflicting uses. The program shall consist of plan provisions and land use regulations which address the degree of protection for the significant resource site by adopting measures to be applied to conflicting uses. *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

ARTICLE III. OVERALL GOAL 5 POLICY STATEMENT CONCERNING FOREST OPERATIONS:

- A. Columbia County recognizes that forest operations for which notification is required by ORS 527.670(2) shall be governed by the Forest Practices Act.
- B. Columbia County shall rely upon the Forest Practices Act and any supplemental agreements between Fish and Wildlife Commission and the Board of Forestry to protect critical wildlife habitat sites; and
- C. Columbia County shall not apply the provisions of Sections 1120, 1170, **1182**, 1185, **1186**, and 1190 of the Zoning Ordinance to commercial forest operations covered by ORS 527.670(2).

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

ARTICLE IV. MAPS AND ATTACHMENTS.

Some inventory Maps and other documents referenced in Part XVI of the Comprehensive Plan are attached to the Comprehensive Plan in the Technical Appendix, Part XVI. Unless specifically stated, the attached Maps and other documents are not incorporated into the Comprehensive Plan but are attached to the Technical Appendix for reference.

[Added by Ordinance No. 2003 - 5, eff. December 15, 2003].

ARTICLE V. OPEN SPACE

- A. **DEFINITION:** Open Space is defined by the Goal as consisting of lands used for agricultural or forest uses, and any land area that would, if preserved and continued in its present use:
 - 1. Conserve and enhance natural and scenic resources;
 - 2. Protect air or streams or water supply;
 - 3. Promote conservation of soils, wetlands, beaches, or tidal marshes;
 - 4. Conserve landscaped areas, such as public or private golf courses, that reduce air pollution and enhance the value of abutting or neighboring property;

5. Enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, nature reservations or sanctuaries, or other open space;
6. Promote orderly urban development.

An open space system may be developed as a base for land use to preserve natural features and resource land, eliminate waste and pollution, and make more useful and valuable those spaces involving development and building. *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

B. INVENTORY:

The borders of Columbia County stretch from the low mountainous Coast Range in the southern and western sections of the County, over rolling hills and fingers of river valleys, to the reaches of the Columbia River on its northern and eastern edges. Approximately ninety (90) percent of the Six Hundred and Seventy-six (676) square miles contained within this area is comprised of lands in forest, farm, recreational, or other open space use. About thirty (30) square miles are covered by water. *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

C. POTENTIAL CONFLICTING USES:

The major conflicting uses affecting the open space value of forest and agricultural land are the expansion of rural residential, commercial, and industrial development. These uses convert valuable resource land for other purposes. They also impact and degrade adjacent resource lands and the ability of these lands to protect water quality, conserve soils, and perform other functions.

Specific open space resources, such as wetlands, riparian corridors, the Willamette River Greenway, natural areas, scenic features and parks, which exist in the County, are addressed in other sections of Part XVI of the Comprehensive Plan. A discussion of conflicting uses and measures for their resolution can be found in the section pertaining to each particular resource. *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

D. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

1. Economically, limiting conflicting uses for open space values is beneficial. Forest and farm uses are significant contributors to the local economy. They provide job opportunities, generate tax revenue, and support a number of related industries in the community. In addition, the combination of lands for farm, forest, and natural uses makes Columbia County an attractive place to live and visit. An abundance of game and waterfowl are supported by these

open spaces and attract fishermen, hunters, and other recreators to the County. The income generated from these forms of recreation adds substantially to County coffers.

2. Socially, protecting open space values is a positive use of the land. It promotes a quality of life that balances urban growth with preservation of lands used for farming or other extractive purposes, for viewing, parks, wildlife, and for conservation.
3. Environmentally, limiting conflicting uses protects those characteristics of the land which serve naturally to provide fish and wildlife habitat as well as to reduce water and air pollution, flooding, soil erosion, and other problems related to man-induced and naturally caused changes in the environment.
4. Limiting conflicting uses for open space also has positive energy consequences. Such limitation encourages the clustering of residential development and restricts major developments to rural centers and urban growth boundaries. Therefore, resources which otherwise might be wasted by providing roads and to scattered areas throughout the County can be used more efficiently.

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

E. FINDINGS:

Almost all of the County's forest and agricultural lands are zoned Primary Forest (PF-38), Forest-Agriculture (FA-19), and Primary Agriculture (PA-38). While the primary intent of this zoning is to conserve resource lands for resource uses, the zones protect the land's open space as well. Uses that conflict with open space are minimized in these resource zones. Conflicts may exist in some areas of open space which are built and committed to non-resource use. The extent of existing development in these areas has already reduced their open space value. The County has taken exceptions to Goal 5 to exclude these built and committed areas from resource zones.

To conserve areas of open space, the County has adopted policies and implementing measures to protect its identified sensitive resources, including hazard areas, flood plains, riparian vegetation, and wetland areas. It has also adopted policies to encourage the retention of open space through clustering and other measures within residential resource areas.

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

F. OPEN SPACE GOALS AND POLICIES:

GOAL:

To conserve open space in Columbia County.

POLICIES:

It is the policy of the County to:

1. Recognize the economic and aesthetic value of open space as it relates to planning for agriculture, forestry, wetlands, and other open space resources.
2. Encourage the design of residential development to include park areas and corridors of open space along streams, waterways, cliffs, and other special features by using clustering and other development techniques.
3. Recognize the need for public access to the Columbia River and other scenic and recreational features. The County will work with commercial, industrial, and residential developers to promote public use and provide public access to these features whenever possible.

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

ARTICLE VI. SURFACE MINING

[Title amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

[Amended by Ordinance No. 98-01 eff. 6/29/98].

INVENTORY OF MINERAL AND AGGREGATE RESOURCES

Introduction:

Sand, gravel, and rock deposits exist along most of the alluvial plains adjacent to the Columbia River in the northeast section of the County. They exist as well in the Scappoose Bay areas, sometimes at depths of twenty (20) feet or more.

Mines, quarries, placers, prospects, and occurrences or mineral resources in Columbia County are listed in the Key to Oregon Mineral Deposits Map, by the State of Oregon Department of Geology and Mineral Industries, dated 1964. While the information in this report is very general, and at most describes sites only by township, range, and section, it does identify the existence of the resources and therefore is shown below:

1. Bauxite - deposits are known to occur along the foothills in the eastern portion of the County.
2. Limonite - T5N, R2W, S31; T4N, R2W, S34, 27; T4N, R3W, S35; T5N, R3W, S24;

- T5N, R1W, S18.
3. Coal - T5N, R3W, S27; T4N, R4W, S23, 26.
 4. Mineral Pigment - T4n, R3W, S35; T3N, R2W, S3.
 5. Refractory Clays - T8N, R3W, S33.

Aggregate deposits located in Columbia County are of generally good quality. The quality of deposits existing in the Scappoose Bay area is said to be some of the highest in the State.

Aluminum ore deposits are of low-grade quality. However, through a refining process, these resources could prove economically feasible.

Limonite deposits in the Scappoose area are some of the most important in the State though these deposits contain far too little tonnage to be economically feasible.

Coal and shale deposits in the County are of low grade.

Inventory Process:

The County shall follow the process and apply the criteria contained in State Goal 5 and Oregon Administrative Rule 660, Division 23, for inventorying and evaluating mineral and aggregate resources and developing land use programs to conserve and protect significant mineral and aggregate resources.

Inventories of mineral and aggregate resources provide information necessary to locate and evaluate these resources and develop programs to protect them. An inventory of mineral and aggregate resources shall follow the process contained in OAR 660-23-180(2). Resources which are inventoried shall be evaluated to determine whether or not they are significant as defined in Oregon Administrative Rule.

Determination of Significance:

A mineral and aggregate resource shall be deemed significant if it meets the definition of significance contained in OAR 660-23-180(3) as follows:

1. A representative set of samples of aggregate material in the deposit on the site meets Oregon Department of Transportation (ODOT) specifications for base rock for air degradation, abrasion, and sodium sulfate soundness, and the estimated amount of material is more than 2,000,000 tons.
2. The material meets local government standards establishing a lower threshold for significance than #1 above; or
3. The aggregate site is on an inventory or significant aggregate site in an acknowledged plan on September 1, 1996.
4. Notwithstanding #1-3 above, except for an expansion area of an existing site, if the operator of the existing site on March 1, 1996 had an enforceable property interest in the expansion area on that date, an aggregate site is not significant if the criteria in either a. or b. of this subsection apply:
 - a. More than 35 percent of the proposed mining area consists of soil classified

as Class I on Natural Resource and Conservation Service (NRCS) maps in September 1996; or

- b. More than 35 percent of the proposed mining area consists of soil classified as Class II, or a combination of Class II and Class I or Unique soil on the NRCS maps available in September 1996, unless the average width of the aggregate layer within the mining area exceeds 60 feet.

Significant Mineral and Aggregate Sites:

Sites listed in Table XVI-1 were sites actively being mined in 1984 and have been determined to be significant in the acknowledged 1984 Columbia County Comprehensive Plan.

**TABLE XVI-1
ACTIVE AGGREGATE SITES**

with

ACTIVE MINING AND LAND RECLAMATION PERMITS (1-20-84)

<u>Name</u>	<u>Location</u>
1. Backlund, Dick	5121-000-00200
2. B&B Excavating	4227-043-00900 4227-043-00901
3. B&B Construction	7404-020-00600
4. Cascade Aggregates	4131-000-00100 4131-000-01000 4132-000-00300 4132-000-00400 4032-000-00500
5. Crown Zellerbach	5305-000-00300
6. Deer Island Sand & Gravel	5106-000-00902 5107-000-00102 5108-000-00302
7. Les Darr Trucking	5107-000-00101 5107-000-00300
8. Floyd Graham	6212-000-01301
9. Don Hooper, Inc.	7410-010-01000
10. Kynsi Construction	7509-000-00300

11. J. L. Ledgett Co.	7307-000-00300
12. George Lammi	7509-000-00400
13. Lakeside Industries	7218-010-00300
14. J. L. Ledgett Logging	7303-000-00400
15. O&T Rock Products, Inc.	6212-000-01100
16. Oregon State Highway Division	5305-000-00400
17. Peter-Billy-Glen Tree Farm, Inc.	4304-000-00100
18. Parks & Palm Logging Co.	7408-011-00300 7408-011-00400 7409-020-01300 7409-020-01400
19. Petersen, John (DBA: Tide Creek Rock Products)	6236-000-00500
20. Swedetown Gravel & Rock	7422-000-00200
21. Scappoose Sand & Gravel	3201-040-00600 3201-040-00700 3212-000-00100
22. Sutter, Fred	7318-000-01300
23. Watters Concrete Products	5133-000-00300
24. Zimmerly, Paul	7411-000-01000 7411-040-00100 7411-040-00200

Sites may be added to the list of significant mineral and aggregate sites during Periodic Review or in conjunction with a Post-Acknowledgment Plan Amendment (PAPA) process by amendment of the Comprehensive Plan.

The list of significant sites which have been added to the inventory of significant sites is contained in Table XVI-2.

**TABLE XVI-2
SIGNIFICANT AGGREGATE SITES & POST-MINING USE**

[Amended by Ordinance No. 98-01 eff. 6/29/98; Ordin. No. 2000-04 eff. 11/13/00; Ordin. No. 2013-2 eff. 11-26-13].

Meier Site	[N.W. Aggregates/Glacier]	3106-000-00100		
		3106-000-00101		
		3106-000-00200		
		3106-000-00504		
		3106-000-00505		
		3106-020-00100		
		3106-020-00101		
		3106-020-00200		
		3106-020-01800		
		3106-020-01900		
		3106-020-02000		
		4131-040-01800		
		Tide Creek Rock	[John Petersen]	6236-000-00900
				6236-040-00900
6236-040-00600				

DECISION REGARDING THE MINING OF SIGNIFICANT SITES:

For significant mineral and aggregate sites, the County will determine whether mining will be allowed during Periodic Review of the Comprehensive Plan or in response to a Post Acknowledgment Plan Amendment request by applying the provisions of OAR 660-23-180(4) and (5) which include:

1. Identifying conflicting uses.
2. Determining the impact area.
3. Analyzing the economic, social, environmental and energy (ESEE) consequences of a decision to allow, limit, or prohibit a use which may conflict with surface mining.
4. Developing a program to achieve Goal 5 by allowing, limiting or prohibiting conflicting uses. The program shall consist of plan provisions and land use regulations which address the degree of protection for the significant resource site by adopting measures to be applied to conflicting uses.

Detailed procedures to carry out these steps are contained in Section 1030 of the Zoning Ordinance.

SURFACE MINING GOALS AND POLICIES

[Amended by Ordinance No. 98-01 eff. 6/29/98]

GOAL:

To protect and utilize appropriately the mineral and aggregate resources of Columbia County.

POLICIES: It is the policy of the County to:

1. Develop an on-going program to determine the quality, quantity, location, and type of mineral and aggregate resources in the County so that up-to-date material will be available to make informed decisions.
2. Consider the preservation of aggregate material in all its land use actions.
3. Pay special attention to any development adjacent to mineral and aggregate resources and take the necessary steps to minimize the impacts of development on these resources.
4. Recommend the establishment of an ad hoc committee to review inactive and undeveloped sites identified in the surface mining inventory and make recommendations as to whether or not the sites should be zoned Surface Mining (SM) and protected upon application of the Goal 5 process.
5. Designate as Surface Mining (SM) those sites with current active mining and land reclamation permits as of January 20, 1984 and the one inactive but proposed 700-acre site in the Scappoose area. Change, upon completion of mining activities, those sites that will revert to uses as indicated in the reclamation plan or to uses compatible with surrounding lands.
6. Designate new mining deposits not shown on the existing inventory as Surface Mining when a report is obtained from a certified geologist, engineer/geologist, or qualified engineering testing firm verifying the location, type, quality, and quantity of the material and when other steps of the Goal 5 process are satisfied.
7. Encourage timely utilization of mining resources to protect the site from incompatible development on adjacent lands.
8. Require that all sites proposed for surface mining be inventoried for their archaeological significance in accordance with standards set by the State Archaeologist. If an archaeological site(s) is discovered, the Planning Commission shall hold a public hearing to review the site(s) and establish measures to mitigate potential conflicts as necessary.
9. Retain in its possession lands it now owns which contain aggregate material. The County may permit private operators to mine county materials.

10. Require that proposals for new extraction operations be accompanied by detailed plans of the method of operation and assurances that the area will be suitably reclaimed for uses designated by the plan.
11. Require that once mining and/or associated activities (i.e., rock crushing) have begun they shall be in accordance with state standards and any more stringent standards that the County may enact. In particularly sensitive areas, such as forestry, residential, agricultural, or wildlife habitat, the mining and associated operations shall be subject to more restrictive standards to keep noise, dust, erosion, and other hazards to a level compatible with the adjacent uses. Such standards may include requirements for barrier isolation, setbacks, operating times, concomitant reclamation, limits to active mining area, mining lifetime, water quality, and restrictions on on-site processing.
12. Prohibit extraction of sand and gravel from rivers and streams unless appropriate regulating agencies such as the Oregon Department of Environmental Quality, Department of Fish and Wildlife, Oregon State Land Board, Division of State Lands, Corps of Engineers, and Columbia County are in agreement and there is no other economically feasible alternative.
13. Make all possible efforts to ensure the retention of riparian habitat, the prevention of erosion and sedimentation, and maintenance of the water quality which exists prior to extraction operations.
14. Ensure that extraction operations approved by the County and other regulating agencies do not screen and wash within any river or stream. In addition, settling ponds shall not discharge directly into any watercourse.
15. Require, as a minimum standard, that extractive industries have access to a public road with two-way capability. As allowed by ORS 487.905, the County may impose weight/load restrictions and may also require the operator to post an adequate surety bond for road repairs.
16. Encourage DOGAMI to conduct a comprehensive inventory of the mineral resources. Upon completion of this study, the County shall up-date zoning and other implementing ordinances to accommodate newfound resources.
17. Prohibit new or expanded mineral or aggregate mining operations within 5,000 feet of the edge of a runway at Scappoose Industrial Airpark. *[Added by Ordinance No. 2000-04 eff. 11/13/00].*
18. Prohibit new or expanded water impoundments greater than or equal to one-quarter ($\frac{1}{4}$) acre in size, individually or cumulatively, within 5,000 feet of the edge of a runway at the Scappoose Industrial Airpark. *[Added by Ordinance No. 2000-04 eff. 11/13/00].*

ARTICLE VII. ENERGY

[Title amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

INVENTORY:

Energy sources identified in Columbia County are the Trojan Nuclear Plant near Prescott, Oregon, Beaver Combustion and Steam Plant at Port Westward, and the natural gas wells in the Mist area. The Trojan Plant is the major thermal plant in the County, with an output capacity of 106,000 kilowatts. The Beaver Plant is capable of generating power either from natural gas or oil. However, its use is restricted to emergency situations due to the high cost of operation. Portland General Electric receives about 60% of the Trojan capacity and all the output from the Beaver Plant. The locations of these plants are:

Trojan T7N, R2W, S35, Tax Lot #01000 and 01200 and T6N, R2W, S2,
Tax Lot #00100.

Beaver - T8N, R4W, S15 and 16, Tax Lot #300 and 400.

Currently there are eleven (11) producing natural gas wells in Columbia County, all of which have been drilled by Reichhold Energy Corporation. The locations of these wells are shown on map 43.

Information concerning the County's oil and coal deposits lacks specificity. These sites have been determined (1B) and will be addressed in the future when more information becomes available concerning their location, quality, and quantity.

POTENTIAL CONFLICTING USES:

Both the Trojan Nuclear Plant and Beaver Plant are located in areas zoned Rural Industrial Planned Development (RIPD). In addition, PGE has instated a site Exclusion Zone around Trojan in which activities posing potential conflicts are regulated. No conflicting uses are identified for these energy sources.

The eleven producing natural gas wells are located on lands zoned Primary Forest (PF-80). Potential conflicts for wells in this zone are: 1) pollution of fresh water sources by gas; 2) accidents which cause fire; and 3) development of lands for residential or other uses that restrict access to the site, or which may be disturbed by noise and mining activities.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

A natural gas well is a temporary land use that affects approximately one-half acre of ground. Economically, the use benefits property owners, mineral rights holders, and service districts. Under ORS 632-10-158, the Oregon Department of Geology and Mineral Industries (ODOGAMI) has established a spacing unit of 160 acres for gas well producing zones above 7,000 feet in depth. All producing wells in the County are between 2,200 and 2,900 feet in depth and must conform with this regulation. The unit is located along section lines and

quarter section lines. Any party who holds mineral rights on acreage within the spacing unit shares in a producing well percentage-wise as their total acreage compares to 160 acres, or 640 acres. For this reason, owners of property surrounding the well have an interest in its productive capabilities.

Columbia County also has a varying interest in each well. In the late 1930's and early 1940's, the County acquired thousands of acres of land on tax foreclosure sales. While most of this land has since been sold, the County has reserved the mineral rights on all sales. Portions of the royalties from producing gas wells are also received by both the school district and fire district in the affected area.

Environmental consequences of gas well drilling and exploration may be the disruption of sensitive ecosystems by land disturbance and water source pollution. Unknown long-range effects may also be experienced because of gas removal, though research is too limited to address these effects at this time. Environmental consequences are controlled through regulations imposed by ODOGAMI. Each well must be drilled, cased, and plugged in accordance with standards to prevent the escape of gas out of a stratum or the intrusion of water or other foreign materials into a strata. Rules are also enforced by ODOGAMI to prevent wells from being drilled, operated, and produced in such a manner as to cause injury to neighboring leases or property, to prevent fires, and require the reclamation of drill sites.

Social consequences resulting from the development of resource lands for residential or other purposes that restrict access to the site or which may be disturbed by mining operations are minimal in the County. Wells are primarily located in areas containing large tracts of commercially grown timber zoned for forest use. The development of non-forest related dwellings on such lands is restricted and limited to one (1) dwelling per 38 acres.

FINDINGS:

Potential conflicting uses for natural gas wells in the County are minimized by the controls and regulations imposed by ODOGAMI. They are also minimized since wells are located in remote forested areas and surrounding property owners share in the profits of producing wells. The County will conserve forest lands for forest uses and allow operations conducted for the exploration, mining, and processing of subsurface resources as a conditional use. The County will rely on ODOGAMI to ensure future protection of resources and surrounding lands.

ENERGY SOURCES GOALS AND POLICIES

GOAL:

To protect deposits of energy materials in the County and prevent injury to surrounding lands and residents.

POLICIES: It is the policy of the County to:

1. Rely on ODOGAMI to require that wells are drilled, cased, and plugged in such a manner as to ensure public safety.
2. Coordinate with ODOGAMI to conduct a comprehensive inventory of energy

sources in the County, including those oil and coal deposits determined as (1B). Upon completion of this study, the County shall complete the Goal 5 process for newfound resources, and up-date zoning and other implementing ordinances to accommodate them.

ARTICLE VIII. FISH AND WILDLIFE HABITAT

[Amended by Ordinance No. 2003-06, eff. 7/30/03; Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

The 2023 ESEE Analysis supplements and, in cases of conflict, supersedes the limited ESEE analyses found in Article VIII.

BIG GAME HABITAT

1. LOCATION:

[Amended by Ordinance No. 2003-06, eff. 7/30/03].

Three types of big game habitat have been identified in Columbia County by the Oregon Department of Fish and Wildlife. The location of big game habitat is shown in the 1995 Beak Consultants maps entitled "Wildlife Game Habitat" in the Technical Appendix Part XVI, Articles VIIIA, which are incorporated herein by this referenced. In Columbia County, these habitat types are defined as:

- a. Major - Areas of the County which supports the majority of big game. These areas provide forage and cover for game during most of the year.
- b. Peripheral - Areas of the County which are also important for sustaining big game populations. These areas are generally at lower elevations and serve as critical habitat during severe winter months. Peripheral Big Game Habitat Areas in Columbia County are:
 - i. Clatskanie River Drainage
 - ii. Nehalem River Drainage
 - iii. Rock Creek Drainage
 - iv. Tide Creek Drainage
 - v. Merrill Creek Drainage
 - vi. Milton Creek Drainage
 - vii. Scappoose Creek Drainage
 - viii. Clear Creek Drainage
 - ix. Woodson Upland Area

x. Mayger Area

- c. Impacted - Areas of the County for which an acknowledged "built and committed" exception has been taken. Because of existing levels of residential land use, these areas are no longer considered resource land and/or viable big game habitat. These "built and committed areas" are typically in urban areas or on lands that have been zoned Rural Residential or Rural Community. These areas frequently contain populations of big game despite their status as being impacted. [Amended by Ordinance No. 2003-06, eff. 7/30/03].

2. QUALITY: [Amended by Ordinance No. 2003-06, eff. 7/30/03].

Columbia County contains large amounts of forested lands that provide a range from good to excellent big game habitat. Logging practices have created mixed stands of mature forests, clear-cuts, and brush lands that offer excellent forage and cover conditions. Game go to clear-cut areas to feed, use brush lands for hiding cover, and rely on mature forest cover for thermal protection. In addition, the many drainage areas serve as migration corridors for big game travel between different ranges. Big Game animals spend summer months in the higher elevations which offer abundant food and protection from human disturbance. As harsh winter conditions hit these higher elevations, the animals migrate to lower elevations where they can still find food and protection from the cold. The topography and land use pattern in Columbia County accommodates these needs well.

In addition, the majority of land in Columbia County has been designated and zoned for Forestry. Big Game habitat is predominantly found in these forest zoned areas. Since 1993, the minimum parcel size for resource zoned property is 80 acres. The 80-acre parcel size limits the development that can occur in forest land consistent with the 80-acre density standards recommended by ODFW. Furthermore, much of the forest land in Columbia County is prohibited from development by state law. Therefore, because of the large parcel size requirements and the limited development possibility on forest lands, the quality of Columbia County Big Game Habitat is expected to remain high without additional density regulations if siting standards are applied.

3. QUANTITY: [Amended by Ordinance No. 2003-06, eff. 7/30/03].

The majority of the 676 square miles of land located within Columbia County has been identified as habitat for big game by the Oregon Department of Fish and Wildlife. These lands lie within the County's low mountainous Coastal Range and eastern rolling hills.

According to the Oregon Department of Fish and Wildlife the types of Big Game animals found in Columbia County include Roosevelt Elk, Black-tailed Deer, White-tailed Deer, Black Bear, and Cougar. Big game population estimates are currently unavailable for Columbia County.

4. POTENTIAL CONFLICTING USES: [Amended by Ordinance No. 2003-06, eff. 7/30/03].

- a. The majority of the areas designated in Columbia County as being either Major or Peripheral Big Game Habitat are zoned Primary Forest (PF-38), Forest-Agriculture (FA-19), and Primary Agriculture (PA-38). Activities permitted within these zones are generally considered to be compatible with Big Game Habitat. In fact, agricultural and forest practices often

unintentionally enhance Big Game Habitat by providing feed for animals. However, game can conflict with these land uses when they browse young, planted trees and/or destroy and eat crops intended for livestock.

- b. Portions of the Major and Peripheral Big Game Range have been found to be "built and committed" and are zoned rural-residential because of previous residential impact. The Rural Residential zone allows residential development at densities higher than those recommended by the Oregon Department of Fish and Wildlife (1 dwelling per 80 acres). Lands within this rural residential zone correspond with those areas recognized and mapped in "impacted" areas by the Oregon Department of Fish and Wildlife. Substantial conflicts between big game and residential use already exist in these areas. Because of the existing conflict, little additional impact on big game is expected in areas zoned for rural residential use. All rural residential and other exception areas are impacted and exempt from the development siting standards of the CCZO found in the Big Game Range Overlay District.
- c. Other non-resource uses have been identified which could permanently alter big game habitat areas. These uses often have the same general characteristics:
 - i. the introduction of people to habitat areas on a year-round basis;
 - ii. the permanent introduction of groups of people on a seasonal or weekly basis; or
 - iii. the use of land in a manner which necessitates the removal of large amounts of vegetative cover.
- d. The major problems associated with the introduction of people to habitat areas are dog harassment, poaching, traffic harassment, and lost forage and cover areas.

5. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

[Amended by Ordinance No. 2003-06, eff. 7/30/03].

- a. Economic: The loss of big game habitat and subsequent reduction in big game population could have negative economic consequences on revenue generated from big game recreation. Development within habitat areas could also prove costly to the County if the County must provide to remote forested areas. Negative economic consequences would also result from not allowing further development within "built and committed" areas of the County where the infrastructure and have already been developed. The infrastructure and should be used to their maximum capacity in order to obtain the most value from previous investments. Such areas provide opportunities for rural residential living.
- b. Social: If residential densities are allowed above levels recommended by the Oregon Department of Fish and Wildlife, there will be increased forage of ornamental vegetation and gardens. Allowing conflicting uses may also reduce the enjoyment people receive from hunting and other recreational activities. A

balance must be achieved because some County residents may experience personal losses if development is restricted in Big Game Habitat areas.

- c. Environmental: If potential conflicting uses are properly managed in Big Game Habitat, big game will have an opportunity to flourish and increase. If potential conflicting uses are allowed without any limitations, big game populations will probably decrease because of increased harassment and habitat loss. Other animals whose habitat requirements are similar to big game would also be affected. If potential conflicting uses are limited and impacts to big game are minimized by siting standards, big game populations will probably remain steady.
- d. Energy: The energy consequences of limiting rural development in Big Game Habitat are positive. Traffic and road construction associated with the development in remote areas of the County will be reduced because of development standards.

6. FINDINGS:

[Amended by Ordinance No. 2003-06, eff. 7/30/03].

- a. While there are conflicting uses in Big Game Habitat areas, such conflicting uses cannot be completely prohibited without negative consequences. Therefore, the County has adopted a program to protect Big Game Habitat and allow limited impact from conflicting uses. The County will achieve a balance between these Big Game Habitat and conflicting uses by following mandatory Oregon Administrative Rules for siting dwellings and other uses in resource zones and by requiring development siting standards that minimize the impact on Big Game Habitat from new development when new development is otherwise allowed. Dwellings or other conflicting uses that meet State siting standards will be allowed in Big Game Habitat provided that impact from the dwelling or other use will be mitigated by development siting standards. Resource land that is not eligible for new uses is high quality habitat and will remain undeveloped and protected as Big Game Habitat under the Oregon Administrative Rules. In addition, the 80-acre minimum parcel size on resource land will further limit the potential for new development that may negatively impact Big Game Habitat.
- b. In Big Game Habitat areas, new residential uses in forest and farm zones shall follow development siting standards to mitigate their impact upon Big Game Habitat. These standards require any new use to be located to avoid habitat conflicts and utilize least valuable habitat areas. In addition, road development shall be the minimal amount necessary to support residential use. Areas for which "built and committed" exceptions have been taken shall be considered impacted. Because of existing conflicts in these areas, no additional standards to protect big game in such impacted areas are proposed.

7. Program to Protect Big Game Habitat.

[Added by Ordinance No. 2003-06, eff. 7/30/03].

- a. Any resource zoned property that is not eligible for a new dwelling or use, based upon the criteria found in the Oregon State Administrative Rules, shall be protected Big Game Habitat.
- b. Any resource zoned property that is eligible for a new dwelling or use based upon the criteria found in the Oregon State Administrative Rules, shall be eligible under the County's program to protect Big Game Habitat, provided that, the negative impacts from the dwelling or other use on big game is mitigated by compliance with development siting standards.
- c. All new residential development and uses located in Major and Peripheral Big Game or Columbian White-tailed Deer Habitat shall be subject to siting standards substantially the same as the following:
 - i. Dwellings and structures shall be located as near each other and existing developed areas as possible considering topography, water features, required setbacks, and firebreaks.
 - ii. Dwellings and structures shall be located to avoid habitat conflicts and utilize least valuable habitat areas.
 - iii. Road development shall be minimized to that which is necessary to support the proposed use and the applicant shall utilize existing roads as much as possible.
 - iv. The owner/occupant of the resource parcel shall assume responsibility for protection from damage by wildlife.
 - v. Riparian areas shall be protected in accordance with Section 1170 Riparian Corridor Overlay Zone.
- d. The County shall notify the Oregon Department of Fish and Wildlife (ODFW) of all proposed uses or development activities which require a permit and are located in Major or Peripheral Big Game Habitat. The County will consider the comments and recommendations of ODFW, if any, before making a decision concerning the requested use or activity.
- e. The County shall notify the Oregon Department of Fish and Wildlife (ODFW) and the U.S. Fish and Wildlife (USFW) of all proposed uses or development activities which require a permit and are located in Columbian White-tailed Deer Habitat. The County will consider the comments and recommendations of ODFW and USFW, if any, before making a decision concerning the requested use or activity.

COLUMBIAN WHITE-TAILED DEER HABITAT

1. **LOCATION:** *[Amended by Ordinance No. 2003-06, eff. 7/30/03].*

The present habitat of the Columbian White-tailed deer in Columbia County is limited to that portion of the Clatskanie Flats north of Highway 30 from approximately Westport east to the Beaver Power Plant, and Crims Island. Deer were transplanted to Crims Island in 1999 and 2000. The greatest concentrations of White-tailed Deer are found along the north edge of the Clatskanie Flats near the Columbia River. Lord and Walker Islands have been identified by the Fish and Wildlife Service as a potential location for future White-tailed Deer transplants. The location of the Columbian White-tailed Deer Habitat is shown on the 1995 Beak Consultants' Maps entitled "Wildlife Game Habitat" in the Technical Appendix Part XVI, Article VIII(A), which are incorporated herein by this reference. The habitat for this deer once included the islands and shore lands from The Dalles to Astoria and the valleys along the Willamette and Cowlitz rivers.

2. **QUALITY:** *[Amended by Ordinance No. 2003-06, eff. 7/30/03].*

The White-tailed Deer population has declined over the years with increase of intensive agriculture employing efficient drainage and clearing of all season cover (i.e., trees and shrubs). These agricultural practices restricted White-tailed Deer to islands and to the remaining brushy, undeveloped areas, and to a network of sloughs, rivers, and ditches. However, in the 1990's, the conversion of open pasture lands to hybrid poplar plantations has provided cover, enabling the White-tailed Deer to spread over a larger area.

3. **QUANTITY:** *[Amended by Ordinance No. 2003-06, eff. 7/30/03].*

In 2002, an estimated 100-150 Columbian white-tailed deer were present in Columbia County. The area identified by the U.S. Fish and Wildlife Service and the Oregon Department of Fish and Wildlife as habitat for these deer includes approximately 10,000 acres. In addition, Lord and Walker Islands have been identified as potential habitat for transplanting white-tailed deer. As of the year 2003, the Columbia White-tailed Deer is a Federally listed endangered species.

4. **POTENTIAL CONFLICTING USES:** *[Amended by Ordinance No. 2003-06, eff. 7/30/03].*

- a. Lands within the Columbian White-tailed Deer habitat area are zoned Primary Agriculture (PA-80). Generally, practices allowed within this zone are those that enhance the deer's habitat. White-tailed deer often prefer to feed on pastureland, especially pastureland kept short by cattle grazing or by haying. However, the deer also require brushy vegetation for hiding and thermal cover. Columbian white-tailed deer will often feed on open pasture lands and find cover in the thickly vegetated riparian areas.
- b. Potential conflicting uses for Columbian White-tailed deer include: 1) the removal of brushy, vital habitat for creating and improving pasture and agricultural lands, and 2) the draining, filling, and tilling of wetlands. The introduction of residential development and non-residential development such as surface mining into native riparian Columbian White-tailed deer habitat could be a potential conflict, but considering current zoning and other circumstances, the conflict should be very limited.
- c. The intrusion of residential development will be limited somewhat by the 80-

acre minimum lot size and other restrictions placed on farm and non-farm dwellings by the Zoning Ordinance. In addition, the threat of residential development is limited in habitat areas because much of these areas is unsuitable for residential construction. Much of the land in the area has standing water for parts of the year. Therefore, even if the number of 38 80-acre lots increased, there would be a very limited increase in residential development because many of the new lots would contain little or no land suitable for a construction site. Residential development will also be restricted by the limited availability of drinking water in the habitat areas. The County's zoning regulations requiring clustering of dwellings will further limit residential development.

- d. In addition to Section 1190 Big Game Habitat Overlay Zone, conflicts will also be reduced because of the County's - Natural Area and Riparian Corridor Overlay Zones. Some White-tailed deer habitat is in the Riparian Corridor Overlay Zone or the Natural Areas Overlay Zone. Wetlands outside of riparian and natural areas will have no local protection but will continue to be protected by DSL and Corps wetlands programs. The impact of these zones and programs will be to substantially limit residential development in a manner that will protect the habitat for the White-tailed deer. In particular, the Riparian Corridor Overlay Zone limits impact on the natural environment, including the removal of vegetation and filling or draining of wetlands within riparian corridors.
- e. The U.S. Fish and Wildlife Service has approved a recovery plan to restore the Columbian white-tailed deer distributed in suitable secure habitat throughout their former range in at least 4-5 viable sub-populations. A plan to re-establish and/or maintain habitat for Columbian white-tailed deer is one adopted approach for bringing about this recovery. This approach includes protecting and enhancing habitat on off-refuge land and applies to the Clatskanie Flats, Wallace Island, and Crims Island areas of Columbia County. The recovery plan identifies the Magruder Ranch, the most western part of the Columbian white-tailed deer area in Columbia County, as one viable sub-population with suitable habitat that contains Columbian white-tailed deer. The recovery plan recognizes that the Wallace Island-Westport subpopulation in Columbia County is also viable, but states that additional measures to secure habitat are needed before the species can be considered recovered.

5. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

[Amended by Ordinance No. 2003-06, eff. 7/30/03].

a. Economic:

Measures protecting Columbian white-tailed deer habitat could have negative economic consequences for the County if they stopped agricultural and forest production in the area. Presently, much of the area is being planted intensively for the production of hardwood pulp. If these practices were severely restricted, property owners would lose potential income from their land and the County would lose potential tax revenues and job opportunities. Property owners would also suffer financial loss if they were unable to build on their land.

However, if agricultural and residential development is unrestricted, such development may further limit natural Columbian white-tailed deer habitat and force animals to encroach onto adjacent developed lands. The impact of these animals trampling and browsing developed lands could be costly for property owners. A possible solution for potential conflicts could be the acquisition of habitat areas by private and public agencies and management of these lands as habitat. However, this alternative requires that large sums of money, presently unavailable, be invested by such agencies.

b. Social:

The browsing of garden crops and ornamental vegetation can be a nuisance for property owners in the habitat areas. If the White-tailed Deer population increases, residents may find more damage from browsing. Property owners may also suffer a personal loss if they are restricted from building on their land because of white-tail habitat. A positive social consequence of limiting conflicting uses is an opportunity for nature and animal enthusiasts to see the endangered Columbian white-tailed deer.

c. Environmental:

The main consequence of allowing conflicting uses to occur is that white-tailed deer habitat may be further degraded or destroyed. When habitat is destroyed, the remaining herd will be forced to gather in remaining unimpacted areas. The destruction of habitat in the past for other land use purposes played a major role in reducing the Columbian white-tailed deer population. If significant habitat for these animals continues to be lost, the population of endangered Columbian white-tailed deer will most likely decline further.

In order to minimize the potential loss, the County is limiting residential development, in White-tailed Deer Habitat by imposing siting standards for development in such habitat by establishing wetland and riparian corridor boundaries for DSL notification. The removal of local wetland protection could adversely impact white-tailed deer habitat; however, state and federal wetland protections minimize this risk. The Riparian Corridor Overlay Zone establishes riparian corridor setbacks and require retention of native vegetation and avoidance of wetlands unless there are no reasonable alternatives.

d. Energy:

If residential development in the Columbian White-tailed Deer Habitat area is managed, energy resources will be reserved. These reserve resources may then be put to more efficient use in other areas of the County.

6. FINDINGS:

[Amended by Ordinance No. 2003-06, eff. 7/30/03].

The County shall adopt an 80-acre minimum parcel size for all new parcels in resource zoned land located in Columbian white-tailed deer habitat areas. Within the Columbian white-tailed deer range, non-forest and non-farm dwellings shall be located to avoid habitat conflicts and utilize least valuable habitat areas. To minimize adverse habitat impacts, siting standards for forest and farm dwellings will be applied to residential uses on all new and existing parcels within the Columbia white-tailed deer habitat. County and state measures protecting riparian and wetland habitat for Columbian white-tailed deer will also be implemented in the area. Taken together, these measures will adequately protect the habitat without unreasonably

impacting the economy of the area.

FISH HABITAT

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

1. PROTECTED FISH:

Three groups of fish have been identified for Fish and Wildlife Protection in Columbia County by the Oregon Department of Fish and Wildlife (ODFW). These are:

- a. Anadromous fish - fish which begin life in freshwater, rear to maturity in saltwater, and return to freshwater to spawn. Anadromous fish include coho and chinook salmon, winter steelhead trout, and sea-run cutthroat trout.
- b. Resident trout - freshwater fish including rainbow and cutthroat trout.
- c. Warm-water game fish - a group which includes bullhead catfish, crappie, bluegill, largemouth bass, and yellow perch.

2. LOCATION: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

No fewer than thirty waterways in Columbia County provide spawning and rearing habitat for anadromous fish. The major spawning, rearing, and migrating areas are the Columbia, Nehalem, Clatskanie, and Scappoose Systems. Other small streams in the County, including, but not limited to, Beaver, Conyers, Goble, Honeyman, McNulty, Merrill, Milton, Rock, and Tide Creeks, are also important habitat areas for anadromous fish. Resident trout are found in nearly all of the perennial streams in Columbia County and have been stocked in many lakes and ponds.

Warm-water game fish are restricted primarily to the Columbia River and its flood plain but can also be found in Vernonia Lake. Some of the most productive warm-water angling spots are on Sauvie Island, Multnomah Channel, Scappoose Bay, Deer Island Slough, Prescott Slough, Beaver Slough, and Westport Slough.

3. INVENTORY AND SIGNIFICANCE: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

In 2003, Columbia County adopted a wetland and riparian corridor inventory that did not meet the Goal 5 "safe harbor" provisions. Specifically, Columbia County used inventories from the Oregon Department of Forestry (ODF) alone to determine if streams were "fish-bearing":

"Columbia County used the "safe harbor" provisions of Goal 5 to determine riparian corridor significance. The main purpose of the riparian area is to protect fish habitat. For purposes of this inventory, all streams and lakes designated by the Oregon Department of Forestry as "fish-bearing" and all lakes identified in "Lakes of Columbia County," are considered significant fish habitat."

The Goal 5 "safe harbor" requires consideration of ODFW maps indicating fish habitat in concert with ODF stream classification maps and Oregon Water Resource Department information on average annual stream flows. The 2023 fish habitat inventory relies on ODFW Oregon Fish

Habitat Distribution Data (published January 13, 2023), until a subsequent inventory update and ESEE Analysis is completed.

4. QUALITY: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Historically, habitat for fish in Columbia County is generally of good to excellent quality. Local Watershed Councils have also been established to work to improve fish habitat in Columbia County.

5. QUANTITY: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Many rivers and streams in Columbia County drain from the Coastal Mountains to the Columbia River. There they meet a network of lakes, ponds, sloughs, and other water bodies formed in the old Columbia River flood plain. These water features provide an abundance of fish habitat within Columbia County. All lakes identified in "Lakes of Columbia County", and all streams identified as fish habitat on the 2023 ODFW Oregon Fish Habitat Distribution maps are significant for purposes of Goal 5. All riparian areas established by Article X(B) of Part XVI are significant fish habitat.

6. BACKGROUND AND CONFLICTING USES *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Three major land use activities which take place within and adjacent to fish habitat areas are potential conflicting uses. These activities are forest practices, agricultural practices, as well as residential, commercial, and industrial development. Actual potential conflicts which may be caused by these practices and activities include, but are not limited to:

- a. Limited available access to rivers and streams because of private land ownership may restrict the release of fish stock and recreational enjoyment of fish resources.
- b. Obstructions to fish passage may be created for other land use purposes. Obstructions, which hinder migration, include dams, culverts, tide gates, and logging practices.
- c. Streamflow levels may be reduced below acceptable levels when waters are diverted for residential, industrial, agricultural, or other purposes.
- d. Pollutants introduced into the water because of land use actions may reduce water quality.
- e. Removal of riparian and wetland vegetation may destroy fish habitat in rivers, streams, wetlands, and other water bodies by elevating water temperatures and stream sedimentation.
- f. Mining and filling practices which change the structure of the stream channel may destroy spawning and rearing habitat in streams and rivers.

7. SUMMARY AND ESEE REFERENCE: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Habitat for fish exists in the lakes, rivers, and streams of Columbia County. All streams identified as fish habitat on the 2023 ODFW Oregon Fish Habitat Distribution maps and all lakes identified in "Lakes of Columbia County" are significant for purposes of Goal 5. In addition, all riparian areas listed in Article X(B) of Comprehensive Plan, Part XVI are significant fish habitat. Potential conflicting uses affect habitat quality in a number of ways: by removing vegetation, introducing pollutants, creating obstructions to fish passage, reducing streamflow levels, destroying spawning and rearing habitat, or by reducing water quality by increased temperatures and sediments. The consequences of these conflicting uses have been determined in the 2023 ESEE analysis and the Riparian Corridor (Article X(B)) portion of this report.

Many of the activities that affect a stream or lake and reduce fish habitat are subject to state and federal regulations. As documented in the County's 2023 Goal 5 ESEE Analysis, the County will rely on implementation of these programs to protect fish habitat. In addition, the County will revise a limited riparian corridor protection program – as implemented by the Columbia County Zoning Ordinance (CCZO), Riparian Corridor Overlay Zone– to mitigate development impacts to significant habitat, including fish-bearing rivers, streams, and lakes, thereby providing protection for significant fish habitat. Policies will be adopted to encourage the acquisition of access both to and along rivers, streams, and lakes for the release of fish and recreational enjoyment of County residents.

FURBEARER HABITAT

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

1. **LOCATION:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Furbearers include both aquatic forms of wildlife such as beaver, muskrat, mink, and otter, and terrestrial forms such as skunk, fox, and bobcat. Furbearers require open space associated with forest, agriculture, and other resource land uses. However, their important habitat areas are wetlands, ponds, lakes, swamps, streams, and riparian vegetation associated with these water bodies.

2. **QUALITY:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

The quality of furbearer habitat is good in Columbia County. The quality of important habitat areas for furbearers such as wetlands, ponds, lakes, swamps, streams, and riparian vegetation, are described in more detail in Part XVI, Article VIII(C) of the Comprehensive Plan.

3. **QUANTITY:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Columbia County has a large amount of lands in forest and agricultural use. The County also contains an abundance of water bodies including wetlands, lakes, ponds, streams, and swamps. Therefore, a large amount of habitat for furbearing animals exists in the County.

4. **POTENTIAL CONFLICTING USES:**

Land use development activities which reduce the quality and quantity of habitat areas are potential conflicting uses for furbearers. Particularly damaging activities include the draining and filling of wetlands, and expansion of development into riparian areas. Potential conflicts also arise between furbearers and landowners when animals cause damage. Beavers, for

example, may cut down trees or block culverts with dams and flood developed lands.

5. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

- a. Economic: The furbearer trapping and processing industry could be adversely affected if wetland habitat areas are not locally protected. Restricting furbearer animal habitat areas from being logged could cause hardship for property owners unable to benefit from their timber resource. It could also have negative consequences for the community because of lost tax revenue, employment, and income.
- b. Social: The positive consequences of preserving furbearer animal habitat would be for wildlife watchers and other outdoor enthusiasts. These tourists also add to the local economy. The negative consequence of preserving habitat for non-game would be for landowners unable to build or conduct certain other activities within specified areas.
- c. Environmental: Fill and removal of wetland could have adverse impacts on furbearer animal habitat; however, wetlands generally are protected by state and federal regulations. Allowing logging activities or other conflicting uses within habitat areas could cause furbearer animal populations to decrease. In the absence of state and federal wetland regulation, the destruction of wetland habitat could endanger their survival.
- d. Energy: No significant consequences have been identified.

6. SUMMARY:

The important habitat areas for furbearers have been identified as wetlands, ponds, lakes, swamps, streams, and associated riparian vegetation. The identified potential conflicting uses for furbearers are all related to the expansion of development into these water resource areas. The economic, social, environmental, and energy consequences of allowing or restricting these types of development in water resource areas are further addressed in the 2023 ESEE Analysis and in Part XVI, Article X.

Based on an analysis of these ESEE consequences for identified conflicting uses in important habitat areas, the County will adopt a program to limit conflicting uses and protect furbearer habitat. Limited protection for these habitats is provided by applying the Riparian Corridor Overlay Zone described in Part XVI, Article X.

WATERFOWL HABITAT

1. LOCATION: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Waterfowl habitat areas have been identified in Columbia County by the Oregon Department of Fish and Wildlife, as shown on the 1995 Beak Consultants Map entitled, "Wildlife Game Habitat". These areas lie near the Columbia River and hold standing or slowly moving water during at least part of the year. The areas provide ideal nesting, feeding, and resting habitat for waterfowl. Wet agricultural areas are also important waterfowl habitat. Often agricultural areas

are flooded in the fall and winter and attract large numbers of migrating birds.

2. **QUALITY:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

The numerous wetlands, sloughs, rivers, and agricultural lands in Columbia County provide excellent habitat for waterfowl. During late fall and early winter, thousands of migrating birds visit the Columbia River flood plain and Sauvie Island. Crops planted in managed game areas and on private agricultural lands feed this waterfowl population and the intricate network of sloughs and drainage ditches provides provide refuge.

3. **QUANTITY:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

The majority of that land within the natural flood plain of the Columbia River is habitat for waterfowl.

4. **POTENTIAL CONFLICTING USES:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Areas identified as waterfowl habitat are primarily zoned for agricultural use. In addition, the north end of the Scappoose Bay contains valuable gravel deposits and are zoned for surface mining. Port Westward, a designated industrial area because of its deep-water access on the Columbia River, is also within the area identified as habitat for waterfowl.

Activities that are potential conflicts with waterfowl are:

- a. Filling, draining, or tilling of wetlands;
- b. Removal of riparian vegetation or other vegetation that serves as nesting, feeding, or resting habitat;
- c. Conversions of sloughs, flood plains, and swamp areas to other uses;
- d. Springtime waterfowl damage to pasture and grain fields.

5. **SUMMARY:**

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

The major economic consequence of allowing conflicting uses in habitat areas is the reduction of waterfowl populations and the subsequent loss of income from associated recreational activities. Other consequences for conflicting uses in waterfowl habitat areas are identified and analyzed in the 2023 ESEE Analysis and in the riparian, wetland, and surface mining portions of Part XVI of the Comprehensive Plan.

State and Federal programs limiting conflicting uses in waterfowl habitat include Section 404 of the Clean Water Act and the State (DSL) Fill and Removal Law. In addition, the County will implement the Natural Area Overlay Zone and Riparian Corridor Overlay Zone to provide limited protection for significant rivers, streams, wetlands and lakes within riparian corridor boundaries, thereby providing additional protection for waterfowl habitat. See Comprehensive Plan Part XVI, Article X(B) - Riparian Areas.

NON-GAME WILDLIFE HABITAT

1. LOCATION: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Non-game wildlife requires a diversified habitat that provides both cover and food. Lands in forest and agricultural use are the primary non-game habitat areas in Columbia County. The riparian area, which contain a diversity of vegetation, supports a large number of non-game species. Specifically, the Oregon Department of Fish and Wildlife has identified nesting sites for Bald Eagles, Northern Spotted Owls, and Great Blue Herons, three significant non-game species in Columbia County. Other important non- game wildlife includes but is not limited to bats, turtles, frogs, martins and any other non-game-species identified by ODFW.

The following sites have been identified as being significant nesting sites by the Oregon Department of Fish and Wildlife. The sites are presumed to be accurate and shall remain in the County inventory unless information establishes that the site is not an important nesting site:

a. Bald Eagle Nest Sites:

- i. Nest is located in a large Cottonwood tree beside Multnomah Channel in T4N, R1W, SE 1/4 of the NE 1/4 of Sec. 20. The property is owned by Oregon State and the site was discovered in 1983.
- ii. Nest is located in a Douglas Fir tree, on a bluff opposite the downstream end of Walker Island in T8N, R3W, SE 1/4 of the NW 1/4 of Sec. 28 near Mayger, Oregon. The property is in private ownership.
- iii. Two nest trees are located on a timbered hill overlooking Hwy. 30 in SE 1/4 of the SE 1/4 of Sec. 1, R5W, T7N. The property is in private ownership.
- iv. Any additional nests identified by ODFW in the future or listed on the Bald Eagle Nest Survey conducted by the Oregon Cooperative Fish and Wildlife Research Unit, Oregon State University, Frank Isaacs & Bob Anthony, as amended.

b. Blue Heron Nest Rookery:

- i. Rookery is located on Deer Island along Deer Island Slough in NW 1/4 of the NE 1/4 of Sec. 30, T6N, R1W. The property is in private ownership.
- ii. Any additional nest rookeries identified by ODFW in the future.

c. Northern Spotted Owl Nests:

- i. Nest area is located along Cedar Creek in Sec. 1, T4N, R3W on BLM land.
- ii. Nest area is located along Cedar Creek in Sec. 7, T4N, R2W on BLM land.
- iii. Any additional nest areas identified by ODFW in the future.

2. QUALITY: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

The Northern Bald Eagle and the Northern Spotted Owl are both listed as threatened species by the Oregon Department of Fish and Wildlife and U.S. Fish and Wildlife Service. A threatened species is defined as a species that is likely to become endangered within the foreseeable future through all or a significant portion of its range. Because the nest and the area adjacent to the nest are considered the most sensitive habitat for these animals, the safety of the nest and adjacent areas is critically important.

3. POTENTIAL CONFLICTING USES:
[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Important habitat areas for all non-game species, and the specific nesting sites identified for the Bald Eagle, Great Blue Heron, and Northern Spotted Owl, are located on lands zoned for forest and agriculture. The major potential conflict in these areas are forest and agricultural practices, such as logging activities or the clearing of land for farm use, which destroy or disturb nest sites. Residential development, surface mining activities, or other practices which remove vegetation and/or cause animal harassment could be potential conflicts. Generally, conflicts result for two reasons: First, human activities destroy and disturb sensitive non-game habitat, and second, non-game animals, such as coyotes, encroach onto developed land destroying vegetation and killing livestock.

4. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

- a. Economic: Restricting certain non-game habitat areas from being logged could cause hardship for property owners unable to benefit from their timber resource. It could also have negative consequences for the community because of lost tax revenue, employment, and income.
- b. Social: The positive consequences of preserving non-game habitat, particularly the identified eagle, heron, and spotted owl nest sites, would be for bird watchers and other outdoor enthusiasts. These tourists also add to the local economy. The negative consequence of preserving habitat for non-game would be for landowners unable to build or conduct certain other activities within specified areas.
- c. Environmental: Allowing logging activities or other conflicting uses within habitat areas could cause non-game animal populations to decrease. Both the Northern Bald Eagle and Northern Spotted Owl are presently classified as threatened. The destruction of their nesting, breeding, and feeding habitat would further endanger their survival.
- d. Energy: No significant consequences have been identified.

5. FINDINGS:
[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Potential conflicting uses exist for non-game animals. Habitats for these animals are on forest and agricultural lands where a diversity of vegetation and land features can be found. The County will adopt a program to limit conflicting uses in significant habitat areas. In addition,

specific significant nesting and roosting sites were identified by the Oregon Department of Fish and Wildlife within Columbia County for the Bald Eagle, Great Blue Heron, and Northern Spotted Owl. Some of these sites are located on forest lands and are threatened by forest practices. The County will rely on the Cooperative Agreement between the Board of Forestry and the Oregon State Fish and Wildlife Commission and on coordination provided by the Forest Practices Act to resolve conflicts for sensitive nesting habitat on forest land from forest operations.

For significant nesting habitat on forestland used for non-forest purposes, and for the other future identified nest sites the County will apply the **Sensitive Bird Habitat Overlay Zone**. In addition, the County will apply, when appropriate, the Riparian Corridor Overlay Zone of the Columbia County Zoning Ordinance. Development and projects for which permits or other land use decisions are required within the Sensitive Bird Overlay Zone shall be coordinated with ODFW. The County shall periodically consult annually with ODFW to obtain the most current inventory of Non-Game Wildlife Habitat.

UPLAND GAME HABITAT

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

1. LOCATION: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*
 - a. Upland game birds in Columbia County are found on forest and agricultural lands. Their optimum habitat contains a diverse mixture of vegetation that provides nesting, feeding, resting, and escape areas.
 - b. According to the Fish and Wildlife Protection Plan for Columbia County created by ODFW, there are two types of upland game birds, those that require forest lands; and those that utilize agricultural lands. The forest species include band-tailed pigeons, blue grouse, ruffed grouse, and mountain quail. Optimum habitats for these birds are patchworks of clear cuts, fields, timber, brush, and water. Species found in agricultural areas include valley quail, mourning dove, and ring-necked pheasant. These birds often use brushy edges, fencerows, ditches, and wood lots adjacent to grain producing areas or old fields of seed-producing grasses and herbs.
 - c. The majority of land within Columbia County has retained the forest and agricultural character safety necessary for upland game birds and supports a large bird population.
 - d. Specifically, three important mineral spring areas have been identified in Columbia County as habitat for band-tailed pigeons. These mineral springs are attractive to the pigeons primarily during nesting season and early migration.

The following mineral springs sites have been identified as being habitat for band-tailed pigeons:

- i. Conyers Creek Pigeon Springs

Location: T7N, R4W, S 19, NE1/4

Quality: Mineral springs located in a sparsely populated area. The area is presently

in agricultural use.
Quantity: 68 acres

ii. Clatskanie Pigeon Springs

Location: T7N, R4W, S 27, NE1/4
Quality: Mineral springs are located in an agricultural area, on private property, and are attractive to the band-tailed pigeon.
Quantity: 20 acres

iii. Dutch Canyon Pigeon Springs

Location: T3N, R2W, S17
Quality: Mineral springs have been impacted by residential development. Quantity: 1 acre

2. POTENTIAL CONFLICTING USES: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Important habitat areas for upland game are located on lands zoned for forest, agriculture, and rural residential use. Generally, conflicts result when farming and forest practices reduce vegetative diversity by removing fencerows and streamside cover or apply intensive amounts of pesticides. Conflicts may result for the band-tailed pigeon when land use activities are introduced into an area within 600 feet of the identified springs.

3. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

Positive social and environmental consequences will result from restricting conflicting uses in upland game habitat areas. Birds, such as the band-tailed pigeon, will continue to nest, breed, and feed in the County and provide sport for hunters and other outdoor enthusiasts. However, if certain farming, forest, and residential practices are restricted, property owners may experience economic and/or social hardship because of lost opportunities.

4. FINDINGS: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Potential conflicts could reduce the habitat available for upland game birds in Columbia County, if not restricted. However, restrictions must be applied carefully to have minimal impact on existing land use practices. Therefore, the County will adopt programs to limit conflicting uses in significant habitat areas including the identified pigeon mineral springs by applying the **Sensitive Bird Habitat Overlay Zone**, where appropriate.

FISH AND WILDLIFE HABITAT GOALS AND POLICIES

[Amended by Ordinance No. 2003 - 6, eff. July 2003; Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

The County's 2023 Goal 5 ESEE Analysis recognizes the fish and wildlife habitat values are found within water resource areas (SWI wetlands and riparian corridors). The ESEE Analysis concludes that the Riparian Corridor Overlay Zone provides an appropriate level of local protection for significant fish and wildlife habitat within significant water resource areas.

GOAL:

To protect and maintain important habitat areas for fish and wildlife in Columbia County.

POLICIES: It is the policy of the County to:

1. Encourage the provision and acquisition of public access both to and along rivers, streams, and lakes for the release of fish and recreational enjoyment of County residents.
2. Protect significant nesting habitat from the adverse effect of logging and other land use practices through implementation of Section 1120 Sensitive Bird Habitat Overlay and other related overlay zones.
3. Manage its spraying programs to minimize adverse effects on water quality and fish and wildlife habitat.
4. Support preferential taxation methods and density transfers to encourage retention of riparian habitat, brushy fencerows, and wetlands on private lands.
5. Protect habitat areas identified as sensitive for the Northern Bald Eagle, Northern Spotted Owl, Great Blue Heron, and Band-tailed pigeon from activities that would either destroy or result in the abandonment of the sensitive habitat areal.
6. Cooperate with the Oregon Department of Fish and Wildlife to better identify sensitive habitat areas for fish and wildlife and adopt implementing measures for their protection.
7. Rely on coordination provided by the Cooperative Agreement between the Board of Forestry and the Oregon State Fish and Wildlife Commission to resolve conflicts between forest operations and sensitive nesting habitat on forest lands. For sites not covered by such Agreement, the Forest Practices Act and Rules shall be administered to protect these sites. *[Amended by Ordinance No. 2003 - 5, effective December 15, 2003].*
8. Rely on the State Department of Water Resources to ensure that minimum streamflow standards are established and maintained in all streams to ensure a productive fish habitat and protect aquatic life.
9. Encourage the use of nonstructural methods of bank stabilization in areas experiencing accelerated soil loss.
10. Prohibit diversion or impoundment of stream courses, which adversely impact fish and wildlife habitat.
11. Notify the Oregon Department of Fish and Wildlife (ODFW) and U.S. Fish and Wildlife (USFW) of all proposed uses or activities requiring permits or other land use decisions within inventoried wildlife habitat areas and give consideration to comments received prior to a final decision concerning the proposed uses or activities. *[Amended by Ordinance No. 2003 - 5, effective December 15, 2003].*
12. Cooperate with the Oregon Department of Fish and Wildlife to ensure that future development does not unduly conflict with Big Game and Columbian White-tailed

Deer by:

- a. Limiting potential conflicting uses by designating major and peripheral big-game habitat and White-tailed Deer Habitat in resources zones.
- b. Limiting new parcel creation in resources zones by enacting an 80 acre minimum parcel size.
- c. Minimizing impacts to Big Game Habitat and White-tailed Deer Habitat by requiring all new residential development and uses in Big Game Habitat and White-tailed Deer Habitat to follow development siting standards substantially the same as:
 - i. Dwellings and structures shall be located as near each other and existing developed areas as possible considering topography, water features, required setbacks, and firebreaks.
 - ii. Dwellings and structures shall be located to avoid habitat conflicts and utilize least valuable habitat areas.
 - iii. Road Development shall be minimized to that necessary to support the proposed use and shall utilize existing roads as much as possible.
 - iv. The owner/occupant of the resource parcel assumes responsibility for protection from damage by wildlife.
 - v. Riparian (including wetlands within riparian corridor boundaries and wetlands classified as natural areas) areas shall be protected in accordance with Section 1170 Riparian Corridor Overlay Zone and 1185 Natural Areas Overlay Zone.
 - vi. Implementation of Section 1190 Big Game Habitat Overlay Zone.
- d. Columbia County shall notify the Oregon Department of Fish and Wildlife (ODFW) of all proposed uses or activities which require a permit located within the Big Game Habitat. The County will consider the comments and recommendations of ODFW before making a decision concerning the requested use or activity.
- e. Columbia County shall notify the Oregon Department of Fish and Wildlife (ODFW) and the U.S. Fish and Wildlife (USFW) of all proposed uses or activities which require a permit located within Columbian White-tailed Deer Habitat. The County will consider the comments and recommendations of ODFW and USFW before making a decision concerning the requested use or activity.

[Amended by Ordinance No. 2003 - 6, eff. July 2003].

13. Designate "built and committed" areas as being impacted which, because of existing levels of land use, are no longer considered viable big game habitat.

[Amended by Ordinance No. 2003 - 6, eff. July 2003].

14. Require the owner or occupant of a dwelling sited in major or peripheral habitat or White-tailed Deer habitat to assume the responsibility for protecting the property from wildlife damage.

[Amended by Ordinance No. 2003 - 6, eff. July 2003].

15. Protect significant streams, lakes and wetlands, designated riparian corridors and natural areas from the adverse effects of development and other land use practices.

[Added by Ordinance No. 2003 - 5, effective December 15, 2003].

16. Cooperate with the Oregon Department of Fish and Wildlife and U.S. Fish and Wildlife to ensure that future development does not unduly conflict with riparian area protection.

[Added by Ordinance No. 2003 - 5, effective December 15, 2003].

17. Limit development along water bodies by adopting "safe harbor" provisions for riparian areas and wetlands.

[Added by Ordinance No. 2003 - 5, effective December 15, 2003].

18. Coordinate development or projects that affect Fish and Wildlife habitat with ODFW.

[Added by Ordinance No. 2003 - 5, effective December 15, 2003].

19. Protect fish and wildlife habitat through implementation of applicable agricultural and forest resource zones, and through implementation of the following overlay zones:

- a. Section 1030 and 1040 Surface Mining.
- b. Section 1100 Flood Hazard Overlay.
- c. Section 1120 Bird Habitat Overlay.
- d. Section 1140 Greenway Overlay.
- e. Section 1170 Water Resource Overlay.
- f. Section 1185 Natural Area Overlay.
- g. Section 1190 Big Game Habitat Overlay.

ARTICLE IX. NATURAL AREAS

- A. **DEFINITION:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Natural areas have been defined by The Nature Conservancy as follows:

A natural area is a piece of land, or of land and water, that has substantially retained its natural character, or that - although altered in character - is important as plant or animal habitat, which is set aside for the study and appreciation of its natural features and for the

preservation of natural diversity.

According to The Nature Conservancy, these Natural Areas provide:

1. Living laboratories for monitoring changes in the environment, for expanding the limited horizons of peoples' ecological awareness, and for developing new land management principles.
2. Reservoirs of genetic material, tested by time rather than by human beings, for revitalizing domestic stocks, both plant and animal, and - perhaps - for repopulating the earth.
3. Outdoor classrooms for learning, and recreation sites for those with naturalist interests.

B. INVENTORY OF NATURAL AREAS IN COLUMBIA COUNTY: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

For inventory purposes, Natural Areas shall be those public land areas occurring in Columbia County that are listed as Natural Areas in the Oregon State Register of Natural Heritage Resources pursuant to OAR 660-023-0160 and those private land areas that are owned by The Nature Conservancy or which meet the Natural Area definition and have been identified as being significant in this Comprehensive Plan. The Oregon State Register of Natural Heritage Resources is attached hereto in the Technical Appendix Part XVI, Article IX, and is incorporated into the Comprehensive Plan by this reference. The two Natural Area ecosystems listed in the State Register that are in Columbia County are the Coast Range and Willamette Valley Ecosystems.

According to the Oregon State Register of Natural Heritage Resources, there are currently four (4) public Natural Areas located partially or wholly within Columbia County. They are listed below. However, the Oregon State Register of Natural Heritage Resources is a dynamic document that is amended regularly. While a list of current sites is provided below, the official inventory of significant public Natural Areas shall be the Oregon State Register of Natural Heritage Resources, as amended. In other words, the proper course of action when determining whether a public site is a significant Natural Area is to refer to the Register list in effect at the time the question is posed. Significant privately owned Natural Areas in Columbia County can be identified by contacting the Nature Conservancy.

1. Prescott and Carr Sloughs

Location: T7N, R2W, S35 and 26

Quality: Sloughs comprise a large Wapato marsh and provide a natural contrast to the manicured grounds of the Trojan Nuclear Plant. Wapato is a rare plant that was once an important food source for the Native American Indians. At one time, Wapato was widespread and common in lakes, ponds, and sloughs of the Columbia and tributaries, but dikes, fills, agriculture, and grazing have decimated its habitat. This is one of only a few known riparian sites with good populations of Wapato. All other Oregon sites, for which information is available, have very small populations, heavy disturbance, or both. This Wapato wetland provides an opportunity to study native wetland habitat in conjunction with similar altered habitat at the nearby Trojan Nuclear site.

Quantity: 239 acres

2. **Scappoose Bay Inlet**

Location: T4N, R1W, S8, 9, 16, 17, 19, 20, 21, 29, 30, 31

Quality: The wetlands in this area are part of a diverse set of aquatic, wetland, and upland habitats that include a large stand of Wapato. The area supports emergent and forest vegetation that provide habitat for wildlife.

Quantity: 355 acres

3. **Sandy Island**

Location: T6N, R1W, S7 and 18

Quality: A long, forested alluvial island in the Columbia River covered by a riparian cottonwood and willow forest. Beaver, deer, small mammals, and various waterfowl constitute a rich assortment of riverine wildlife. This island is a good example of a potential riparian and riverine environment and may provide valuable study in the future.

Quantity: 350 acres

4. **Wapato Marsh "Millionaire Lake"**

Location: T4N, R1W, S10, 15, and 16

Quality: The marsh at the north end of Sauvie Island is part of the Sauvie Island Wildlife Area and is an excellent example of the lower Columbia River wapato-sedge-marsh/willow-ash ecosystem. Because of its remoteness and marshy ground, it is unsuitable for farming and valuable as an ecosystem for study.

Quantity: 172 acres

C. **POTENTIAL CONFLICTING USES:**

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Three of the four sites listed above are zoned Primary Agriculture (PA-38). In addition, Prescott and Carr Sloughs, the Scappoose Bay Inlet, and "Millionaire Lake" are water areas and covered by the Riparian Corridor Overlay Zone. Millionaire Lake is within the Sauvie Island Wildlife Management Area and is zoned Community Service Recreation. Potential conflicting uses for Natural Areas are uses which convert the Natural Areas for other uses, or otherwise disturb those site conditions necessary to support the significant resource. Potential conflicts include agricultural practices such as livestock grazing and crop production, draining and filling of wetlands, and other activities which alter vegetation in the natural area.

D. **ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:**

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

1. **Economic:** If agricultural practices in and surrounding natural areas in Columbia County were severely limited, negative consequences would result. The County depends on these practices both for tax revenue and for job opportunities. Maintaining efficient operations is a high priority for the County. However, job opportunity and income are also received from protecting these sites as educational and recreational resources and must not be overlooked.

2. Social: If conflicting uses are allowed in natural areas, the educational, recreational, historical, and scenic values of the resource may be lost to the community and the State. Natural areas near residential areas can provide valuable recreational and educational opportunities for area residents. Natural Areas are outdoor classrooms for learning, and recreational sites for those with a naturalist bent. They also are often historically significant resources. For example, the rare Wapato plant links us with past cultures that depended on this plant for food. If conflicting uses are restricted, property owners and workers may experience personal loss from lost opportunity.
3. Environmental: If conflicting uses in the identified natural areas are restricted, positive environmental consequences will result. These areas have been identified as Natural Areas because their natural diversities have remained relatively undisturbed. Columbia County contains very few naturally significant resources because it was one of the first settled areas in the State. The area contains no remaining stands of old growth timber and most sensitive plant life has been destroyed by past conflicting land usage. If conflicting uses are not restricted, the remaining natural areas may also be encroached upon and destroyed.

E. FINDINGS:
[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

This inventory of ecologically and scientifically critical lands defined by the Oregon Natural Heritage Program is not a selective inventory. Lands have not been rated and categorized on a priority scale. The reason for this is that protecting one unit of land will change the priority for protecting other lands. Also, often the individuals and opportunities at hand will dictate the appropriate strategy for applying protection. These Natural Areas have been identified and citizens and officials have been notified of their significance. The County will adopt measures to protect the significant character of these features and direct incompatible land uses away from sensitive areas. The Riparian Corridor Overlay Zone and the **Natural Area Overlay Zone**, as well as measures particular to Natural Areas, will apply protection for these features. In addition, the County will work with landowners, appropriate State and Federal agencies, The Nature Conservancy, and other private groups to ensure that these and other examples of the full range of Oregon's natural ecosystem are preserved for future study and enjoyment.

F. NATURAL AREAS GOALS AND POLICIES *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

GOAL:

To protect the remaining ecologically significant natural features in Columbia County.

POLICIES: It shall be the policy of the County to:

1. Protect ecologically significant natural features and areas by restricting land use activities which may degrade their unique characteristics and direct incompatible land uses away from such areas.
2. Cooperate and coordinate with public and private agencies, such as The Nature Conservancy, to advise landowners of the natural area's value and secure their

cooperation in applying the appropriate strategy for its protection.

3. Apply the most appropriate program for protecting the unique characteristics of an area including the use of techniques such as fee acquisition, land trades, conservation easements, and management agreements.
4. Coordinate with citizens and public and private agencies to identify potentially significant Natural Areas in Columbia County which might have been overlooked by the Oregon State Register of Natural Heritage Resources or the Nature Conservancy and advocate for their inclusion as a significant natural area.
5. Notify The Nature Conservancy and other appropriate reviewing bodies of actions proposed within natural areas.

ARTICLE X. WATER RESOURCES

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Water resources include significant wetlands, and the riparian corridors of significant (fish-bearing) rivers, streams, and lakes. The Goal 5 Rule (OAR 660-023) includes specific sections related to Columbia County's inventory of and protection program for significant wetlands and riparian corridors.

Columbia County substantially revised Article X Water Resources in 2023. The following discussion begins by explaining the policy rationale behind the County's decisions to (a) determine that wetlands identified on the SWI are not significant for Goal 5 purposes, and (b) to replace existing Wetland and Riparian Corridor overlays with a single Water Resources Overlay Zone. The Goal 5 administrative rule basis for these decisions are also explained below.

THE BASIS FOR THE COUNTY'S 2023 DECISIONS

2003 Water Resources Amendments

In 2003, Columbia County amended the Comprehensive Plan to include Article X. Water Resources. The County applied the safe harbor provisions of the Goal 5 administrative rule (OAR 660, Division 023) to inventory riparian corridors and to protect significant riparian corridors and wetlands throughout the County. However, in 2003 the County incorrectly determined that all wetlands on the Statewide Wetlands Inventory (SWI) were "significant" – without going through the "Local Wetland Inventory" (LWI) process required by OAR 660-023-0100. Further, in 2003 the County used inventories from the Oregon Department of Forestry alone to determine if streams were "fish-bearing". The Goal 5 administrative rule requires consideration of Oregon DFW maps indicating fish habitat in concert with ODF stream classification maps and OWRD information on average annual stream flows.

To implement plan policies, the County adopted two overlay zones to protect significant riparian corridors and wetlands in 2003:

- Chapter 1170 Riparian Corridors, Wetlands, Fish and Wildlife Habitat Protection Overlay Zone
- Chapter 1180 Wetland Area Overlay

However, because the County has never had a valid rural inventory of significant wetlands, it inappropriately adopted wetland safe harbor protection measures.

Table 1 shows that 15% of Columbia County's zoned land (including zoned water areas) was protected by Chapter 1170 and/or Chapter 1180 overlay zones. Protection of these water resources conflicts with uses allowed in the underlying zoning districts. Notably, 38% of the County's industrial land supply is protected by these two overlay zones. These overlay zones exempt farm and forest uses and practices from review.

Table 1 Columbia County's 2003 Article X. Water Resource Protection Areas

County Base Zone:	Significant / Protected Acres	Percent (%) of County Base Zone with Overlay Protection
County Commercial Zones (C-2, C-3, C-4, C-5, EC, RC)	97 acres	21%
County Industrial Zones (AI, CS-I, M-1, M-2, RIPD)	1,290 acres	38%
County Public Utility & Recreation Zones (CS-R, CS-U)	8,708 acres	81%
County Residential Zones (MFR, MHR, R-10, RR-2, RR-5)	3,594 acres	13%
County Resource Land Zones (FA-80, PA-80, PF-80, SM)	51,085 acres	14%
Unincorporated Areas with City zoning or no zone	386 acres	3%
TOTAL	65,159 acres	15% of the County

Columbia County has not enforced these highly-restrictive regulations over the last 20 years, primarily due to (a) the lack of a valid LWI, and (b) the lack of staff resources and expertise to effectively regulate proposed development that may adversely affect significant wetlands.

Instead, the County has relied on the Department of State Lands (DSL) and the U.S. Army Corps of Engineers (Corps) to provide limited state and federal protection for water resources. Wetlands and stream corridors are also regulated by the Oregon departments of Environmental Quality (DEQ), Fish and Wildlife (ODFW), and Water Resources (OWRD). Although these agencies occasionally allow wetland fill and removal when there is no reasonable alternative for development approved by a city or county, the County's huge wetland inventory has not been seriously threatened by development during this period. By relying on state and federal agencies to manage wetland impacts, most significant water resource sites have been protected from conflicting land development uses.

The original justification for adoption of county wetland and riparian corridor policies and regulations was based on a finding that planned rural development would not be significantly limited by application of the two overlay zones. This finding turned out to be inaccurate. For example, in 2021, the County received an application for a major industrial development on land planned for industrial use at Port Westward. Application of local wetland regulations may have significantly complicated approval of the proposed industrial development, despite adopted economic development policies and a goal exception that allows industrial development that depends on deep water port access.

2023 Water Resources ESEE Analysis and Program Amendments

In December of 2021, the County Board of Commissioners authorized the preparation of an ESEE (economic, social, environmental and energy) consequences analysis to justify removal of local wetland protections and reduce regulatory impacts from riparian corridor protections on property owners and potential residential, commercial, and industrial development. Based on

the draft ESEE analysis, the Board decided to limit application of the new Riparian Corridor Overlay Zone to apply only to fish-bearing lakes, rivers and streams and their respective riparian corridors (excluding application to non-fish bearing water bodies), and to allow the expansion of existing development within riparian corridors with mitigation. The County has chosen not protect wetlands outside of (a) riparian corridors, (b) Natural Areas, or (c) where required by city plan policies applicable to unincorporated land within UGBs.

In 2003, Columbia County inappropriately applied the "safe harbor" inventory provisions of the Goal 5 rule (OAR 660-0023) to identify and map "significant" wetlands and riparian corridors. And, as noted above, did not prepare the LWI required to determine local wetland significance. Further, the County used inventories from the Oregon Department of Forestry alone instead of ODFW inventories to determine if streams were "fish-bearing" and incorrectly applied the riparian corridor safe harbor to inventory and protect riparian corridors associated with non-fish-bearing streams and ditches. ODFW inventories of fish-bearing water bodies capture and expand upon ODF fish-bearing inventories.

In 2023, based on advice from the Department of Land Conservation and Development, Columbia County decided to remove SWI wetlands from its inventory of significant wetlands. Fish-bearing rivers, lakes and streams, as determined by ODFW, and their riparian corridors of fish-bearing streams, continue to be "significant" for Goal 5 purposes.

- Technical Appendix Part XVI, Article X(A) includes maps of wetlands found on the SWI; the SWI is used by County staff and the public for DLS notification purposes. Significant wetlands include wetlands identified in adopted city Local Wetland Inventories (LWI). The cities of Clatskanie, Scappoose, St. Helens and Vernonia have adopted LWIs for wetlands and streams within their respective UGBs.
- Technical Appendix Part XVI, Article X(B), includes maps of all significant lakes, rivers, and streams in unincorporated areas of Columbia County. Significant riparian corridors include fish-bearing lakes, rivers and streams and their riparian setback areas, and are based on Oregon Department of Fish and Wildlife (ODFW) Fish Habitat Distribution Data published on January 13, 2023.

In 2003, the County identified conflicting uses based on the safe harbor provisions of the Goal 5 rule. OAR 660-023-0100 identifies grading, excavation, placement of fill, and vegetation removal (other than perimeter mowing and other cutting necessary for hazard prevention) as uses that conflict with wetland conservation.

Table 1 above identifies the land area covered by significant wetlands and riparian corridors in unincorporated areas of Columbia County by base zoning district. OAR 660-023-0090 states that any land use permitted either outright or conditionally the applicable base zone that results in these activities is considered a "conflicting use."

The Goal 5 rule exempts agricultural and forest practices from County Goal 5 regulations, and instead relies on the Forest Practices Act and agricultural statutes that protect water resources on land zoned for farm and forest use.

In 2003, the County conducted a short ESEE consequences analysis to justify protection of significant wetlands and riparian corridors. In part because the 2003 ESEE analysis included critical substantive and procedural errors, the Board authorized preparation of a revised and more expansive ESEE analysis in 2023.

The Revised 2023 ESEE Analysis

The revised 2023 ESEE analysis is found in Part XVI, Article X(C). Key findings from the revised ESEE analysis include the following:

- a. The County's existing wetland regulations (inappropriately adopted in 2003) are among the most restrictive in Oregon, and effectively prohibit development on significant wetlands.
- b. Wetlands are abundant in Columbia County and cover over a third of the County's rural industrial sites, which means that significant portions of these sites are not available for development and employment opportunities called for in the Comprehensive Plan.
- c. The County recognizes that wetlands and riparian corridors provide valuable habitat for a wide range of wildlife species, including big game, Columbia white-tailed deer, fish, furbearing animals, waterfowl, and non-game wildlife.
- d. Although wetlands provide a variety of ESEE benefits, including fish and wildlife habitat, the County has determined that providing an additional layer of local wetland protection imposes economic and social costs on Columbia County landowners.
- e. Columbia County lacks the resources and expertise to effectively administer 2003 Wetland Overlay Zone provisions.
- f. The County also recognizes that removal of SWI wetlands from the County inventory of significant wetlands combined with (a) removal of local wetland protection outside of designated riparian corridors could have adverse environmental impacts for these habitat areas.
- g. However, as documented in the 2023 ESEE Analysis, state and federal regulations provide a high level of protection for SWI wetlands, while providing a process for wetland fill and removal consistent with local comprehensive plan policies and land use regulations.
- h. Columbia County recognizes the importance of providing limited local protection for the County's fish-bearing rivers, lakes and streams – and related fish and wildlife habitat – by adopting riparian corridor setbacks for most types of development. The revised riparian corridor protection program allows water-related uses, and public facilities that support development throughout the County.
- i. The County also recognized that the 2003 Riparian Corridor Overlay Zone made it difficult to expand existing development, and (based on the 2023 ESEE Analysis) amends this overlay to allow for expansion within riparian corridors provided there is no net loss in habitat value.
- j. Requiring that most types of development be constructed outside of riparian buffers recognizes that stream locations change over time and that riparian vegetation limits streambank erosion, maintains water quality, supports the commercial and sport fishing industry, and retains significant wildlife habitat.

Revised Water Resources Program

The revised Chapter 1170 Riparian Corridor Overlay Zone amends the original Chapter 1170 Riparian Corridors, Wetlands, Fish and Wildlife Habitat Protection Overlay Zone and removes the Chapter 1180 Wetland Area Overlay from the County Zoning Ordinance. The Riparian Corridor Overlay District provides (a) no local protection for SWI wetlands (outside of designated riparian corridors) or non-fish-bearing streams, and (b) limited protection for fish-bearing lakes, rivers and streams, their state-prescribed riparian corridors, and wetlands within riparian corridor boundaries.

Table 2 provides an overview of the revised water resource protections by zone.

Table 2 Columbia County's 2023 Riparian Corridor Overlay District

County Base Zone:	Significant / Protected Acres	Percent (%) of County Base Zone with Overlay Protection
County Commercial Zones (C-2, C-3, C-4, C-5, EC, RC)	55 acres	16%
County Industrial Zones (AI, CS-I, M-1, M-2, RIPD)	391 acres	16%
County Public Utility & Recreation Zones (CS-R, CS-U)	4,158 acres	39%
County Residential Zones (MFR, MHR, R-10, RR-2, RR-5)	1,286 acres	5%
County Resource Land Zones (FA-80, PA-80, PF-80, SM)	14,567 acres	4%
Unincorporated Areas with City zoning or no zone	154 acres	7%
TOTAL	20,612 acres	5% of the County

Rather than providing local protection for 15% of the County's zoned land and water areas, the revised Chapter 1170 will provide local protection for 5% of the zoned area. The County will rely on state and federal programs to protect the significant and non-significant wetlands from filling, draining, or other alterations which would degrade their biological value. Riparian corridor protection will apply to 16% - rather than 38% - of the County's industrial land supply. The majority of the significant wetlands and riparian corridors are zoned for agricultural or forest uses, which are exempted from local wetland regulations in any case.

COUNTY APPLICATION OF GOAL 5 WETLAND AND RIPARIAN CORRIDOR RULES

Counties must follow Goal 5 rules related to wetlands and riparian corridor when water resource inventories and programs are adopted or amended. However, these rules provide counties wide latitude in developing local protection programs. In fact, there is no requirement for counties to protect wetlands – other than providing notice to the Department of State Lands.

Wetland Rules (OAR 660-023-0100)

Inventory Options

- (5) *For areas outside UGBs and UUCs, local governments shall either adopt the statewide wetland inventory (SWI; see ORS 196.674) as part of the local comprehensive plan or as a land use regulation, or shall use a current version for the purpose of section (7) of this rule.*
- (6) *For areas outside UGBs and UUCs, local governments are not required to amend acknowledged plans and land use regulations in order to determine significant wetlands and complete the Goal 5 process. Local governments that choose to*

amend acknowledged plans for areas outside UGBs and UUCs in order to inventory and protect significant wetlands shall follow the requirements of sections (3) and (4) of this rule.

- (3) *For areas inside urban growth boundaries (UGBs) and urban unincorporated communities (UUCs), local governments shall: (a) Conduct a local wetlands inventory (LWI) using the standards and procedures of OAR 141-086-0110 through 141-086-0240 and adopt the LWI as part of the comprehensive plan or as a land use regulation; and (b) Determine which wetlands on the LWI are "significant wetlands" using the criteria adopted by the Division of State Lands (DSL) pursuant to ORS 197.279(3)(b) and adopt the list of significant wetlands as part of the comprehensive plan or as a land use regulation.*

Program Options

- (4) *For significant wetlands inside UGBs and UUCs, a local government shall:*
(a) *Complete the Goal 5 process and adopt a program to achieve the goal following the requirements of OAR 660-023-0040 and 660-023-0050; or*
(b) *Adopt a safe harbor ordinance to protect significant wetlands consistent with this subsection, as follows: (A) The protection ordinance shall place restrictions on grading, excavation, placement of fill, and vegetation removal other than perimeter mowing and other cutting necessary for hazard prevention; and (B) The ordinance shall include a variance procedure to consider hardship variances, claims of map error verified by DSL, and reduction or removal of the restrictions under paragraph (A) of this subsection for any lands demonstrated to have been rendered not buildable by application of the ordinance.*
- (7) *All local governments shall adopt land use regulations that require notification of DSL concerning applications for development permits or other land use decisions affecting wetlands on the inventory, as per ORS 227.350 and 215.418, or on the SWI as provided in section (5) of this rule.*

County Application of Wetland Rules in 2003 and 2023

In 2003, Columbia County chose (but was not required) to amend its comprehensive plan and zoning ordinance to inventory and protect significant wetlands. However, the County mistakenly interpreted Section (5) of the Wetland rule to allow counties to adopt the SWI to meet wetland inventory requirements – rather than DSL notification requirements. The County also erroneously applied wetland safe harbor protection measures to SWI wetlands, which is not authorized by the Wetland rule. Nevertheless, the Land Conservation and Development Commission (LCDC) later acknowledged this erroneous county decision.

Note that the Wetland protection safe harbor does not provide a definition for "restrict" and does not explain what is meant by the phrase "place restrictions on" as used in subsection (4)(b)(A) above. The County's Wetland Area Overlay Zone interpreted the term "restrict" to mean "prohibit" all development within wetlands identified on the State Wetland Inventory (SWI). Since the SWI includes riverine wetlands (streams and ditches), this highly restrictive interpretation was applied to water areas within riparian corridors as well.

In 2023, Columbia County removed SWI wetlands from the inventory of significant wetlands based on a correct interpretation of the Wetland rule and removed local protection measures for rural wetlands outside of UGBs, natural areas, and riparian corridors. Because the County's 2003 decision to inventory and protect SWI wetlands was inconsistent with Goal 5 Wetland rule

requirements, DLCD suggested that an ESEE analysis may not be required. However, because the decision to remove SWI wetlands from the County inventory effectively removes existing wetland protection measures, the County conducted an ESEE analysis in an abundance of caution.

The County's decision to remove SWI wetlands from its inventory of significant wetlands, and not to regulate wetlands outside of riparian corridor boundaries, is supported by (a) the correct interpretation of the Goal 5 Wetland rule (OAR 660-023-0100) and the 2023 ESEE Analysis in Part XVI, Article X(C) of the Columbia County Comprehensive Plan.

As required by the Goal 5 rule and local regulations, the County will continue to notify the Department of State Lands (DSL) when development permit applications affect wetlands on the SWI.

Riparian Corridor Rules (OAR 660-023-0090)

(1) Definitions

- (b) *"Riparian area" is the area adjacent to a river, lake, or stream, consisting of the area of transition from an aquatic ecosystem to a terrestrial ecosystem.*
 - (c) *"Riparian corridor" is a Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary.*
 - (h) *"Water area" is the area between the banks of a lake, pond, river, perennial or fish-bearing intermittent stream, excluding man-made farm ponds.*
- (2) *Local governments shall amend acknowledged plans in order to inventory riparian corridors and provide programs to achieve Goal 5 prior to or at the first periodic review following the effective date of this rule, except as provided in OAR 660-023-0250(5).*

Inventory Options

- (3) *Local governments shall inventory and determine significant riparian corridors by following either the safe harbor methodology described in section (5) of this rule or the standard inventory process described in OAR 660-023-0030 as modified by the requirements in section (4) of this rule.*
- (5) *As a safe harbor in order to address the requirements under OAR 660-023-0030, 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 shown on the documents listed in subsections (a) through (f) of section (4) of this rule, as follows:*
- (a) *Along all streams with average annual stream flow greater than 1,000 cubic feet per second (cfs) the riparian corridor boundary shall be 75 feet upland from the top of each bank.*
 - (b) *Along all lakes, and fish-bearing streams with average annual stream flow less than 1,000 cfs, the riparian corridor boundary shall be 50 feet from the top of bank.*
 - (c) *Where the riparian corridor includes all or portions of a significant wetland as set out in OAR 660-023-0100, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland.*

Protection Options

- (8) *As a safe harbor in lieu of following the ESEE process requirements of OAR 660-023-0040 and 660-023-0050, a local government may adopt an ordinance to protect*

a significant riparian corridor as follows:

- (a) The ordinance shall prevent permanent alteration of the riparian area by grading or by the placement of structures or impervious surfaces, except for the following uses, provided they are designed and constructed to minimize intrusion into the riparian area: (A) Streets, roads, and paths; (B) Drainage facilities, utilities, and irrigation pumps; (C) Water-related and water-dependent uses; and (D) Replacement of existing structures with structures in the same location that do not disturb additional riparian surface area.
- (b) The ordinance shall contain provisions to control the removal of riparian vegetation, except that the ordinance shall allow: (A) Removal of non-native vegetation and replacement with native plant species; and (B) Removal of vegetation necessary for the development of water-related or water-dependent uses.
- (c) Notwithstanding subsection (b) of this section, the ordinance need not regulate the removal of vegetation in areas zoned for farm or forest uses pursuant to statewide Goals 3 or 4;
- (d) The ordinance shall include a procedure to consider hardship variances, claims of map error, and reduction or removal of the restrictions under subsections (a) and (b) of this section for any existing lot or parcel demonstrated to have been rendered not buildable by application of the ordinance.

County Application of Riparian Corridor Rules in 2003 and 2023

In 2003, Columbia County amended its comprehensive plan and zoning ordinance to inventory and protect significant riparian corridors. The county also chose to apply the "safe harbor" provisions of Goal 5 to inventory and protect significant riparian corridors of fish-bearing rivers, streams, and lakes.

However, the County also chose to protect non-fish-bearing stream corridors – which is not authorized by the riparian corridor safe harbor provisions above. Because the County did not follow the regular Goal 5 inventory and decision-making process in making its decision to protect such corridors, the decision to protect non-fish-bearing streams was inconsistent with Goal 5 rule.

In 2023, Columbia County made the policy choice to protect significant riparian corridors based on state-prescribed riparian corridor boundaries. The County's riparian corridor protection program is different than the adopted (2003) riparian corridor standards in four respects:

- (1) all fish-bearing streams identified in the 2023 ODFW inventory (which includes all fish-bearing streams identified on the ODF inventory plus a few small reaches) are protected;
- (2) "associated wetlands" are no longer protected outside of the riparian setback area; and
- (3) the uses allowed in Section (8) of the rule are allowed within the entire riparian corridor (including water areas, wetlands, and riparian areas) – rather than limiting these uses to the "riparian area" adjacent to the stream or lake.
- (4) expansion of existing development may be permitted through a discretionary process if wetland impacts are avoided or minimized, and there is no net loss of habitat value.

The County's decision to make these program changes is supported by the 2023 ESEE Analysis in Part XVI, Article X(C) of the Columbia County Comprehensive Plan.

Portions of the remaining sections of Article X Water Resources are retained (but modified) because they continue to have some relevance and because they provide historical context.

WETLANDS

1. **DEFINITION:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Wetlands are primarily lowlands covered by shallow and sometimes temporary or intermittent waters. Often, they are referred to as marshes, bogs, swamps, wet meadows, sloughs, and overflow lands. Plant and animal communities in wetlands are dependent on at least periodic saturation by water.

A wetland is formally defined as an area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

2. **INVENTORY AND SIGNIFICANCE:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Columbia County has chosen to remove SWI wetlands from its inventory of significant wetlands. However, the County will consult the SWI for DSL notification purposes. A current copy of the SWI is contained in the Technical Appendix Part XVI, Article X(A), for reference. Significant wetlands identified on Local Wetlands Inventories (LWI) produced by individual cities and approved by DSL are considered significant for the purposes of Goal 5. Wetlands are protected by relevant Oregon Administrative Rules (OAR) and policies set forth by the Oregon Department of State Lands. It shall be the responsibility of the County to notify DSL of proposed development applications that could affect SWI wetlands, and for individual landowners to verify the existence or nonexistence of wetlands on any property prior to any development activity or other impact.

3. **QUALITY:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Significant wetlands identified in city LWIs are significant for Goal 5 purposes.

4. **QUANTITY:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

All significant wetlands identified in LWIs are significant for the purposes of Goal 5.

5. **POTENTIAL CONFLICTING USES:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Many SWI wetlands in Columbia County are surrounded by lands zoned for forest, industrial, rural residential, surface mining, and primarily agricultural use. They serve as habitat for recreationally important waterfowl and wildlife, act as sites for groundwater aquifer recharge, provide flood control, and filter out pollutants. Generally, conflicts arise when wetlands are filled, drained, or otherwise altered in a manner that reduces their biological value. In Columbia County, potential conflicting uses for wetlands are the expansion of agricultural,

industrial, surface mining, and residential activities into sensitive wetland areas.

6. **BACKGROUND:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Please see the 2023 ESEE Analysis for a more detailed and comprehensive analysis of economic, social, environmental and energy consequences of (a) removing SWI wetlands from the County's inventory of significant wetlands, and (b) alternative water resource protection programs.

As recreational resources, wetlands contribute to the economy of Columbia County. They provide habitat for the waterfowl, fish, and wildlife populations which attract numerous recreational users to the area each year. Because of the County's proximity to the Portland Metropolitan area and Longview, the recreational value of these sites will likely increase in the future. Already some wetlands in the County have been leased to private hunting clubs for significant sums of money and have become a secondary source of income for landowners. The value of such wetlands may increase and help diversify the economy in Columbia County's future. By regulating activities within locally-defined riparian corridors, the County can protect some of these resources for future use. As documented in the 2023 ESEE Analysis, wetlands outside of defined riparian corridors will not receive local protection but are provided a reasonable level of protection by state and federal agencies.

Measures protecting wetlands could have a negative impact on the County if they stopped the development of income-generating land use activities. Not only could measures hinder property owners from reaping the benefits of their land, but potential tax revenue and employment opportunities could be lost to the community. However, some wetlands located in the path of industrial, residential, or agricultural expansion have been filled, drained, and developed in years past. Wetlands within the riparian corridors of fish-bearing sloughs, rivers, will be protected under the Riparian Corridor Overlay Zone. Landowners in Columbia County could suffer severe economic hardship because of adopted regulations which protect wetland areas. Remaining wetlands are generally located in rural areas where pressure often exists for development.

Regulations imposed around wetland resources could be recreationally beneficial to the County. They would protect a population of wildlife enjoyed by County residents and visitors. However, regulations imposed to wetlands could have negative consequences for County residents if they prohibit the development of personal property for personal benefit.

Protecting the quality of SWI wetlands in Columbia County through regulation would have positive environmental consequences. Not only will such regulation ensure the availability of quality wildlife habitat, but it will protect other functions of the wetland ecosystem. These sites act as areas for aquifer recharge and provide natural flood control by storing waters during winter months and releasing them in the summer when they are needed. Loss of wetlands, through industrial or other land use expansion, would have negative environmental consequences. Their activities would destroy vegetation and water quality now supporting waterfowl, fish, and many small animals. However, state and federal regulations substantially mitigate most of these concerns.

The regulation of development within and around wetlands could save energy resources in the County. Energy resources, which may have been used to fill, drain, transport materials, or otherwise develop wetlands, can be used more cost-effectively in other areas of the County.

On the other hand, rural industrial and commercial sites with wetlands provide local job opportunities for rural residents, which could reduce vehicle miles traveled and related energy costs.

7. **FINDINGS AND PROTECTION PROGRAM:**

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Columbia County contains abundant wetlands within its boundaries. Many of these wetlands lie along the Columbia River within the old flood plain area and are now surrounded by lands in agricultural use. It is often possible to protect these wetlands and to resolve potential conflicts with other land use activities. To protect these wetlands, the County historically has relied primarily on DSL and the US Army Corps to protect the significant wetlands from filling, draining, or other alterations which would degrade their biological value. The majority of these wetlands are zoned for agricultural and forest use. As discussed below, the Riparian Corridor Overlay Zone will provide limited protection for wetlands and related fish and wildlife habitat within locally-defined riparian corridors.

RIPARIAN AREAS.

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

The Goal 5 administrative rule requires use of the Oregon Department of Forestry's Stream Classification maps and information from the Oregon Department of Water Resources to determine average annual stream flows and use of the Oregon Department of Fish and Wildlife Oregon Fish Habitat Distribution Data (published January 13, 2023) to determine which streams are fish-bearing. Fish-bearing lakes are identified on the map entitled, "Lakes of Columbia County." A copy of the most current Stream Classification Maps is attached to the Comprehensive Plan, Technical Appendix Part XVI, Article D(B), for reference. The map, "Lakes of Columbia County" is attached to the Comprehensive Plan, Technical Appendix Part XVI, Article X(B), and is incorporated herein by this reference. Based upon the stream and lake classifications, the County has determined the location of significant riparian corridor boundaries based on the Goal 5 riparian corridor inventory as follows:

1. **BOUNDARIES:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

- a. **Lakes.** Along all fish-bearing lakes, the riparian corridor boundary shall be 50 feet upland from the tops-of-bank.
- b. **Fish-Bearing Streams and Rivers.** Along all fish-bearing streams and rivers with an average annual stream flow of less than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 50-feet upland from the tops-of-bank.
- c. **Fish-Bearing and Non-Fish Bearing Streams(Greater than 1,000 cfs).** Along the Columbia River (i.e., all streams and rivers with an average annual stream flow greater than 1,000 cubic feet per second (cfs)), the riparian corridor boundary shall be 75-feet upland from the top-of-bank. Average annual stream flow information shall be provided by the Oregon Water Resources Department.
- d. **Lakes, Streams and Sloughs with No Fish.** No local protection is provided to other non-fish-bearing rivers, streams, sloughs, intermittent creeks, irrigation or drainage ditches, or other waterways, other than DSL notification if such

water areas may be affected by development.

In 2023, Winterbrook Planning prepared GIS maps comparing the existing and proposed water resource protection programs. Using GIS technology, Winterbrook then prepared tables showing the land use impacts of these two program alternatives. The results of this GIS analysis are summarized in the 2023 ESEE Analysis.

2. LOCATION: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Riparian areas define an edge along rivers, streams, sloughs, lakes, wetlands, and other water bodies. Vegetation within this edge is water-dependent; requiring more soil moisture than usual. Riparian vegetation can consist of any of the following plant communities - trees and shrubs growing on an upland adjacent to a stream; trees and shrubs growing in a wetland; and an emergent marsh or low shrub wetland, except when this is managed for agricultural use. Riparian vegetation does not include agricultural crops, land managed for pasture, horticultural or landscaped areas, or un-vegetated areas.

3. Inventory and Significance: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

For purposes of this inventory, the location and scope of all riparian boundary corridors are established in B(1) above. All riparian corridors within boundaries identified in section B(1), above, are significant. Fish-bearing and non-fish-bearing streams are identified within ODFW Oregon Fish Habitat Distribution Data (published January 13, 2023). Copies of such maps are attached to the Comprehensive Plan in Technical Appendix Part XVI, Article X(B), for reference. Fish-bearing lakes in Columbia County are shown on the map entitled "Lakes of Columbia County" prepared by the U.S. Department of the Interior, Geological Survey, 1973. The map is attached to the Comprehensive Plan in Technical Appendix Part XVI, Article X(B), and is incorporated herein by this reference. Average annual stream flow is not shown in on either ODF stream classification maps, or the "Lakes of Columbia County". Therefore, average annual stream flow information shall be calculated by and shall be provided by the Oregon Water Resources Department. In Columbia County, only the Columbia River has an average annual flow of greater than 1000 cfs. All other rivers and streams have annual flows of less than 1000 cfs.

4. QUALITY: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

The riparian boundary corridors along the water bodies of Columbia County provide habitat for the breeding, feeding, and nesting of fish and wildlife; stabilize streambanks and reduces streambank erosion; filter out pollutants from land use practices on adjacent land which degrade water quality; shade water, reducing water temperature, and store waters during high flows which might result in downstream flooding.

Sixty-five miles of river and stream banks in the County have moderate erosion problems. These include the Columbia, Nehalem and East Fork of the Nehalem River, Deep Creek, Deer Creek, Milton Creek, Clear Creek, North and South Scappoose Creek, and the Multnomah Channel.

5. QUANTITY: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Columbia County contains an abundance of water bodies and their accompanying riparian corridors. All riparian areas identified in Part XVI, Article X (B)(1) above are significant. The

2023 ESEE Analysis provides more detailed information regarding the location and quantity of significant riparian corridors in Columbia County.

6. BACKGROUND AND INFORMATION: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*
 - a. Three major land use activities which take place within and adjacent to riparian areas are potential conflicting uses. These activities are forest practices, agricultural practices, and the development of residential, commercial or industrial sites.
 - i. Forest practices may impact the riparian area if vegetation is removed during the harvest of timber, or if toxic chemicals are introduced or road constructed.
 - ii. Agricultural practices within this area may cause damage if riparian areas are converted to crop production, or damaged by improper chemical application and/or livestock grazing techniques.
 - iii. Residential, commercial, and industrial development may affect the riparian area in a number of ways, if: riparian vegetation is removed; soils either within the riparian area or on adjacent slopes are disturbed; adjacent lowlands are filled; resources from the area are removed; or if structural improvements are introduced which alter the channel structure.
 - b. Conflicting uses that reduce or degrade riparian vegetation may have important economic consequences. Many individuals and businesses in the County profit from commercial and sport fishing and sport hunting. If habitat is reduced or degraded, fish and game populations will decline, and less income will be produced.
 - c. A more detailed description of base zones that allow conflicting uses and activities is found in the 2023 ESEE Analysis.

The 2023 ESEE Analysis provides a more detailed accounting of ESEE consequences related to full, limited, and no local protection alternatives that supplements the summary of ESEE consequences (adopted in 2003) below.

- Activities which cause streambank erosion and subsequent flooding also have economic consequences. These events destroy valuable resource lands and can also destroy bridges, roads, and other areas lying along their path. The cleanup and restoration needed because of this destruction may be expensive.
- When conflicting uses are restricted within riparian areas, important social consequences may result. Often land in such areas is valued highly, due to river frontage and view, and sought after for residential, commercial, and industrial development. A property owner who is unable to build on such lands may experience financial and personal hardship because of the loss. This financial hardship is particularly possible in areas where surrounding development has previously occurred within the riparian area. However, the riparian area is valued

partially because of its recreational and aesthetic qualities. By limiting development within the area and conserving its vegetation, a community can reduce the potential hazards associated with development and protect the riparian area's recreational and social value.

- Limiting conflicting uses in the riparian area will have positive environmental consequences. Stream structure will improve, become more stable, and produce better habitat for fish and wildlife. In addition, erosion will be reduced and water quality will improve.
- Limiting conflicting uses in the riparian area will also be beneficial for energy purposes. Less energy will be spent trying to rectify erosion and flooding damage caused by development within the riparian area.

7. FINDINGS: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

- a. Areas along fish-bearing rivers, streams, sloughs, lakes, and other water bodies in Columbia County serve a number of purposes which include providing fish and wildlife habitat, flood control, and bank stabilization. These areas are also desired sites for residential, commercial, and industrial development and are affected by agricultural and forest practices.
- b. High amounts of sedimentation, debris accumulation, poor water quality, elevated water temperatures, and nuisance algae growth are problems which are often directly related to the degradation of riparian areas. The problems are often caused by streambank erosion and the removal of riparian vegetation and are compounded by each other. These problems, as shown in the Air, Land, and Water Quality section of the Plan, can affect a wide array of uses, including water supplies, irrigation, fish and aquatic species habitats, recreation, and aesthetics.
- c. The majority of the potentially conflicting land use activities are regulated by state and federal agencies. For instance:
 - i. Reduced water quality related to non-point source pollution from agricultural practices is controlled by the State Soil and Water Conservation Commission.
 - ii. Maintenance of streamflow levels for fish productivity is the responsibility of the State Water Resources Department which appropriates water rights. The Oregon Department of Fish and Wildlife has identified minimum levels of streamflow necessary for production of fish habitat.
 - iii. Forest practices which impact the riparian area are regulated under the Forest Practices Act by the Department of Forestry.
 - iv. Effluents from residential septic systems and industrial development are controlled by the State Department of Environmental Quality.
 - v. Gravel removal, stream channelization, and such other activities are

regulated by the Army Corps of Engineers and the Division of State Lands.

- d. Development activities also contribute significantly to riparian area degradation. To limit the consequences of conflicting uses and protect the riparian area the County will revise and implement the Riparian Corridor Overlay Zone. This overlay zone will be applied to fish-bearing rivers, streams, creeks, lakes. The County will also apply storm drainage measures to minimize erosion along and within significant riparian corridors and their associated wetlands. In addition, the County will rely on state and federal programs to help prevent riparian area degradation.
- e. In addition, the Riparian Corridor Overlay Zone provides protects the riparian corridors of fish-bearing rivers, streams, and lakes by restricting most types of development within its boundaries, while allowing water-dependent uses, public facilities where no reasonable alternative exists, and passive recreational uses such as pathways. The locally determined riparian corridors (ranging from 50 to 75 feet from the top-of-bank) will provide a lower level of protection than the safe harbor protection program adopted by the county in 2003 because the riparian corridor does not include "associated wetlands" outside of locally-determined riparian setback areas and it does not include a buffer for non-fish bearing streams.
- f. As demonstrated in the 2023 ESEE Analysis, the locally determined riparian corridor widths will have positive economic and social consequences that balance the recognized adverse impacts on environmental values associated with reduced riparian corridor widths for fish-bearing streams, rivers, and lakes.

LAKES

1. LOCATION, SIGNIFICANCE, QUALITY, AND QUANTITY: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

The approximate location of lakes in Columbia County is depicted in a map entitled "Lakes of Columbia County", which is attached to the Comprehensive Plan in Technical Appendix Part XVI, Article X(B), which is incorporated herein by reference. This inventory is taken from the publication "Lakes of Oregon, Volume One, Clatsop, Columbia, and Tillamook Counties," prepared by the U.S. Department of the Interior, Geological Survey of 1973. The publication includes twenty-two (22) lakes in Columbia County ranging from Lindsey Lake, with a surface area of .5 acres and depth of up to 15 feet, to Sturgeon Lake, with a surface area of 3200 acres and an average depth of 2 feet. The publication contains a description of each lake's location, size, and general characteristics, including water quality data and temperature.

For purposes of the lake inventory, all lakes depicted on the map, "Lakes of Columbia County" publication are fish-bearing and significant. The riparian area setbacks established in Part XVI, Article X(B) - Riparian areas shall be applied through the Water Resources Overlay Zone.

2. CONFLICTING USES: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*
In Columbia County, lakes are located in areas zoned for forest, agriculture, and

community service recreation. Generally, the potential conflicting uses for lakes are the same as those for riparian habitat. Conflicts often occur from forest practices that remove riparian vegetation, disturb soils on adjacent uplands, and increase sedimentation. Agricultural practices cause conflicts when they convert riparian vegetation for crop production or employ improper live-stock grazing techniques. The lakes located in community service recreation areas are County or State Parks. Conflicts in these areas arise from the construction of docks and floats, filling or dredging, removal of riparian vegetation, and chemical or biological water pollution. Conflicts also arise when houses are sited in the riparian area and/or disturb riparian vegetation.

3. **FINDINGS:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Many of the identified conflicting uses are regulated by State agencies: The Army Corps of Engineers and Division of State Lands oversee filling, dredging, and construction activities; the Forest Practices Act regulates forest practices which pose potential conflicting uses for lakes; effluent from residential development and other point sources of pollution are managed by the Department of Environmental Quality. The DEQ also implements the Federal Water Pollution Control Act and is responsible for minimizing non-point source pollution. Columbia County will rely on these state agencies to limit conflicting uses and protect the quality of lakes in the County. In addition, the County will apply the Water Resources Overlay Zone to provide additional protection to the riparian vegetation surrounding these lakes.

RESERVOIRS

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Twenty-two (22) potential reservoir sites have been identified in Columbia County. These sites appear based on preliminary investigations as discussed in a USDA report on "Water and Related Land Resources for North Coast Drainage Basin and Lower Willamette River Basin", dated 1966 and 1963, and the State Water Resources Board's "Freshwater Resources of the Oregon Coastal Zone", 1975. While there is adequate precipitation in Columbia County, only a portion of this rainwater is currently being utilized for domestic, irrigation, and recreational purposes. It is believed that the only feasible means by which the County's long-range water needs can be met is through development of surface storage reservoirs. Of the numerous sites investigated, only three appear initially to be economically feasible for development as surface storage reservoirs. The three suitable sites are located on Rock Creek, the Clatskanie River, and Deep Creek II. However, information is presently unavailable to determine the actual suitability and related impacts of developing these sites. Therefore, for the purposes of Goal 5, these reservoir sites are not currently protected.

The County will rely primarily on State and Federal recommended procedures to address the economic, social, environmental, and energy consequences of developing these surface storage reservoirs.

WATER RESOURCES GOALS AND POLICIES

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

GOAL:

To protect and maintain the quality of water resources in Columbia County.

POLICIES: It shall be the policy of Columbia County to:

1. Cooperate and coordinate with State and Federal agencies in assuring the maximum beneficial use of all water areas in the County.
2. Coordinate its actions with water quality planning and implementation activities carried out by State agencies including the Department of Environmental Quality, the Soil and Water Conservation Commission, the Department of Forestry, and the Department of Water Resources.
3. Rely on State and Federal programs to protect areas significant for the recharge of groundwater resources such as wetlands and riparian areas.
4. Cooperate with appropriate State and Federal agencies to inventory and assess groundwater resources and their uses and establish standards to protect and maintain these natural resources.
5. Protect groundwater supplies in rural, agricultural, and forest areas through large minimum lot densities.
6. Cooperate with appropriate State and Federal agencies to monitor the quality and levels of groundwater resources in the County.
7. Work with appropriate State and Federal agencies to address the economic, social, environmental, and energy consequences of developing potential surface storage reservoirs in the County, including those sites that are not presently protected. When information is available, the County shall apply Statewide Goal 5 to potential sites and update zoning and other ordinances to address them when appropriate.
8. Encourage strict enforcement of the Forest Practices Act to protect riparian vegetation from potential adverse effects of forest practices.
9. Protect significant riparian vegetation along fish-bearing rivers, streams and lakes by requiring appropriate setbacks for non-water-dependent uses, transportation and drainage facilities, and utilities subject to standards for riparian vegetation removal.
10. Maintain rivers and streams in their natural state to the maximum extent practicable through sound land and water management practices. Consideration shall be given to natural, scenic, historic, economic, cultural, and recreational qualities of the rivers and adjacent lands.
11. Require that all development be planned, designed, constructed, and maintained so as to avoid the probability of accelerated erosion; pollution, contamination, or siltation of lakes, rivers, and streams; damage to vegetation; or injury to fish and wildlife habitats.
12. Consistent with the Forest Practices Act, minimize the removal of trees and other native vegetation that stabilize hillsides, retain moisture, reduce erosion, siltation and runoff, and preserve their natural scenic character.

13. Apply erosion and sediment reduction practices along riparian areas to assist in maintaining water quality.
14. Coordinate with the Department of State Lands to protect marshes, swamps, and other wetlands from filling, draining, or other alterations which would destroy or reduce their biological value.
15. Support appropriate State, Federal and local agencies in their efforts to inventory wetland resources in the County.
 - a. Protect municipal water supplies and the quality of water resources in general, by zoning undeveloped resource lands for resource use.
 - b. Protect water quality by applying a Riparian Corridor Overlay Zone which discourages development in sensitive areas that affect the water resource.
 - c. Apply the standards and requirements of the Columbia County Stormwater and Erosion Control Ordinance to new development when applicable.
 - d. Notify the Oregon Department of State Lands whenever there is an application for permits or other land use decisions affecting wetlands on the inventory.
16. Provide limited protection for fish and wildlife habitat within state-prescribed riparian corridor boundaries while relying on state and federal agencies to protect fish and wildlife habitat associated with wetlands outside of riparian corridors.

Section 1170 RIPARIAN CORRIDORS, WATER QUALITY, AND FISH AND WILDLIFE HABITAT PROTECTION OVERLAY ZONE RP [Amended by Ordinance No. XX - 23, effective XX XX, 2023].

1171 Purpose.

A. The purpose of this Section is to protect and restore water bodies and their associated riparian corridors, thereby protecting and restoring the hydrological, ecological and land conservation function these areas provide. Specifically, this Section is intended to protect habitat for fish and other aquatic life, protect habitat for wildlife, protect water quality for human uses and for aquatic life, control erosion and limit sedimentation, prevent property damage during floods and storms, protect native plant species, and conserve the scenic and recreational values of riparian areas.

B. This Section meets the above purpose by prohibiting structures and other development from riparian areas around fish-bearing lakes, rivers, streams and associated wetlands, and by prohibiting vegetation removal and/or other vegetative alterations in riparian corridors. In cases of hardship, the Section provides a procedure to reduce the riparian corridor boundary. Alteration of the riparian corridor boundary in such cases shall be offset by appropriate restoration or mitigation, as stipulated in this Section.

C. For the purposes of this Section, “development” includes buildings and/or structures which require a building permit under the Oregon State Building Code, as amended, or any alteration in the riparian corridor by grading, placement of fill material, construction of an impervious surface, including paved or gravel parking areas or paths, and any land clearing activity such as removal of trees or other vegetation.

D. This Section does not apply to land legally used for commercial forestry operations or standard farm practices, both of which are exempt from these riparian corridor protection standards. The use of land for commercial forestry is regulated by the Oregon Department of Forestry. The use of land for standard farm practices are regulated by the Oregon Department of Agriculture, with riparian area and water quality issues governed specifically by ORS 568.210 to ORS 568.805.

E. The provisions of this riparian protection overlay zone do not exempt persons or property from state or federal laws that regulate protected lands, water, wetland or habitat areas. In addition to the restrictions and requirements of this Section, all proposed development activities within any wetland area may be subject to applicable state and federal agency standards, permits and approval. The applicant shall be responsible for contacting the appropriate state or federal agencies to determine whether all applicable development requirements have been met.

1172 Riparian Corridor Standards:

A. The inventory of Columbia County streams contained in the Oregon Department of Fish and Wildlife Fish Habitat Distribution Data, (published January 13, 2023), specifies which streams are fish-bearing. Fish-bearing lakes are identified on the map entitled, “Lakes of Columbia County.” A copy of the most current Stream Classification Maps is attached to the Comprehensive Plan, Technical Appendix Part XVI, Article X(B) for reference. The map, “Lakes of Columbia County” is attached to the Comprehensive Plan, Technical Appendix Part XVI, Article X(B), and is incorporated therein. Based upon the stream and lake inventories, the following riparian corridor boundaries shall be established:

1. Lakes. Along all fish-bearing lakes, the riparian corridor boundary shall be 50-feet from the top-of-bank, except as provided in CCZO Section 1172(A)(5), below.

2. Fish-Bearing Streams, Rivers and Sloughs (Less than 1,000 cfs). Along all fish-bearing streams, rivers, and sloughs with an average annual stream flow of less than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 50-feet from the top-of-bank. Average annual stream flow information shall be provided by the Oregon Water Resources Department.

3. Fish-Bearing and Non-Fish-Bearing Streams, Rivers and Sloughs (Greater than 1,000 cfs). Along all streams, rivers, and sloughs with an average annual stream flow greater than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 75-feet upland from the top-of-bank. Average annual stream flow information shall be provided by the Oregon Water Resources Department.

B. Distance Measurement.

1. The measurement of distance to the riparian corridor boundary shall be from the top-of-bank. In areas where the top-of-bank is not clearly delineated, the riparian corridor boundary shall be measured from the ordinary high water level, or the line of non-aquatic vegetation, whichever is most landward.

2. The measurement shall be a slope distance. In areas where the predominant terrain consists of steep cliffs, the distances to the corridor boundary shall be measured as a horizontal distance until the top of the cliff is reached, and as a slope distance on from that point.

1173 Activities Prohibited within the Riparian Corridor Boundary

In addition to the prohibitions in the underlying zone, the following activities are prohibited within a riparian corridor boundary, except as provided for in Sub-sections 1175 and 1176 of this Section:

A. The alteration of a riparian corridor by grading, placement of fill material, and/or impervious surfaces, including paved or gravel parking areas, or paths, and/or the construction of buildings or other structures which require a building permit under the Oregon State Building Code, as amended.

B. The removal of riparian trees or vegetation.

1174 Exempted Activities.

This Overlay Zone does not apply to land legally used and allowed for commercial forestry operations or standard farm practices, both of which are exempt from the riparian corridor protection standards of this Section. The use of land for commercial forestry is regulated by the Oregon Department of Forestry. The use of land for standard farm practices are regulated by the Oregon Department of Agriculture, with riparian area and water quality issues governed specifically by ORS 568.210 to ORS 568.805.

1175 Permitted Uses and Activities Subject to Optional Discretionary Review.

Notwithstanding the prohibitions set forth in Subsection 1173 above, the following activities are allowed within the riparian corridor boundary if approved by the planning director through an optional discretionary review process:

A. The following riparian vegetation may be removed within the riparian corridor boundary:

1. Non-native vegetation, invasive species, and noxious weeds if replaced with native plant species. The replacement vegetation shall cover, at a minimum, the area from which vegetation was removed, and shall provide for maximum soil retention and shade cover. Replacement vegetation shall, upon maturity, maintain 75%-100% canopy and ground cover.

2. Vegetation which is necessarily removed for the development of approved water-related or water dependent uses. Vegetation removal shall be kept to the minimum necessary to allow the water-dependent and water-related use.

3. Trees and vegetation in danger of falling and/or posing a hazard to life or property. If no hazard will be created, such trees or other vegetation, once felled, shall be left in place in the riparian area.

B. The following development may be allowed within the riparian corridor boundary.

1. Streets, roads, and driveways, if: a. If it is not possible to locate the street, road or driveway outside of the riparian corridor boundary; and b. The street, road or driveway is designed to minimize intrusion into the riparian corridor boundary.

2. Pedestrian walkways, paths and trails.

3. Fencing and signs, not including billboards.

4. Drainage facilities, utilities and irrigation pumps.

5. Water-related and water-dependent uses.

6. New or expanded shoreline stabilization and flood control grading and structures.

7. Portable furniture, and other portable outdoor equipment for the private use of the property owner/resident. For purposes of this subsection, "portable" shall mean that the item is not affixed to the ground, other than with a chain or other lock which is capable of being removed at any time.

C. Wetland fill and removal within riparian corridors shall be avoided unless there is no reasonable alternative to allow the permitted use. DSL shall be notified of any potential impact from development proposed on wetlands identified in the State Wetlands Inventory pursuant to ORS 215.418.

1176 Legal non-conforming uses are allowed to continue within the riparian corridor boundary subject to the requirements in Columbia County Zoning Ordinance, Section 1506, ORS 215.130, and the following additional requirements:

A. For replacement of legal non-conforming structures with new structures, any new structure shall be located in the same location and in the same footprint as the existing structure, and shall not disturb additional riparian surface area within the riparian corridor boundary.

B. For expansion or alteration of legal non-conforming structures existing fully or partially within the riparian corridor, the expansion or alteration shall not occur within the riparian corridor boundary, unless the applicant chooses to be subject to the following discretionary review process and criteria.

1. Expanded development shall not extend closer to the top-of-bank than existing development and shall not occupy more than 50 percent of the width of the riparian area measured from the upland edge of the corridor.

2. The applicant shall submit a habitat conservation plan that demonstrates that no net loss of native riparian vegetation and related fish and wildlife habitat will result from the proposed expansion.

3. Wetlands within the applicable riparian setback area shall be determined in consultation with DSL.

a. If DSL requires a wetland delineation, evidence of DSL concurrence in this delineation shall be provided prior the planning director's completeness determination.

- b. Wetlands shall be avoided wherever feasible and wetland impacts shall be mitigated as required by DSL.
4. The habitat conservation plan involves a combination of (a) extension of vegetated riparian corridors to compensate for the requested reduction in vegetated riparian corridor width to accommodate proposed development, and/or (b) restoration and enhancement of disturbed areas within the applicable riparian corridor setback area.
5. The habitat conservation plan shall: (a) be provided to the Oregon Department of Fish and Wildlife for review and comment prior to submission to the County, and (b) be submitted prior to the county planning director's determination of completeness.

C. Legal non-conforming lawn within the riparian corridor boundary may be maintained. However, such lawn shall not be expanded within the riparian corridor boundary.

D. Legal non-conforming shoreline stabilization and flood control structures may be maintained.

1177 Requirements for new activities and development identified in Sub-section 1175 and 1176, above, shall be allowed in the riparian corridor boundary subject to the following requirements:

A. All applicable permits from state and federal agencies, such as the Oregon Department of State Lands (DSL) and Oregon Department of Fish and Wildlife (ODFW) must be obtained by the landowner prior to commencing the use or activity.

B. For activities and development for which land use permits, building permits, grading permits, variances or stormwater/erosion control permits are required, the County shall provide notification to ODFW of the proposed development activity. The County shall consider the recommendations of ODFW, including any mitigation recommendations, prior to issuance of permits and may condition permit approval on recommended measures to mitigate loss of fish and wildlife habitat pursuant to applicable provisions of OAR Chapter 635, Division 415.

1178 Variance Provisions

A. In cases where encroachment into the riparian corridor boundary by activities and development not otherwise allowed by Sub-section 1175, 1176, or 1177 cannot be avoided, a property owner may request a Variance to the riparian corridor boundary prohibition. In addition to the requirements in Sub-section 1177, a variance to the riparian corridor boundary prohibitions shall not be granted unless all of the following criteria are met:

1. The proposed development requires deviation from the riparian corridor standards;
2. Strict adherence to the riparian setback and other applicable standards would effectively preclude a use of the parcel that could be reasonably expected to occur in the zone;
3. Removal of vegetation within the original riparian setback is the minimum necessary to allow the use. Any vegetation removed shall be replaced with native plant species;
4. The encroachment shall not occupy more than 50% of the width of the riparian corridor measured from the upland edge of the corridor;
5. The proposed use shall provide equal or better protection of riparian resources than the current condition.

B. The applicant shall provide sufficient information regarding the proposed development and its impact on riparian resources to allow staff, in consultation with ODFW, to determine whether the proposal will provide equal or better protection of riparian resources than the current condition. The applicant shall submit, at a minimum, the following information:

1. A plot plan showing top-of-bank, existing streams and wetlands and other significant site features.

2. The extent of development within the riparian setback.

3. Uses that will occur within the riparian setback.

4. Potential impacts of proposed uses.

5. The extent of proposed vegetation removal.

6. Characteristics of the existing vegetation (types, density, and location).

7. Any proposed alterations of topography or drainage patterns.

8. Existing uses on the property.

9. Impact of existing uses on riparian resources based on a habitat conservation plan that meets Sub-section 1176.B standards.

10. An Erosion Control Plan.

C. Variance Limitations.

The yard setback opposite the riparian area ("non-riparian yard") must not be reduced by more than ½ of the standard setback prior to encroachment into the riparian corridor.

Columbia County Water Resources and Related Fish and Wildlife Habitat: Goal 5 ESEE Analysis and Program Recommendations



Figure 1 Carr Slough and Prescott Beach (source: wildcolumbia.org)

Columbia County Water Resources
Goal 5 ESEE Analysis and Program Recommendations
Winterbrook Planning | May 2, 2023 (Revised Draft)

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Introduction

Columbia County has among the most restrictive rural wetland and riparian corridor protection programs in Oregon – in addition to limited programs to protect inventoried fish and wildlife habitat. This existing, adopted natural resource (water and habitat) protection program consists of:

- **The Columbia County Comprehensive Plan (CCCP)** inventories and policies (CCCP Part XIV, especially Article VIII Fish and Wildlife Habitat, Article IX Natural Areas, and Article X Water Resources); and
- **The Columbia County Zoning Ordinance (CCZO)** natural resource regulations (CCZO 1170 Riparian Corridors, CCZO 1180 Wetlands, and five separate fish and wildlife habitat overlay zones.)

This ESEE analysis focuses on proposed 2023 amendments to the adopted Water Resource (WR) protection program – which prohibits all development in water areas and wetlands while allowing limited development with riparian setback areas within the Riparian Corridor overlay. Together, these overlays cover approximately 65,000 water and land acres in Columbia County.

The Columbia County Board of Commissioners has determined that the existing water resources protection program is overly-restrictive and would like to reduce local protection for the wetlands in rural areas while continuing to provide limited protection for the riparian corridors of fish-bearing rivers, lakes and streams.

The Purpose of This Report

This report is intended to provide useful information to help answer local policy questions regarding whether and how Columbia County Comprehensive Plan (CCCP) Water Resources (WR) policies (as implemented by the current Riparian Corridor and Wetlands overlays) should be amended and applied on a county-wide basis. The answer to these questions should be considered in the context of Statewide Planning Goal 5 (Natural and Cultural Resources) procedural requirements, this ESEE consequences analysis, and county policy preferences.

The Columbia County Board of Commissioners authorized Winterbrook Planning to prepare a Statewide Planning Goal 5 (Natural Resources) analysis of the economic, social, environmental and energy consequences (ESEE Analysis) of three Goal 5 water resource programs options:

1. **Full water resource protection:** Continuing to apply the Wetland and Riparian Corridor overlays to protect all wetlands and water areas identified on the Statewide Wetlands Inventory (SWI) and almost full riparian corridor protection for all rural fish-bearing and non-fish-bearing streams shown on Oregon Department of Fish and Wildlife (ODFW) maps;
2. **No water resource protection:** removing wetlands identified on the Statewide Wetlands Inventory (SWI) from the County's inventory of significant wetlands and removing both the Wetland and Riparian Corridor overlays from fish-bearing and non-fish bearing streams and rivers; and
3. **Limited water resource protection:** revising the existing Riparian Corridor safe harbor protection ordinance to allow limited expansion of existing development within state-prescribed riparian corridors.

The Proposed Limited Protection Program

The proposed limited Water Resources (WR) Protection Program will have the following key provisions:

1. **Wetlands on City Local Wetland Inventories.** The County shall continue to protect significant wetlands identified on DSL-approved LWIs within unincorporated city urban growth areas (*i.e.*, the unincorporated area within acknowledged UGBs) consistent with city comprehensive plan policies.
2. **Significant Natural Areas.** The County shall continue to protect significant natural areas per CCCP Part XVI, Article X.
3. **Riparian Corridors.** The County will retain state-prescribed 50- to 75-foot riparian corridor setbacks and will protect riparian vegetation and wetlands within these corridors unless there is no reasonable alternative to allow a permitted use. However, the County will not extend riparian setbacks to include “associated wetlands” because SWI wetlands have not been reviewed through the required LWI process.

The County will provide limited protection for significant fish-bearing lakes, rivers and streams and their respective riparian corridors by allowing (a) water-dependent and water-related uses, and (b) planned transportation and other public facilities where there is no reasonable alternative, and (c) expansion of existing development subject to mitigation standards.

4. **Department of State Lands Notification.** The County shall continue to notify DSL of development applications on parcels with wetlands or riparian corridors identified on county water resource inventory maps – *i.e.*, the SWI (which includes “riverine wetlands”) and the riparian corridors of lakes and fish-bearing streams.
5. **No Local Wetland Protection in Rural Areas Outside of Riparian Corridors.** The County will not provide local protection for wetlands – whether associated with or isolated from riparian corridors – in rural areas outside of UGBs. Instead, the County will rely on state and federal agencies to regulate these water resources.
6. **DSL Wetland Delineation Concurrence Required.** The County will not issue final land use approval for development that would disturb a mapped wetland or fish-bearing stream until DSL has concurred in any required wetland delineation.

Continued County Protection of Fish and Wildlife Habitat Areas

Reduced wetland protection will reduce the level of local protection for significant fish and wildlife habitat areas. However, the County will continue to protect significant natural areas and fish and wildlife habitat (in coordination with state and federal agencies) and by implementing seven existing overlay zones. The proposed county program also includes co-adoption of city local wetland inventories (LWI) and city water resource protection programs in unincorporated urban growth areas pursuant to city-county urban growth management agreements (UGMAs).¹

¹ County wetland and riparian corridor regulations also protect significant wetlands within unincorporated areas of city UGBs. Five Columbia County cities (St. Helens, Scappoose, Rainier, Clatskanie and Vernonia) have local wetland inventories (LWI) that identify significant wetlands within unincorporated urban growth areas. These five cities have adopted limited protection programs for riparian corridors and wetlands within their UGBs. Amending these plans (and related Goal 5 protection measures) requires coordination between the city and the County.

Appendices

This report is informed and supported by the three following appendices:

- **Appendix A: Proposed Natural Resource Program Amendments** include proposed amendments to the CCCP Part XVI GOAL 5: OPEN SPACE, SCENIC AND HISTORIC AREAS, AND NATURAL AREAS with a focus on Fish and Wildlife Habitat (Article VIII), Natural Areas (Article IX), and Water Resources (Article X).
- **Appendix B: Riparian Corridor Overlay Zone, as amended**, includes the new, less restrictive, provisions for expansion of existing development. The proposed WR protection program (WR Program) retains local protection for significant natural areas and most significant fish and wildlife habitat areas.²
- **Appendix C: Existing Water Resources Protection Program** includes copies of the County's existing water resources and fish and wildlife habitat protection programs, including CCCP WR policies and text, and CCZO fish and wildlife, wetlands and riparian corridor overlays.

The revised WR program³ continues to require DSL notification of development affecting wetlands and water areas outside of locally-defined riparian corridors, and provides limited protection for significant fish-bearing lakes, rivers and streams within state-prescribed riparian setback areas. The WR program relies on DSL notification and state and federal agency programs to regulate wetlands on the Statewide Wetland Inventory (SWI) outside of locally-defined riparian corridors.

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Glossary of Terms and Acronyms

The following technical terms and acronyms are used in this report for ease of reference and to reduce its length.

Columbia County Terms and Acronyms

- **BOCC:** The Columbia County Board of County Commissioners
- **CCCP:** The Columbia County Comprehensive Plan (usually Part XIV, Article 10 Water Resources).
- **CCZO:** The Columbia County Zoning Ordinance which includes:
 - **Riparian Corridor Overlay Zone** – Section 1170 Riparian Corridors Wetlands, Water Quality and Fish and Wildlife Overlay Zone applied to mapped fish-bearing and non-fish-bearing streams, associated wetlands and required buffer areas (setbacks).
 - **Wetland Overlay Zone** – Section 1180 Wetlands as applied to significant wetlands identified in the Statewide Wetlands Inventory (SWI).
 - **Four additional fish and wildlife habitat overlay zones.**
- **Director:** The Columbia County Planning Director or designee.
- **Port:** The Port of Columbia County (previously the Port of St. Helens)
- **UGB:** A boundary line separating urban areas from rural areas and is subject to an urban growth management agreement adopted by the relevant city and Columbia County.
- **UGMA:** An urban growth management agreement between each of Columbia County's eight cities and the County, that prescribes how planning and land use regulations affecting unincorporating land within each UGB will be coordinated and managed.
- **Riparian Corridor and Wetland overlays:** Section 1170 Riparian Corridors Wetlands, Water Quality and Fish and Wildlife Overlay Zone and Section 1180 Wetlands Overlay Zone.
- **WR Program:** The proposed Water Resource Protection Program as set forth in Appendix B, including CCCP Part IV, Article X Water Resource amendments and the revised Riparian Corridor Overlay. The WR abbreviation may also be used for the existing water resources program depending on the context.
- **Revised Riparian Corridor Overlay:** The proposed revisions to the Riparian Corridor Overlay Zone that will provide local protection for riparian corridors (i.e., significant fish-bearing lakes, rivers and streams and their corresponding state-sanctioned riparian setback areas).

Statewide Planning Goal 5 Terms and Acronyms

As applied to water resources in Columbia County:

- **Goal 5:** Statewide Planning Goal 5 – Natural and Cultural Resources
 - **Goal 5 Inventory:** In 2003, the County adopted maps and descriptions Goal 5 wetland, riparian corridor, and fish and wildlife habitat. These inventories did not meet Goal 5 rule requirements. The County now proposes to remove SWI wetlands from the Goal 5 inventory, while retaining inventories of significant fish and wildlife habitat, and fish-bearing rivers, streams, and lakes and their respective riparian corridors based on the Goal 5 riparian corridor safe harbor.
 - **Goal 5 Conflicting Uses:** land uses and related activities subject to zoning regulations that could adversely affect a Goal 5 resource, except for agricultural and forest uses. The Goal 5 rule has specific definitions for uses and activities that conflict with riparian corridors and wetlands.

- **Goal 5 ESEE Analysis:** an analysis of the economic, social, environmental and energy consequences of three water resource and fish and wildlife habitat protection options. Any changes to the County's adopted riparian corridor and wetland protection program should be based on an ESEE analysis that is adopted as part of the CCCP.
- **Goal 5 Protection Program:** comprehensive plan policies and implementing zoning standards and procedures that prohibit, limit, or allow uses and activities that conflict with significant Goal 5 water and fish and wildlife habitat resources. The existing WRPP (adopted in 2003) is included in Appendix A. The proposed WRPP is included in Appendix B.
- **Goal 5 Rule:** OAR Chapter 660, Division 0023 Interpretation of Goal 5.
- **Goal 5 Safe Harbor:** a "safe harbor" allows cities and counties to avoid going through the entire Goal 5 process (inventory, significance determination, identification of conflicting uses, ESEE analysis and/or adoption of a Goal 5 protection program) by adopting prescribed inventory and/or protection standards for wetlands and riparian corridors. In 2003, Columbia County intended to apply safe harbor provisions for (a) wetland protection and (b) riparian corridor inventory and protection found in in the Goal 5 Rule (OAR 660-0090 Riparian Corridors and OAR 660-0100 Wetlands), but incorrectly applied several key provisions.
- **Habitat:** Fish and wildlife habitat areas identified as "significant" in Part XIV, Article VIII of the Columbia County Comprehensive Plan (CCCP).
- **Habitat Protection Overlay Zones:** Overlay zones that protect specific types of fish and wildlife habitat, including Section 1120 Bird Habitat Overlay, Section 1185 Natural Area Overlay, and Section 1190 Big Game Habitat Overlay.
- **LWI:** A "local wetlands inventory" conducted to DSL rule standards as provided in OAR 660-023-0100. The cities of Clatskanie, Scappoose, St. Helens, Rainier, and Vernonia have prepared LWIs for land within their respective urban growth boundaries. The Goal 5 rule requires counties to prepare an LWI to have a valid Goal 5 inventory. Without a valid Goal 5 inventory, the County cannot adopt a wetland protection program.
- **Riparian Corridor:** A Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary.
 - In 2003 Columbia County relied primarily on the riparian corridor safe harbors to map and regulate the riparian areas of fish-bearing rivers, lakes and streams. Riparian corridor boundaries ranged from 25 (for streams without fish) to 75 feet (for the Columbia River) from the banks of lakes, rivers and streams and included "associated wetlands" identified in the SWI. (See Sections 1 and 2 of this report and Appendix A.)
 - In 2022, proposed riparian corridor boundaries based solely on the riparian corridor safe harbor for fish-bearing streams: 50 feet from the banks of fish-bearing rivers, streams and lakes, and 75 feet from to the banks of the Columbia River). However, as noted above, these riparian setbacks cannot expand to include "significant associated wetlands" because the County lacks a valid LWI. (See Sections 1 and 2 of this report and Appendix B.)
- **Protect:** When applied to a resource category (such as significant wetlands, riparian corridors and habitat), "protect" means to develop a Goal 5 program consistent with the Goal 5 Rule. In 2003, Columbia County made the policy decision to protect significant riparian corridors and all SWI wetlands. The County also elected to protect a 25-foot buffer

on either side of non-fish-bearing streams – which was inconsistent with the riparian corridor safe harbor provisions.

- **Significance Determination:** A local government determination regarding the relative value of inventoried Goal 5 water resource sites. In 2003, Columbia County found that all wetlands on the SWI including all wetlands identified in city LWIs were “significant.” This determination was inconsistent with the Goal 5 rule (OAR 660-023-0100).
- **SWI:** The Statewide Wetlands Inventory within Columbia County jurisdiction. The SWI includes all wetlands identified on the National Wetlands Inventory (NWI) which includes wetlands, “riverine wetlands” (fish-bearing streams and other streams), and “other wetlands” (including wetlands on City LWIs and other areas). Cities and Counties are required to notify DSL when development may adversely affect a wetland on the SWI.
- **UGB:** An urban growth boundary that separates urban from rural land uses that is jointly adopted by the relevant city and the County. UGBs include land planned for urban growth within city limits and within unincorporated areas planned for urban growth.
- **UUC:** An unincorporated urban community.
- **Wetland:** An area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Only “significant” wetlands, based on the LWI inventory process, may be protected through the Goal 5 process. In 2003, the County incorrectly found that all SWI wetlands were significant. The 2022 proposal is to remove all SWI wetlands from the County inventory of significant wetlands.

Relevant State and Federal Agencies

- **Corps:** The United States Army Corps of Engineers which has federal jurisdiction over wetland fill and removal permits based on the U.S. Clean Water Act.
- **DCLD:** The Department of Land Conservation and Development manages the statewide planning program (including economic development and natural resources) and serves as staff to the Land Conservation and Development Commission (LCDC).
- **DSL:** The Department of State Lands manages the statewide wetlands program in concert with the Corps in coordination with DLCD. DSL maintains the SWI.
- **NMFS:** National Marine Fisheries Service.
- **NOAA:** National Oceanic and Atmospheric Administration.
- **ODF:** The Oregon Department of Forestry also maintains maps of fish-bearing streams and uses these maps to regulate forest practices within riparian buffers. The County used ODF maps to identify fish-bearing streams in 2003.
- **ODFW:** The Oregon Department of Fish and Wildlife maintains maps of fish-bearing streams. The revised program supplements ODF fish bearing inventory with ODFW Oregon Fish Habitat Distribution Data published January 13, 2023.

The Goal 5 Process

Statewide Planning Goal 5 (Goal 5) and its implementing rule (OAR 660, Division 023) establish the process that local governments must follow when determining where, whether, and how to protect natural resources. The Goal 5 process typically requires counties follow five logical steps:

1. **Inventory** of the location, quality, and quantity of each type of natural resource site or category of sites (e.g., fish and wildlife habitat, natural areas, riparian corridors, and wetlands).
2. Determine the **significance** of each resource site or category of sites.
3. Identify **uses and activities** (allowed by zoning) that conflict with significant natural resource sites or categories.
4. **Analyze the ESEE consequences** of three program options for each resource category:
 - a. Full resource protection (allow no conflicting uses)
 - b. Limited resource protection (limit some conflicting uses)
 - c. No resource protection (allow conflicting uses and activities without restriction)
5. Based on the ESEE analysis, local governments must then **adopt a local program** (consisting of comprehensive plan policies and land use regulations) to achieve Goal 5 (i.e., to resolve conflicts between development and protection of significant resource sites or categories) for each significant resource site or category.

Goal 5 Safe Harbor Options

The Goal 5 rule includes state-sanctioned inventory and protection programs that local governments may choose to adopt as “safe harbors”. If a county adopts a safe harbor correctly, then risks of successful appeal are minimized and the County need not go through all five steps of the Goal 5 process.

In 2003, the County intended to take advantage of three water resource safe harbors authorized by the Goal 5 rule:

- A. **The Safe Harbor for Protecting Significant Wetlands.** Prescribed standards for protecting significant wetlands. However, to be eligible for this safe harbor, wetlands must be inventoried and determined to be “significant” based on demanding and costly Department of State Lands (DSL) standards for “local wetland inventories” or LWI. (See OAR 660-023-0100).
- B. **The Safe Harbor for Conducting a Riparian Corridor Inventory.** A prescribed method for the inventorying fish-bearing rivers, lakes, and streams (identified on ODF and ODFW maps) and their prescribed riparian area widths (buffers). The width of riparian areas is measured from either (a) the water area top-of-bank or (b) the edge of any significant wetland that is within or partially within the riparian area. Use of this safe harbor greatly simplifies the Goal 5 rule requirements for conducting riparian corridor inventories. (See OAR 660-023-0090 Riparian Corridors).
- C. **The Safe Harbor for Protecting Riparian Corridors.** Prescribed standards for protecting riparian corridors that have been inventoried based on the riparian corridor safe harbor – while allowing some conflicting uses and activities. Use of this safe harbor allows the County to avoid going through steps 2-4 of the Goal 5 process in exchange for adopting state-sanctioned riparian corridor protection measures. (See OAR 660-023-0090 Riparian Corridors).

Critical Flaws in the County’s 2003 Water Resources Inventory and Protection Program

In 2002-03, Columbia County received a grant from the Department of Land Conservation and Development (DLCD) to support the County’s efforts to meet Goal 5 planning requirements. In 2003, the County adopted Goal 5 inventories, determined the significance of resource sites, identified conflicting uses, conducted ESEE analyses, and adopted Goal 5 protection programs. The adopted program was coordinated with affected state agencies and subsequently acknowledged by the Land Conservation and Development Commission (LCDC).

However, critical elements of the County's WR protection program did not meet Goal 5 rule requirements. The three critical flaws in the County's 2003 water resource safe harbors program are listed below:

- A. The Safe Harbor for Protecting Significant Wetlands.** The Goal 5 wetlands protection rule requirements were not met for several reasons:
- First, only significant wetlands that are mapped, described, and ranked according to LWI requirements are eligible for this wetland protection safe harbor. The County simply adopted the SWI as its inventory of "significant" wetlands, instead of meeting the more rigorous requirements for inventorying and determining the significance of wetlands consistent with LWI requirements. LWI rules require notification of wetland property owners and on-site evaluations where feasible – which did not occur. Further, LWI rules require the ranking of wetlands based on specific wetland functions and values to determine significance – which did not occur. Therefore, the County currently lacks a valid local wetland inventory and therefore the wetland protection safe harbor does not apply.
 - Second, the Goal 5 rule (OAR 660-023-0100) allows counties to decide whether (or not) to inventory and protect wetlands in rural areas. The County lacks the resources and policy commitment to conduct an LWI for rural areas outside of city UGBs. Without a valid inventory, there can be no "significant" wetlands, and Goal 5 rule does not allow counties to protect wetlands that have not been inventoried (unless they fall within riparian corridor boundaries).
- B. Riparian Corridor Inventory Safe Harbor.** The County's adopted and acknowledged riparian corridor inventory did not meet safe harbor requirements because:
- The riparian corridor inventory was based on only ODF's description of fish-bearing and non-fish bearing streams and rivers, instead of including the fish-bearing stream inventory by ODFW.
 - The riparian corridor inventory was not limited to fish-bearing lakes, rivers, and streams; it also included streams and ditches with no fish.
 - The riparian area was extended to include all wetlands shown on the SWI which cannot be determined "significant" in the absence of an LWI; the County did not conduct an LWI – or determine local wetland "significance" based on rule requirements.
 - The County adopted a riparian area width for non-fish-bearing streams that is not authorized by the riparian corridor safe harbor.
 - These errors meant that inventoried riparian corridors extended over a much larger area than authorized by the Goal 5 riparian corridor inventory safe harbor.
- C. The Safe Harbor for Protecting Riparian Corridors.** The County's adopted and acknowledged riparian corridor protection program did not meet safe harbor requirements because:
- Protection was provided to wetlands (and their riparian buffer areas) that were not inventoried and determined to be significant based on LWI requirements.
 - Uses allowed by the riparian corridor safe harbor program (i.e., utilities, roads, and water-related uses) were expressly not allowed across water areas within riparian corridors, meaning that roads, utilities, and water-related uses were unnecessarily prohibited from crossing riparian corridors to serve developable land.

- o The effects of this adopted safe harbor meant the large portions of otherwise developable rural residential, commercial, and industrial areas (a) were off-limits to development, and (b) roads and utilities could not pass through water areas and wetlands to serve development.

Notably, the County has not implemented its adopted Goal 5 WR protection program since its adoption in 2003. One possible reason for this approach is that County staff and legal counsel realized that its regulatory framework was inconsistent with Goal 5 inventory, evaluation and protection rules. The County has relied on its adopted SWI to notify DSL of development that could potentially impact rural wetlands and water areas.

Unlike the existing WR protection program, the proposed program:

1. Is consistent with OAR 600-023-0090 Riparian Corridors by meeting the riparian corridor inventory safe harbor requirements and providing limited protection of riparian corridors (consistent with this required ESEE analysis).
2. Is consistent with OAR 660-023-0100 Wetland provisions that allow the County to decide whether to conduct an LWI and protect significant wetlands based on the LWI.
3. Retains existing fish and wildlife habitat inventories and overlay zones, but without the additional (but unjustified) layer of protection afforded by the Wetlands Overlay for inventoried fish and wildlife habitat areas.

Report Organization

The remainder of this report is organized as follows.

Section 1: Columbia County's Existing Riparian Corridor and Wetland Inventory, Significance Determination, and Protection Program

In 2003, the County determined that all wetlands on the Statewide Wetlands Inventory (SWI) and all riparian corridors associated with fish-bearing and non-fish-bearing lakes, rivers and streams identified on ODF maps were significant. In 2022, Winterbrook estimated the land and water area included in the wetland, lake and stream corridor inventory adopted by the County in 2003 using GIS technology. The County also inventoried various types of fish and wildlife habitat which often overlapped with "significant" wetlands and riparian corridors.

Section 2: Identification of Conflicting Uses

Section 2 identifies uses and activities that potentially conflict with the full protection of riparian corridors, wetlands, and fish and wildlife habitat. The Goal 5 rule requires local governments to identify conflicting uses and activities that could result in removal of native vegetation, grading, or placement of structures or impervious surface areas, within significant water resource areas. Section 2 references tables showing significant and protected wetland and riparian corridor acreage by zoning category in the County. **Appendix A Existing Goal 5 Program includes the WR and habitat programs adopted by the County in 2003.**

Section 3: ESEE Consequences Analysis

Section 3 includes the ESEE consequences analysis of three water resource and habitat program options: (1) full local protection (allow no conflicting uses), (2) limited local protection (allow some conflicting uses with mitigation), and (3) no local protection (rely on state and federal agencies for

protection of significant riparian corridors and wetlands). The ESEE analysis also considers the ESEE consequences of both the existing (almost) full local protection WR Program and the proposed limited WR Program on water and habitat resources. **Section 3 describes both the existing and proposed WR program and their impacts on fish and wildlife habitat programs.**

Section 4: Water Resource and Habitat Program Recommendations

Section 4 summarizes the proposed WR Program, which is a combination of limited local protection for significant natural areas, limited local protection for fish-bearing lakes, rivers and streams and their riparian corridors, limited protection for LWI wetlands within UGBs, limited protection for significant fish and wildlife habitat, and no local protection for rural wetlands outside of UGBs. The existing Wetland overlay zone would be removed, and the existing Riparian Corridor overlay zone would be amended to provide greater flexibility for expansion of existing development within riparian corridors. Other existing overlays would continue to provide limited protection for significant fish and wildlife habitat identified in Chapter XIV, Article VIII of the Comprehensive Plan.

Section 1: Columbia County Water Resource and Habitat Inventory and Significance Determinations

In 2003, the Columbia County inventoried and determined the significance of wetland and riparian corridor resources in rural areas throughout the County. Figure 2 is a composite map showing the County's adopted water resources inventory, consisting of "significant" wetlands, lakes, rivers, and streams. As documented in Section 2, conflicting uses are not allowed in the County's mapped water areas. However, the riparian setback areas outside of water areas allow water-dependent and water-related uses, transportation and drainage facilities, and utilities on a limited basis.

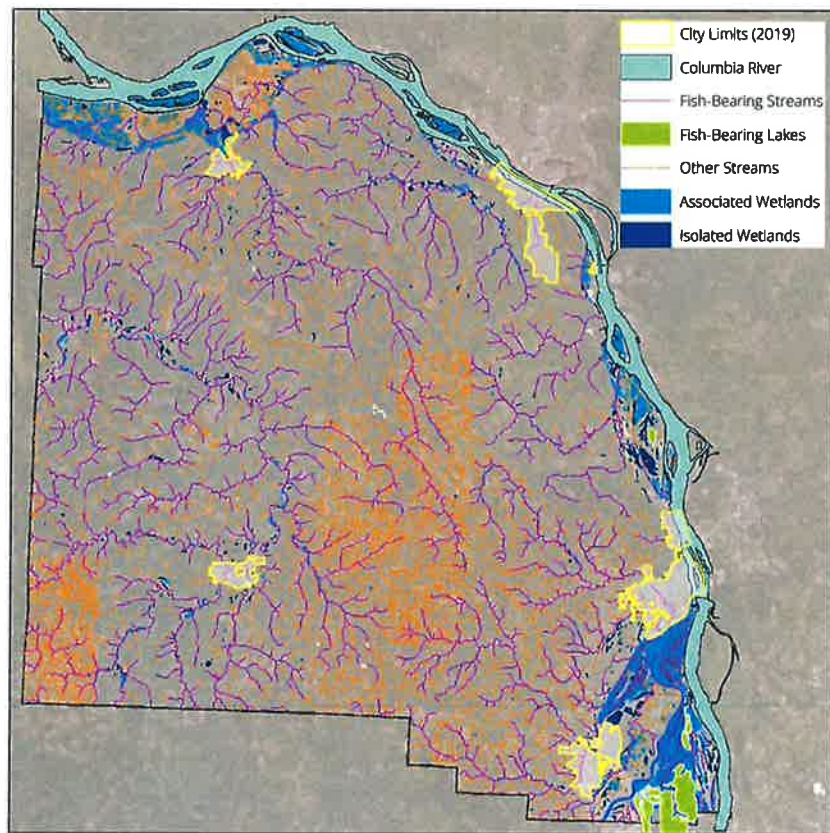


Figure 2 Columbia County Water Resources Inventory (Adopted 2003)

Goal 5 Rural Wetland Inventory and Significance Determination

The Goal 5 rule (OAR 660-023-0100) allows counties to choose whether (or not) to inventory and protect wetlands in rural areas (outside of UGBs and unincorporated areas).

(6) For areas outside UGBs and UUCs, local governments are not required to amend acknowledged plans and land use regulations in order to determine significant wetlands and complete the Goal 5 process. Local governments that choose to amend acknowledged plans for areas outside UGBs and UUCs in order to inventory and protect significant wetlands shall follow the requirements of sections (3) and (4) of this rule.

However, Section (3) of the Goal 5 wetland rule requires local governments to meet DSL's demanding requirements for "local wetland inventories" (LWI).⁴ Wetlands that are not identified as "significant" based on LWI requirements cannot be protected by Goal 5 regulations.

In 2003, Columbia County did not meet the LWI standard. Instead, Columbia County adopted the SWI as its wetland inventory and determined that all wetlands on the SWI⁵ were "significant" for Goal 5 purposes. As noted in CCCP Part XVI, Article X Water Resources:

Wetlands in the Identified Wetland inventories have historically been found to be of good or excellent wetland quality by the Oregon Department of Fish and Wildlife. All wetlands identified in the SWI and/or LWI are significant for the purposes of Goal 5.

As stated in CCCP Article X.A. Wetlands 2. Inventory and Significance:

Columbia County will apply the "safe harbor" provisions of Goal 5 to significant wetlands. The adopted inventory of wetlands for Columbia County is the State Wetlands Inventory (SWI), as amended. A current copy of the SWI is contained in the Technical Appendix Part XVI, Article X(A), for reference. All wetlands inventoried on the SWI or any more detailed inventories such as the Local Wetlands Inventories (LWI) produced by individual cities are considered significant for the purposes of Goal 5. The State Wetlands Inventory incorporates wetlands identified on the National Wetlands Inventory (NWI).

⁴ (3) For areas inside urban growth boundaries (UGBs) and urban unincorporated communities (UUCs), local governments shall: (a) Conduct a local wetlands inventory (LWI) using the standards and procedures of OAR 141-086-0110 through [141-086-0240 \(Landowner Notification\)](#) and adopt the LWI as part of the comprehensive plan or as a land use regulation; and (b) Determine which wetlands on the LWI are "significant wetlands" using the criteria adopted by the Division of State Lands (DSL) pursuant to [ORS 197.279 \(Approved wetland conservation plans comply with goals\)\(3\)\(b\)](#) and adopt the list of significant wetlands as part of the comprehensive plan or as a land use regulation.

⁵ The SWI primarily consists of the NWI, as well as adopted City LWIs and "More Oregon Wetlands." The SWI includes "riverine wetlands" or streams, regardless of whether they are "fish-bearing" or not. Although the County did not conduct an LWI as required by Section (3)(a) of the rule, DLCD did not object to the County's determination that all SWI wetlands were significant for Goal 5 purposes and ultimately acknowledged the County's water resources program.

Thus, Columbia County did not adopt a valid wetland inventory that met Goal 5 wetland inventory and significance determination requirements.⁶ Rather, the County found that all SWI wetlands were significant without meeting DSL local wetland inventory requirements and improperly applied wetland regulations to all such wetlands. In the County's defense, the Goal 5 wetland rule is poorly drafted, and could be interpreted to allow counties to adopt the SWI. It should be noted that DLCD funded and LCDC subsequently acknowledged Columbia County's adopted wetland inventory and protection program.

The SWI also includes "riverine wetlands" (streams and ditches), whether they are fish-bearing or not. Note that the SWI includes wetlands that are associated (within or partially within riparian corridor boundaries) and isolated (not within or partially within riparian corridor boundaries). Finally, the County determined that significant wetlands identified on LWIs within city UGBs (Clatskanie, Scappoose, Rainier, St. Helens, and Vernonia) were significant for county Goal 5 purposes.

Columbia County's Adopted "Safe Harbor" Wetland Protection Program

In 2003, Columbia County adopted the wetland "safe harbor" protection program found in OAR 660-023-0100(4)(b)⁷ for all wetlands on the SWI. The wetlands safe harbor requires that local governments "place restrictions on grading, excavation, placement of fill, and vegetation removal" while including provisions for hardship variances and "claims of mapping error verified by DSL." Unlike most local governments, the County's wetland ordinance interpreted the term "restrict" to mean "prohibit" development in all SWI wetlands in unincorporated areas of the County.

DLCD's 2022 Recommendation in Response to County Proposal to Amend Its Wetland Protection Program.

At a September 19, 2022, meeting with DLCD Natural Resource staff, DLCD noted that the County's 2003 determination that all SWI wetlands in the County are "significant" for Goal 5 purposes did not meet Goal 5 rule requirements for conducting wetland inventories and determining wetland significance. DLCD noted that counties are not obligated to conduct wetland inventories in rural areas, and suggested that the County could simply remove SWI wetlands from its Goal 5 inventory without conducting an ESEE analysis. She noted that a Goal 5 process only applies to significant wetlands; thus, if the County were to make the procedural choice to remove SWI wetlands from the Goal 5 inventory, an ESEE Analysis may not be necessary.

Based on this advice and the County Board's policy preference to rely on DSL for wetland protection, Winterbrook recommends that the County remove SWI wetlands from the County list of "significant" wetlands. However, because removing SWI wetlands from the County inventory has a similar effect to removing local protection for significant wetlands – and because County programs to protect fish and wildlife habitat rely in part on existing wetland regulations – in an abundance of caution Winterbrook has prepared an ESEE consequences analysis to justify this decision.

⁶ One possible explanation as to why Columbia County has not applied its wetlands regulations over the last 20 years could be that county staff and legal counsel knew that they lacked a valid Goal 5 wetland inventory.

⁷ (A) *The protection ordinance shall place restrictions on grading, excavation, placement of fill, and vegetation removal other than perimeter mowing and other cutting necessary for hazard prevention; and (B) The ordinance shall include a variance procedure to consider hardship variances, claims of map error verified by DSL, and reduction or removal of the restrictions under paragraph (A) of this subsection for any lands demonstrated to have been rendered not buildable by application of the ordinance.*

Goal 5 "Safe Harbor" Inventory and Protection for Riparian Corridors

The Goal 5 Rule (OAR 660-023-0090(1)(c)) defines a "riparian corridor" as "a Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary." The Goal 5 rule (OAR 660-023-0090(5)) includes the following "safe harbor" for meeting the Goal 5 riparian corridor inventory and significance requirements in rural areas:

(5) As a safe harbor in order to address the requirements under OAR 660-023-0030 [inventory requirements], 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 shown on the documents listed in subsections (a) through (f) of section (4) of this rule, as follows: (a) Along all streams with average annual stream flow greater than 1,000 cubic feet per second (cfs) the riparian corridor boundary shall be 75 feet upland from the top of each bank. (b) Along all lakes, and fish-bearing streams with average annual stream flow less than 1,000 cfs, the riparian corridor boundary shall be 50 feet from the top of bank. (c) Where the riparian corridor includes all or portions of a significant wetland as set out in OAR 660-023-0100, the standard distance to the riparian corridor boundary shall be measured from and include the upland edge of the wetland.

Note that the riparian corridor safe harbor applies only to fish-bearing streams, as determined by ODFW. However, in 2003 the County inappropriately included all "riverine wetlands" (streams and ditches) found on the SWI, including those that are not fish-bearing, on the Goal 5 inventory. The County also applied a 25-foot riparian setback from the top-of-bank of non-fish-bearing streams that appear on ODF inventories, which first uses an incomplete inventory source - ODF alone instead of also including ODFW inventories – and secondly, and most importantly, is not authorized by the riparian corridor protection safe harbor.

As stated in Article X.B. Riparian Areas 2. Inventory and Significance:

The inventory of Columbia County streams contained in the Oregon Department of Forestry Stream Classification Maps specifies which streams and lakes are fish-bearing. Fish-bearing lakes are identified on the map entitled, "Lakes of Columbia County." A copy of the most current Stream Classification Maps is attached to the Comprehensive Plan, Technical Appendix Part XVI, Article D(B), for reference. The map, "Lakes of Columbia County" is attached to the Comprehensive Plan, Technical Appendix Part XVI, Article X(B), and is incorporated herein by this reference. Based upon the stream and lake classifications, the County shall implement riparian corridor boundaries substantially similar to the following:

a. Lakes. Along all fish-bearing lakes, the riparian corridor boundary shall be 50- feet from the top-of-bank, except as provided in subsection (e), below.

b. Fish-Bearing Streams and Rivers. Along all fish-bearing streams and rivers with an average annual steam flow of less than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 50-feet from the top-of-bank, except as identified in subsection (e) below. Average annual stream flow information shall be provided by the Oregon Water Resources Department.

c. Fish-Bearing and Non-Fish Bearing Streams (Greater than 1,000 cfs). Along all streams and rivers with an average annual stream flow greater than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 75-feet upland from the top-of-bank, except as identified in

subsection (e) below. Average annual stream flow information shall be provided by the Oregon Water Resources Department. d. Other Rivers, Lakes, Streams and Sloughs. Along all other non-fish-bearing rivers, streams, sloughs, intermittent creeks, or other waterways, the riparian corridor shall be 25-foot upland from the top-of-bank, except as identified in subsection (e) below.

e. Wetlands. Where the riparian corridor includes all or portions of a significant wetland, as identified in the State Wetlands Inventory and Local Wetlands Inventories, the standard distance to the riparian corridor boundary shall be measured from, and include the upland edge of the wetland.

Thus, in 2003, the County inappropriately applied the Goal 5 safe harbor inventory and significance requirements for riparian corridors by adopting all ODF maps of fish-bearing lakes, streams and rivers and associated "significant" wetlands. The County determined that the riparian corridors of fish-bearing lakes, rivers, and streams as defined above were significant for Goal 5 purposes.

Columbia County's Adopted "Safe Harbor" for Riparian Corridor Protection

Columbia County applied most of the riparian corridor safe harbor provisions found in OAR 660-023-090(8)⁸, with the following exceptions:

1. The riparian corridor safe harbor inventory process was not conducted properly because ODF maps alone were used to distinguish fish-bearing and non-fish bearing streams instead of including the required ODFW inventory⁹.
2. The riparian corridor safe harbor provisions were applied to non-fish-bearing streams incorrectly, including a 25-foot buffer area that is not authorized by the safe harbor.

⁸ As a safe harbor in lieu of following the ESEE process requirements of [OAR 660-023-0040 \[ESEE Decision Process\]](#) and [660-023-0050 \[Programs to Achieve Goal 5\]](#), a local government may adopt an ordinance to protect a significant riparian corridor as follows:

(a) The ordinance shall prevent permanent alteration of the riparian area by grading or by the placement of structures or impervious surfaces, except for the following uses, provided they are designed and constructed to minimize intrusion into the riparian area: (A) Streets, roads, and paths; (B) Drainage facilities, utilities, and irrigation pumps; (C) Water-related and water-dependent uses; and (D) Replacement of existing structures with structures in the same location that do not disturb additional riparian surface area.

(b) The ordinance shall contain provisions to control the removal of riparian vegetation, except that the ordinance shall allow: (A) Removal of non-native vegetation and replacement with native plant species; and (B) Removal of vegetation necessary for the development of water-related or water-dependent uses.

(c) Notwithstanding subsection (b) of this section, the ordinance need not regulate the removal of vegetation in areas zoned for farm or forest uses pursuant to statewide Goals 3 or 4;

(d) The ordinance shall include a procedure to consider hardship variances, claims of map error, and reduction or removal of the restrictions under subsections (a) and (b) of this section for any existing lot or parcel demonstrated to have been rendered not buildable by application of the ordinance; and

(e) The ordinance may authorize the permanent alteration of the riparian area by placement of structures or impervious surfaces within the riparian corridor boundary established under subsection (5)(a) of this rule upon a demonstration that equal or better protection for identified resources will be ensured through restoration of riparian areas, enhanced buffer treatment, or similar measures. In no case shall such alterations occupy more than 50 percent of the width of the riparian area measured from the upland edge of the corridor.

⁹ OAR 660-023-0090(4)(d) Oregon Department of Fish and Wildlife (ODFW) maps indicating fish habitat;

3. Transportation, public facilities, and water-related/dependent uses are allowed only in riparian setback areas but not across water areas or wetlands, meaning that such facilities cannot cross rivers or streams to serve developable land under any circumstances.
4. The riparian corridor boundary was extended to include SWI wetlands within or partially within riparian setback areas, which the County incorrectly determined were "significant" in 2003. However, the County did not follow DSL local wetland inventory and significance determination criteria; therefore, the "associated" SWI wetlands should not have been included within riparian corridor boundaries.

2022 Winterbrook GIS Mapping

In 2003, county staff did not estimate the quantity (land area or acreage) of significant water resources (riparian corridors and wetlands) in Columbia County. In 2022, Winterbrook used GIS technology to calculate the land and water area covered by significant water resources. As documented in Section 2, Table 1 (below) about 65,000 acres are covered by significant water resources, which amounts to 15 percent of the total county land and water area. Winterbrook's GIS maps of significant wetlands, lakes, rivers and streams are used in Section 3 of this report (ESEE Analysis) to quantitatively assess economic, social, environmental and energy consequences of alternative Goal 5 program options.

Goal 5 Inventory of Significant Fish and Wildlife Habitat

In 2003, the County also adopted Goal 5 inventories of the following fish and wildlife habitat categories (CCCP Part XVI, Article VIII Fish and Wildlife Habitat, and Technical Appendix Part XVI):

- Big Game Habitat: Article VIII(A) and Technical Appendix Part XVI
- Columbian White-tailed Deer Habitat: Article VIII(B) and Technical Appendix Part XVI
- Fish Habitat: Article VIII(C) and Article X(B) related to riparian corridors
- Furbearer Habitat: Article VIII(D) – important habitat areas are wetlands, ponds, lakes, swamps, streams, and riparian vegetation associated with these water bodies
- Waterfowl Habitat: Article VII(E) – not specifically mapped, but generally includes agricultural land, floodplains, wetlands, and riparian corridors
- Non-game Wildlife Habitat: Article XIII(F) – includes descriptions of Bald Eagle Nesting Sites, Blue Heron Nest Rookery, and Northern Spotted Owl Nests
- Upland Game Habitat: Article X(G) – includes descriptions of band-tailed pigeon habitat

In many cases, fish and wildlife habitat areas overlap with significant wetlands and riparian areas. Therefore, the decision to remove SWI wetlands outside of locally-defined riparian corridors from the Goal 5 inventory and protection program will provide less local protection for most types of significant fish and wildlife habitat. The lower level of local protection underscores the importance of coordinating with state and federal agencies to protect the County's inventory of significant fish and wildlife habitat areas.

Section 2: Conflicting Uses and Activities

To identify conflicting uses, the Goal 5 rule (OAR 660-023-0050) suggests evaluating uses and activities allowed by the applicable rural zoning district.

Use Activities that Conflict with Riparian Corridor and Wetland Preservation

OAR 660-023-0090(7) is more specific when it comes to identifying activities that conflict with riparian corridor protection:

(7) When following the standard ESEE process in OAR 660-023-0040 and 660-023-0050, a local government shall comply with Goal 5 if it identifies at least the following activities as conflicting uses in riparian corridors:

(a) The permanent alteration of the riparian corridor by placement of structures or impervious surfaces, except for: (A) Water-dependent or water-related uses; and (B) Replacement of existing structures with structures in the same location that do not disturb additional riparian surface area.

(b) Removal of vegetation in the riparian area, except: (A) As necessary for restoration activities, such as replacement of vegetation with native riparian species; (B) As necessary for the development of water-related or water-dependent uses; and (C) On lands designated for agricultural or forest use outside UGBs.

Thus, placement of structures or impervious surface are considered activities that conflict with wetland preservation within riparian corridors. Vegetation removal also is considered a conflicting activity, with the following exceptions: (a) water-related/water-dependent uses; (b) wetland restoration (for example, replacement of invasive vegetation with native vegetation); and (c) vegetation removal on land designed for agricultural and forest use. Since native vegetation in riparian corridors contributes to the quality of fish and wildlife habitat, vegetation removal also conflicts with significant fish and wildlife protection described in CCCP Part XVI, Article VIII Fish and Wildlife Habitat.

OAR 660-023-0100 Wetlands does not include a parallel provision for identifying activities that conflict with wetland preservation. However, OAR 660-023-0100(4)(b)(A) (related to the wetland protection safe harbor) requires local governments to “restrict” the following activities (presumably because these activities conflict with wetland preservation):

The protection ordinance shall place restrictions on grading, excavation, placement of fill, and vegetation removal other than perimeter mowing and other cutting necessary for hazard prevention.

Thus, it is reasonable to include grading, excavation, placement of fill, and vegetation removal (other than perimeter mowing and cutting hazardous vegetation) as activities that conflict with wetland preservation. Since associated wetlands are found within riparian corridor boundaries, it is reasonable to apply both sets of conflicting activities to identify land uses that conflict with both wetland and riparian corridor preservation.

Table 1 identifies conflicting activities; with three exceptions, to the extent that a use allowed in a base zone involves conflicting activities, the use conflicts with both riparian corridor and wetland protection.

Table 1. Activities Allowed by Base Zones that Conflict with Riparian Corridor and Wetland Preservation

Conflicting Activities	Isolated Wetlands (located outside of inventoried riparian corridors)	Riparian Corridors (including associated wetlands located within riparian buffers)
Placement of Structures	Yes	Yes
Placement of Impervious Surfaces	Yes	Yes
Excavation or Grading (including streambank alteration and wetland fill-removal)	Yes	Yes
Vegetation Removal	Yes	Yes
Exceptions	Vegetation removal on land designated for Exclusive Farm or Commercial Forest Use in the CCCP (as implemented by county zoning districts)	Vegetation removal on land designated for Exclusive Farm or Commercial Forest Use in the CCCP (as implemented by county zoning districts)
	The provisions of 660-023-0100 Wetlands and CCZO 1180 Wetlands do not mention Water-Related/Dependent Uses	The safe harbor provisions of 660-023-0090 Riparian Corridors and CCDC 1170 Riparian Corridors both allow Water-Related/Dependent Uses in riparian setback areas
	Restoration and Enhancement with Native Vegetation	Restoration and Enhancement with Native Vegetation
	Replacement of existing structures that do not disturb additional riparian surface area.	Replacement of existing structures that do not disturb additional riparian surface area.

- The first exception is vegetation removal related to farm and forest practices, which are regulated by state statutes and rules, and are not subject to county zoning.
- The second exception is for water-related/dependent uses, which by operation of the Goal 5 riparian corridor safe harbor provisions are allowed without an ESEE analysis.
- The third exception is wetland or stream corridor restoration, which allows removal of invasive (non-native) species with native vegetation species as part of a restoration project.
- The fourth exception is for water-dependent/related uses and replacement of existing structures that do not disturb additional riparian surface area, which are allowed by rule and are not considered conflicting uses per OAR 660-023-0090(7)(a).

For example, if an industrial use allowed by zoning¹⁰ would require wetland fill or removal, placement or structures or impermeable surfaces, or removal of native vegetation, then the industrial use is considered a “conflicting use.”

¹⁰ The CCCP includes specific findings justifying the reasons why industrial uses should be allowed in each rural exception area and therefore are exempt from Goals 3 and 4 requirements. The justification for many exception areas is that they are “locationally dependent”. In such situations, the range of uses allowed in an exception area are limited to uses that require a specific rural location because these specific uses cannot reasonably be

Uses and Activities that Conflict with Fish and Wildlife Habitat Preservation

CCCP Part XVI Articles VIII(A)-(G) identify land uses and activities that could conflict with fish and wildlife habitat preservation. Text regarding conflicting uses from these CCCP sections are quoted below.

Table 2. Fish and Wildlife Habitat: Summary of Conflicting Uses and Activities Identified in 2003 ESEE Analysis

Habitat Category	Conflicting Uses and Activities
<p>Big Game Habitat – Article VIII(A) and Technical Appendix Part XVI</p>	<p><i>The majority of the areas designated in Columbia County as being either Major or Peripheral Big Game Habitat are zoned Primary Forest (PF-38), Forest-Agriculture (FA-19), and Primary Agriculture (PA-38). Activities permitted within these zones are generally considered to be compatible with Big Game Habitat. All rural residential and other exception areas are impacted and exempt from the development siting standards of the CCZO found in the Big Game Range Overlay District.</i></p> <p><i>Other non-resource uses have been identified which could permanently alter big game habitat areas. These uses often have the same general characteristics: i. in the introduction of people to habitat areas on a year-round basis; ii. The permanent introduction of groups of people on a seasonal or weekly basis; or iii. The use of land in a manner which necessitates the removal of large amounts of vegetative cover. D. The major problems associated with the introduction of people to habitat areas are dog harassment, poaching, traffic harassment, and lost forage and cover areas. (CCCP pp. 237-238)</i></p>
<p>Columbian White-tailed Deer Habitat – Article VIII(B) and Technical Appendix Part XVI</p>	<p><i>Potential conflicting uses for Columbian White-tailed Deer include: 1) the removal of brushy, vital habitat for creating and improving pasture and agricultural lands, and 2) the draining, filling, and tilling of wetlands. The introduction of residential development and non-residential development such as surface mining into native riparian Columbian White-tailed Deer habitat could be a potential conflict, but considering current zoning and other circumstances, the conflict should be very limited. (CCCP p. 242)</i></p>
<p>Fish Habitat – Article VIII(C), Article X(B) related to riparian corridors</p>	<p><i>Three major land use activities which take place within and adjacent to fish habitat areas are potential conflicting uses. These activities are forest practices, agricultural practices, as well as residential, commercial, and industrial development. Actual potential conflicts which may be caused by these practices and activities include but are not limited to: a. Limited available access to rivers and streams because of private land ownership may restrict the release of fish stock and recreational enjoyment of fish resources. b. Obstructions to fish passage may be created for other land use purposes. Obstructions, which hinder migration, include dams, culverts, tide gates, and logging practices. c. Streamflow levels may be reduced below acceptable levels when waters are diverted for residential, industrial, agricultural, or other purposes. d. Pollutants introduced into the water because of land use actions may reduce water quality. e. Removal of riparian and wetland vegetation may destroy fish habitat in rivers streams, wetlands, and other water bodies by elevating water temperatures and stream sedimentation. f.</i></p>

accommodated within an urban growth boundary (UGB). In such cases, the limited uses allowed in the specific rural exception areas are conflicting uses.

	<i>Mining and filling practices which change the structure of the stream channel may destroy spawning and rearing habitat in streams and rivers. (CCCP pp. 247-248)</i>
Furbearer Habitat – Article VIII(D) – important habitat areas are wetlands, ponds, lakes, swamps, streams, and riparian vegetation associated with these water bodies	<i>Land use development activities which reduce the quality and quantity of habitat areas are potential conflicting uses for furbearers. Particularly damaging activities include the draining and filling of wetlands, and expansion of development into riparian areas. Potential conflicts also arise between furbearers and landowners when animals cause damage. Beavers, for example, may cut down trees or block culverts with dams and flood developed lands. (CCCP p. 249)</i>
Waterfowl Habitat – Article VII(E) - not specifically mapped, but generally includes agricultural land, floodplains, wetlands and riparian corridors	<i>Areas identified as waterfowl habitat are primarily zoned for agricultural use. In addition, the north end of the Scappoose Bay contains valuable gravel deposits and are zoned for surface mining. Port Westward, a designated industrial area because of its deep-water access on the Columbia River, is also within the area identified as habitat for waterfowl. Activities that are potential conflicts with waterfowl are: a. Filling, draining, or tilling of wetlands; b. Removal of riparian vegetation or other vegetation that serves as nesting, feeding, or resting habitat; c. Conversions of sloughs, flood plains, and swamp areas to other uses; d. Springtime waterfowl damage to pasture and grain fields. (CCCP p. 250)</i>
Non-game Wildlife Habitat – Article XIII(F) – includes descriptions of Bald Eagle Nesting Sites, Blue Heron Nest Rookery, and Northern Spotted Owl Nests	<i>Important habitat areas for all non-game species, and the specific nesting sites identified for the Bald Eagle, Great Blue Heron, and Northern Spotted Owl, are located on lands zoned for forest and agriculture. The major potential conflict in these areas are forest and agricultural practices, such as logging activities or the clearing of land for farm use, which destroy or disturb nest sites. Residential development, surface mining activities, or other practices which remove vegetation and/or cause animal harassment could be potential conflicts. Generally, conflicts result for two reasons: First, human activities destroy and disturb sensitive non-game habitat, and second, non-game animals, such as coyotes, encroach onto developed land destroying vegetation and killing livestock. (CCCP p. 253)</i>
Upland Game Habitat – Article X(G) - including descriptions of band-tailed pigeon habitat	<i>Important habitat areas for upland game are located on lands zoned for forest, agriculture, and rural residential use. Generally, conflicts result when farming and forest practices reduce vegetative diversity by removing fencerows and streamside cover, or apply intensive amounts of pesticides. Conflicts may result for the band-tailed pigeon when land use activities are introduced into an area within 600 feet of the identified springs. (CCCP p. 256)</i>

Table 2 makes it clear that there is considerable overlap between land use and activities that conflict with the existing water resource protection program and those that conflict with fish and wildlife habitat preservation.

- Land clearing and vegetation removal conflict with all categories of fish and wildlife habitat.
- Excavation and vegetation removal in water resource areas (wetlands and riparian corridors) conflict with preservation of habitat for White-tailed deer, fish, furbearing animals, waterfowl, and non-game wildlife.
- Agricultural and forest practices – which are not regulated by the County – can also conflict with most habitat categories.

Procedural Consideration

As noted in the discussion above, the County's 2003 decision to adopt the SWI (rather than meeting the more rigorous requirements for conducting an LWI) did not meet Goal 5 inventory requirements and for this reason should not have been acknowledged by LCDR. Moreover, the Goal 5 Rule allows counties to determine whether (or not) to inventory rural wetlands outside UGBs in the first place. Thus, the County's 2003 wetland inventory was inconsistent with Goal 5 rule requirements, whereas County's 2022 decision to remove the SWI from the County's inventory of significant Goal 5 resources is consistent with Goal 5 rule requirements.

For these reasons, it would be reasonable to conclude that an ESEE analysis is not required for the decision to remove the SWI for the list of significant Goal 5 resources. However, in an abundance of caution, this document considers the ESEE consequences of the County's decision to remove SWI wetlands from the County's inventory of significant Goal 5 resources, and to thereby reduce the extent of riparian corridor and fish and wildlife habitat protection, in Section 3 below.

As discussed in Section 3, removal of local wetland protection for SWI wetlands in combination with allowing expansion of existing development within riparian corridor setback areas, has the effect of reducing local protection for many categories of fish and wildlife habitat. The consequences of this decision are recognized in the ESEE analysis. Nevertheless, based on the ESEE analysis, the revised Riparian Corridor overlay in combination with habitat overlay zones provides effective if limited protection for big game and Columbia white-tailed deer, fish, furbearing animals, and non-game wildlife habitat to ensure continued county compliance with Goal 5.

Section 3: ESEE Consequences Analysis

Generally, Goal 5 requires that local governments conduct an analysis of the economic, social, environmental and energy (ESEE) consequences of allowing, limiting, or prohibiting uses and activities that conflict with the functions and values of significant wetlands – before adopting or amending local protection programs. However, the Goal 5 rule provides a way to avoid conducting an ESEE analysis by adopting the state-prescribed protection standards included in the Goal 5 rule. In 2003, the County chose to use this prescriptive “safe harbor” protection option for “significant” wetlands and riparian corridors rather than investing the time and costs required to conduct a detailed ESEE analysis.

In 2003, the County also inventoried fish and wildlife habitat using the standard Goal 5 process. Thus, the County (1) determined significant fish and wildlife habitat areas, (2) identified conflicting uses for significant habitat, (3) considered the ESEE consequences of program alternatives, and (4) adopted programs to protect significant fish and wildlife habitat areas.

As explained in CCCP Chapter XIV, Article VIII Fish and Wildlife Habitat, in most cases, that program included a combination of farm and forest base zones (that limit development), implementation of a series of habitat-related overlay zones, and coordination with affected state agencies (primarily ODFW and DSL) to ensure Goal 5 compliance. Five of seven fish and wildlife habitat categories depended in part on the existing Riparian Corridor and Wetlands overlays to augment protection of significant fish and wildlife habitats.

Goal 5 Rule ESEE Analysis Requirements - ESEE Decision Process (OAR 660-023-0040)

- (1) Local governments shall develop a program to achieve Goal 5 for all significant resource sites based on an analysis of the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use. This rule describes four steps to be followed in conducting an ESEE analysis, as set out in detail in sections (2) through (5) of this rule. Local governments are not required to follow these steps sequentially, and some steps anticipate a return to a previous step. However, findings shall demonstrate that requirements under each of the steps have been met, regardless of the sequence followed by the local government.

The ESEE analysis need not be lengthy or complex, but should enable reviewers to gain a clear understanding of the conflicts and the consequences to be expected. The steps in the standard ESEE process are as follows: (a) Identify conflicting uses; (b) Determine the impact area; (c) Analyze the ESEE consequences; and (d) Develop a program to achieve Goal 5.

- (2) Identify conflicting uses. Local governments shall identify conflicting uses that exist, or could occur, with regard to significant Goal 5 resource sites. To identify these uses, local governments shall examine land uses allowed outright or conditionally within the zones applied to the resource site and in its impact area. Local governments are not required to consider allowed uses that would be unlikely to occur in the impact area because existing permanent uses occupy the site.

- (3) Determine the impact area. Local governments shall determine an impact area for each significant resource site. The impact area shall be drawn to include only the area in which allowed uses could adversely affect the identified resource. The impact area defines the geographic limits within which to conduct an ESEE analysis for the identified significant resource site.
- (4) Analyze the ESEE consequences. Local governments shall analyze the ESEE consequences that could result from decisions to allow, limit, or prohibit a conflicting use. The analysis may address each of the identified conflicting uses, or it may address a group of similar conflicting uses. A local government may conduct a single analysis for two or more resource sites that are within the same area or that are similarly situated and subject to the same zoning. The local government may establish a matrix of commonly occurring conflicting uses and apply the matrix to particular resource sites in order to facilitate the analysis. A local government may conduct a single analysis for a site containing more than one significant Goal 5 resource. The ESEE analysis must consider any applicable statewide goal or acknowledged plan requirements, including the requirements of Goal 5. The analyses of the ESEE consequences shall be adopted either as part of the plan or as a land use regulation.

Impact Area and Conflicting Uses

With respect to water resources, the Goal 5 ESEE impact area includes all tax lots with mapped significant water resources (SWI wetlands and riparian corridors) identified in the County's 2003 water resource inventory as shown on Figure 2. Conflicting uses and activities are identified in Section 2 Conflicting Uses. In 2003, the County did not identify impact areas outside of designated fish and wildlife maps and/or locational habitat descriptions found in CCCP Chapter XIV, Article VIII.

What Water Resource Program Options and Consequences Must the ESEE Consider?

The ESEE analysis must consider the ESEE consequences of three program amendment options:

1. **Full County Water Resource Protection:** Under this option, the County would continue to apply existing Riparian Corridor and Wetland overlays that prohibit transportation, drainage, and utilities within the water area portion of riparian corridors and within all wetland areas. The existing Riparian Corridor and Wetland overlays prohibit all conflicting development uses and activities within water areas and wetlands, except for transportation and drainage facilities and utilities allowed by OAR 660-023-0090(8) in the vegetated riparian area portion of riparian corridors.¹¹

¹¹ (8) As a safe harbor in lieu of following the ESEE process requirements of OAR 660-023-0040 and 660-023-0050, a local government may adopt an ordinance to protect a significant riparian corridor as follows:

(a) The ordinance shall prevent permanent alteration of the riparian area by grading or by the placement of structures or impervious surfaces, except for the following uses, provided they are designed and constructed to minimize intrusion into the riparian area: (A) Streets, roads, and paths; (B) Drainage facilities, utilities, and irrigation pumps; (C) Water-related and water-dependent uses; and (D) Replacement of existing structures with structures in the same location that do not disturb additional riparian surface area.

OAR 660-0023-0090(1) includes the following relevant definitions:

(a) "Fish habitat" means those areas upon which fish depend in order to meet their requirements for spawning, rearing, food supply, and migration.

Water-dependent/related uses are allowed within riparian corridors per OAR 660-023-0090(7). Although the riparian corridor safe harbor allows transportation and drainage facilities in riparian areas adjacent to water areas, these uses are not consistent with the full protection option. With the above exceptions, the existing Riparian Corridor and Wetlands overlays prohibit grading, structures, impervious surface areas, and vegetation removal related to residential, commercial and industrial uses and structures.

2. **Limited County Protection:** The limited water resource protection option includes County protection of significant wetlands in unincorporated urban growth areas, removal of SWI wetlands from the County's inventory, removal of the Wetlands overlay, and modification of the Riparian Corridor overlay to allow expansion of existing development – with mitigation – within riparian corridor boundaries. The County would continue to coordinate with state (DSL, ODA, ODF, ODFW and DEQ) and federal (Corps, NOAA, NfolwMPHs, USFW, and EPA) programs to protect wetlands outside of riparian corridors in most unincorporated areas of the County. The County would continue to protect wetlands and water areas within riparian setback areas as described below.
 - a. The County would continue to apply the “safe harbor” riparian setback based on average annual stream flow (75 feet for the Columbia River and 50 feet for all other fish-bearing lakes, rivers and streams, as determined by ODFW).
 - b. The revised Riparian Corridor Overlay would continue to protect native riparian vegetation and wetlands within the riparian corridor, except when there is no reasonable alternative for allowing a permitted use.
 - c. Rather than bumping out the riparian corridor to include “significant associated wetlands” (i.e., wetlands within or partially within the riparian corridor setback area), the riparian corridor setback would be based solely on the horizontal distance from the lake, river, or stream top-of-bank.
 - d. The limited protection option would require continued coordination with the cities of Scappoose, Rainier, Clatskanie, Vernonia, and St. Helens (which have water resource protection standards) to ensure that their water resource programs are effectively implemented as required by adopted urban growth management agreements (UGMA).
 - e. In addition to water-dependent/related, drainage and transportation uses (allowed by existing WR regulations) the revised Riparian Corridor Overlay would allow planned

(b) “Riparian area” is the area adjacent to a river, lake, or stream, consisting of the area of transition from an aquatic ecosystem to a terrestrial ecosystem.

(c) “Riparian corridor” is a Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary.

(d) “Riparian corridor boundary” is an imaginary line that is a certain distance upland from the top bank, for example, as specified in section (5) of this rule.

(e) “Stream” is a channel such as a river or creek that carries flowing surface water, including perennial streams and intermittent streams with defined channels, and excluding man-made irrigation and drainage channels.

(g) “Top of bank” shall have the same meaning as “bankfull stage” defined in OAR 141-085-0010(12).

(h) “Water area” is the area between the banks of a lake, pond, river, perennial or fish-bearing intermittent stream, excluding man-made farm ponds.

Wildlife habitat

transportation, drainage and public utilities within riparian corridors (both water areas and riparian setback areas) where there is no reasonable alternative.

f. The revised Riparian Corridor Overlay would continue to allow for riparian setback reductions of up to 50% with mitigation – to facilitate expansion of existing development and to reduce the risk of regulatory takings claims.

3. **No County Protection Option.** Under this option, the County would eliminate all local protection for significant wetlands outside of riparian corridors – and rely entirely on state (primarily DSL, ODA, ODF and DEQ) and federal (primarily Corps, NOAA, NYMPHs, USDA, USFW, and EPA) programs to protect wetlands and riparian corridors in all unincorporated areas of the County.

Table 3 on the following page compares the existing (2003) full WR protection with the proposed (2022) limited WR protection program.

Table 3. Existing and Proposed Water Resource Protection Program Elements

Resource Category	Existing County WR Program	Proposed County WR Program
Water Areas: Rivers, Streams, Wetlands and Lakes		
Fish-Bearing Riverine Wetlands (Rivers and Streams)	Full Protection for water area between tops-of-bank and related fish and wildlife habitat	Limited Protection for water area between tops-of-bank and related fish and wildlife habitat
Non-Fish Bearing Riverine Wetlands (Streams)	Full Protection for water area between tops-of-bank	No Protection for water area between tops-of-bank (other than DSL notification)
Associated Wetlands (within or partially within riparian corridor setback areas)	Full Protection for associated wetlands and related fish and wildlife habitat	Limited Protection for associated wetlands within stream or river riparian buffer area (see below) and related fish and wildlife habitat
Isolated Wetlands (not within or partially within riparian corridor setback areas)	Full Protection for isolated wetlands and related fish and wildlife habitat	No Protection for isolated wetlands (unless fish-bearing lakes or Natural Areas) and related fish and wildlife habitat
Fish-Bearing Lakes (usually are also wetlands)	Full Protection for water area of the lake itself + limited protection for 50' riparian setback area, including related fish and wildlife habitat	Limited Protection for lake itself and its 50' riparian buffer (see below) and related fish and wildlife habitat
Significant Natural Areas (two lakes/wetlands and one island owned by Nature Conservancy)	Limited protection for resource area and related fish and wildlife habitat	No change in program: limited protection for resource area and related fish and wildlife habitat
SWI and LWI Wetlands within City UGBs	Full Protection for all mapped SWI and LWI wetlands	Limited protection: Implement adopted city protection programs (per UGMA) for significant LWI wetlands within unincorporated urban areas
Riparian Corridors: River, Stream, and Lake Riparian Setback Areas (Buffers)		
Columbia River Riparian Buffer	Limited Protection – for 75' buffer measured from river top-of-bank or associated wetland edge – whichever is greater – including wetlands, native vegetation, related fish and wildlife habitat	Limited Protection – for 75' buffer measured from river top-of-bank – including wetlands, native vegetation, and related fish and wildlife habitat - greater flexibility for allowing expansion of existing development with mitigation with riparian setback area with mitigation

Resource Category	Existing County WR Program	Proposed County WR Program
Fish-Bearing Lakes, Other Fish-Bearing River and Stream Buffer	Limited Protection -- for 50' setback measured from top-of-bank or associated wetland edge -- whichever is greater (including native riparian vegetation, wetlands, related fish and wildlife habitat)	Limited Protection -- for 50' setback measured from river top-of-bank (including related riparian vegetation, wetlands, and fish and wildlife habitat) -- greater flexibility for allowing expansion of existing development within riparian setback areas with mitigation
Non-Fish Bearing Stream Buffer	Limited Protection -- for 25' setback measured from top-of-bank or associated wetland edge -- whichever is greater (including related fish and wildlife habitat)	No local protection other than DSL notification

Winterbrook 2022 GIS Analysis

In 2022, Winterbrook prepared GIS maps showing the approximate location and area of significant riparian corridor boundaries (including associated wetlands) and isolated wetlands to aid in the ESEE analysis. This quantitative information is useful because it describes where and to what extent uses allowed by applicable base zones will be impacted by the full local protection, limited local protection, and no local protection options that must be considered in the required ESEE analysis. GIS maps are also useful in assisting staff, property owners and the public when determining whether riparian corridors and wetlands exist on any given parcel, and in providing DSL notice when development in proposed on parcels with significant water resources.

Land Use Impact Resulting from the Existing Water Resource Protection Program

The County's existing WR overlays provide full protection to all significant wetlands and water areas, and a high level of limited protection for riparian areas adjacent to water areas (setbacks from the tops-of-bank of significant water areas).

Table 4. Significant and Protected Water Resources Acres and Base Zoning Categories

County Zoning Categories and Based Zones:	Significant and Protected Water Resource Acres	Percent of Total Significant and Protected Water Resources	Percent of Zoning Category with Significant and Protected Water Resources
County Commercial Base Zones (C-2, C-3, C-4, C-5, EC, RC)	97	0.2%	21%
County Industrial Zones (AI, CS-I, M-1, M-2, RIPD)	1,290	2.0%	38%
County Public Utility & Recreation Base Zones (CS-R, CS-U)	8,708	13.4%	81%

County Zoning Categories and Based Zones:	Significant and Protected Water Resource Acres	Percent of Total Significant and Protected Water Resources	Percent of Zoning Category with Significant and Protected Water Resources
County Base Residential Zones (MFR, MHR, R-10, RR-2, RR-5)	3,594	5.5%	13%
County Base Resource Zones (FA-80, PA-80, PF-80, SM)	51,085	78.4%	14%
Unincorporated Areas with none of the County zones listed above	386	0.6%	3%
TOTALS	65,159 acres	100%	15% of the Total County Land Area

Source: Winterbrook Planning GIS Analysis

The acreage figures shown in Table 4 are based on Winterbrook's GIS analysis of the water resources (wetland and riparian corridor) inventory adopted by Columbia County in 2003.

As shown on Table 4:

- Over three-quarters of the County's significant water resources (51,085 acres or 78%) are located on land designated for farm, forest, or surface mining uses. Farm and forest practices are subject to state and federal farm and forest regulations. However, non-farm and non-forest structures are subject to county Riparian Corridor and Wetland overlays. The County has already approved surface mining uses that conflict with significant wetlands or lakes in SM (surface mining) zone.
- About 13% (8,708 acres) of the County significant water resource area is zoned for public uses such as parks that typically are managed to preserve water resources. Thus, there are relatively few conflicts from allowed uses with water resource protection in these zones.
- Conflicting activities and land uses are of more concern in the County's industrial, commercial and residential zones:
 - The County's rural industrial land supply is heavily impacted by existing county Wetland and Riparian Corridor overlays. More than a third (38%) of the County's 3,395-acre industrial land supply is restricted by WR overlays.
 - The County's rural commercial and residential land supply is also significantly impacted by existing county WR overlays – but to a lesser extent. About a fifth (21 percent) of the County's commercial land supply is restricted by county overlays; and over a tenth (13 percent) of the County's residential land supply is so restricted.

Land Use Supply Impacts Resulting from the County's Proposed Limited Protection Program

The significant water resources area will change substantially as a result of the proposed limited protection WR program. SWI wetlands will no longer be deemed "significant" for Goal 5 purposes and will not be regulated outside of locally-defined riparian corridors and natural areas. However, the proposed limited protection program would rely on coordination with state and federal agencies (primarily DSL and the Corps) to regulate wetlands outside state-prescribed fish-bearing river, stream, and lake riparian corridors that would be protected by the revised Riparian Corridor Overlay.

A comparison of Tables 4 and 5 shows that the County-regulated land and water area would decrease from about 65,000 acres (Table 4) to 21,000 acres (Table 5). Rather than regulating 15% of the County's total land and water area under the existing program (all SWI wetlands and riparian corridors), the proposed program would regulate 5% of the County's land and water area (narrower riparian corridors).

As shown on Table 5, under the proposed limited protection program:

- Over two-thirds of the County's locally-protected water resources (14,567 acres or 71%) would be located on land designated for farm, forest, or surface mining use and subject to the revised Riparian Corridor Overlay. Farm and forest practices are subject state and federal farm and forest regulations; but structures on farm and forest land would be subject to county riparian corridor protection. Gravel ponds would not be subject to the revised Riparian Corridor Overlay.
- About 20% (4,158 acres) of the significant locally-protected water resource area is designated for county public utility and recreational uses, where there is limited development pressure and relatively few conflicts with water resource protection.

Table 5. Proposed Limited WR Program: Significant Water Resources Acres and Base Zoning Categories

County Zoning Categories and Zones outside City UGBs: ¹²	Protected Water Resource (Riparian Corridor) Acres	Percent of Protected Water Resources (Riparian Corridor) Acres	Percent of Zoning Category with Protected Riparian Corridors
County Commercial Zones (C-2, C-3, C-4, C-5, EC, RC)	55	0.25%	16%
County Industrial (AI, CS-I, M-1, M-2, RIPD)	391	2%	16%
County Public Utility & Recreation (CS-R, CS-U)	4,158	20%	39%
County Residential (MFR, MHR, R-10, RR-2, RR-5)	1,286	6%	5%
County Resource Lands (FA-80, PA-80, PF-80, SM)	14,567	71%	4%
No County Zone	154	0.75%	7%
TOTAL	20,612 acres	100%	5% of the total County Land Area

Source: Winterbrook Planning GIS Analysis

- The impact on the County's unincorporated industrial land supply would be reduced from 38% under the existing program to roughly 16% under the proposed limited protection program. Unlike the existing program, the proposed program would allow public utilities to be extended through riparian corridors to serve industrial land and would allow expansion of existing development with mitigation.
- The impact on the County's unincorporated commercial land supply would be reduced from 21% under the existing program to roughly 16% under the proposed limited protection program. Unlike the existing program, the proposed program would allow public utilities to be extended

¹² Adopted UGMAs (urban growth management agreements) between the County and its cities require that the County follow adopted city policies. Two cities (Scappoose and St. Helens) have water resources protection programs that are different from the County's existing and proposed programs; the remaining cities have no WR protection policies – other than DSL notification. Therefore, the County cannot apply the revised Riparian Corridor Overlay to unincorporated land within UGBs consistent with adopted UGMAs. The county is, however, obligated to implement city WR programs when development is proposed within city UGBs.

through riparian corridors to serve commercial land and would allow expansion of existing development with mitigation.

- The impact on the County’s unincorporated residential land supply would be reduced from 13% under the existing program to 5% under the proposed limited protection program. In almost all cases, the riparian corridors do not impact existing residential or accessory structures. Unlike the existing program, the proposed program would allow public utilities to be extended through riparian corridors to serve residential land and would allow expansion of existing development with mitigation.

Program Implications for Fish and Wildlife Habitat

Table 6 summarizes the County’s existing, limited fish and wildlife habitat protection program and the implications of proposed changes to the proposed WR protection program for fish and wildlife habitat. As noted in Table 6, the County has relied in part on the existing Riparian Corridor and Wetland Overlays (existing Sections 1170 and 1180) to protect significant fish and wildlife habitat. The environmental implications for the WR program changes are further addressed in Section 3.C Environmental Consequences of this report.

Table 6. Summary of Program Implications for Fish and Wildlife Habitat

Habitat Category	Existing Program	Proposed WR Program
A Big Game Habitat	<p><u>Primary Program</u> Agricultural and Forest Zone Restrictions Section 1190 Big Game Habitat Overlay ODFW Coordination</p> <p><u>Supplemental Program</u> None identified.</p>	<p>Wetland and Riparian Corridor overlays not identified as big game habitat protection measures in CCCP XVI Article VIII(A). In conclusion, no significant environmental impact with respect to big game habitat is likely to result from the proposed limited protection WR program.</p>
B Columbia White Tailed Deer Habitat	<p><u>Primary Program</u> Agricultural and Forest Zone Restrictions Section 1190 Big Game Habitat Overlay ODFW Coordination</p> <p><u>Supplemental Program</u> Existing Wetland and Riparian Corridor Overlays</p>	<p>Primary Columbia white-tailed deer program will not be affected by proposed changes. Wetland and Riparian Corridor overlays identified as supplemental protection measure for big game habitat protection in CCCP XVI Article VIII(B). However, DSL and Corps wetland protection programs must consider impacts on endangered species; therefore, state and federal wetlands programs combined with the revised Riparian Corridor Overlay will provide an adequate level of protection for Columbia white-tailed deer habitat. In conclusion, the proposed WR program changes could have a marginally adverse environmental impact on Columbia white-tailed deer habitat. These potentially adverse environmental impacts are outweighed by positive economic and social impacts resulting from the proposed changes to the WR protection program.</p>

Habitat Category	Existing Program	Proposed WR Program
C Fish Habitat	<p><u>Primary Program</u> State and Federal Programs</p> <p><u>Supplemental Program</u> Existing Wetland and Riparian Corridor Overlays Section 1185 Natural Areas Overlay</p>	<p>CCCP Chapter XVI, Article VIII(C) states that the County will rely on state and federal programs to protect fish habitat. This Article also identifies the existing Riparian Corridor and Wetland overlays as supporting local fish habitat protection measures.</p> <p>The County will continue to rely primarily on state and federal programs to protect fish habitat, especially endangered salmonid habitat. The revised Riparian Corridor Overlay will continue to protect all fish-bearing streams identified on ODF and ODFW maps – albeit with reduced riparian setbacks. The revised Riparian Corridor Overlay requires that allowed uses provide for fish passage – which is not required by the existing Riparian Corridor Overlay. The County will rely on DSL and the Corps to provide limited protection for SWI wetlands.</p> <p>In conclusion, the proposed WR program changes could have a marginally adverse environmental impact on fish habitat, although the local requirement to protect fish passage off-sets this potential adverse environmental impact. In any case, any potential adverse environmental impacts are outweighed by positive economic and social impacts resulting from the proposed changes to the WR protection program.</p>
D Furbearer Habitat	<p><u>Primary Program</u> Existing Wetland and Riparian Corridor Overlays</p> <p><u>Supplemental Program</u> Agricultural and Forest Zone Restrictions Section 1185 Natural Areas Overlay</p>	<p>CCCP Chapter XVI, Article VIII(D) distinguishes between aquatic furbearers (beaver, muskrat, mink, and otter) and terrestrial forms (skunk, fox, and bobcat) and identifies water areas as “important” habitat protected by existing Wetland and Riparian Corridor overlays.</p> <p>Therefore, the proposed WR program (which no longer protects SWI wetlands and protects a narrower riparian corridor, will provide a lower level of <i>local</i> protection for furbearer habitat area, with corresponding adverse environmental consequences. However, the ESEE analysis demonstrates that DSL’s wetland protection program combined with the revised Riparian Corridor Overlay provides an adequate level of protection for furbearer habitat.</p> <p>In conclusion, the proposed WR program changes could have a marginally adverse environmental impact on furbearer habitat. These potentially adverse environmental impacts are outweighed by positive economic and social impacts resulting from the proposed changes to the WR protection program.</p>
E Waterfowl Habitat	<p><u>Primary Program</u> State and Federal Programs</p> <p><u>Supplemental Program</u> Existing Wetland and Riparian Corridor Overlays Agricultural Zoning Restrictions</p>	<p>CCCP Chapter XVI, Article VIII(E) states that the County will rely on state and federal programs to protect waterfowl habitat. This Article also identifies the existing Riparian Corridor and Wetland overlays, Surface Mining Overlays, Agricultural zoning restrictions, and the Natural Area Overlay as supporting local waterfowl habitat protection measures.</p>

Habitat Category	Existing Program	Proposed WR Program
	Section 1185 Natural Area Overlay Section 1120 and 1130 Surface Mining	<p>The County will continue to rely primarily on state and federal programs to protect waterfowl habitat. The revised Riparian Corridor Overlay will continue to protect all fish-bearing streams identified on ODF and ODFW maps – including wetlands within riparian setback areas - albeit with reduced riparian setbacks. The County will rely on DSL and the Corps to provide limited protection for SWI wetlands.</p> <p>In conclusion, the proposed WR program changes could have a marginally adverse environmental impact on waterfowl habitat. These potentially adverse environmental impacts are outweighed by positive economic and social impacts resulting from the proposed changes to the WR protection program.</p>
F Non-game Habitat (Bald Eagles, Northern Spotted Owls, Great Blue Herons, others)	<p><u>Primary Program</u> Coordination with ODFW Cooperative Agreement between the Board of Forestry and the Oregon State Fish and Wildlife Commission and Required Forest Practices Act Coordination Section 1120 Sensitive Bird Habitat Overlay</p> <p><u>Supplemental Program</u> Existing Wetland and Riparian Corridor Overlays Agricultural and Forest Zoning Restrictions Section 1185 Natural Area Overlay</p>	<p>CCCP Chapter XVI, Article VIII(F) states that the County will rely primarily on ODFW coordination, a cooperative agreement between ODFW and Forestry Board, and the Sensitive Bird Habitat Overlay to protect bald eagle and northern spotted owl habitat. This Article also identifies the existing Riparian Corridor and Wetland overlays and existing Agricultural and Forest zoning restricts to further limit conflicting uses.</p> <p>The County will continue to rely primarily on the primary protection program outlined in Article VIII(F) to protect non-game habitat. The revised Riparian Corridor Overlay will continue to protect all fish-bearing streams identified on ODF and ODFW maps – some of which are associated with bald eagle and great blue heron nesting sites. The County will rely on DSL and the Corps to provide limited protection for SWI wetlands.</p> <p>In conclusion, the proposed program could have a marginally adverse environmental impact on non-game habitat. In any case, these potentially adverse environmental impacts are outweighed by positive economic and social impacts resulting from the proposed changes to the WR protection program.</p>
G Upland Game Habitat (band-tailed pigeons, blue grouse, ruffed grouse, mountain quail)	<p><u>Primary Program</u> Section 1120 Sensitive Bird Habitat Overlay</p> <p><u>Supplemental Program</u> Agricultural and Forest Land Restrictions</p>	<p>CCCP Chapter XVI, Article VIII(F) determined that upland game habitat is found in Agricultural, Forest and Rural Residential zones. However, this Article concludes that only mineral springs associated with band-tailed pigeon habitat should be protected by Section 1120 Sensitive Bird Habitat.</p> <p>In conclusion, no significant environmental impact with respect to upland game habitat is likely to result from the proposed limited protection WR program.</p>

Potential Adverse Environmental Impacts

As shown in Table 6, five of the seven wildlife habitat categories rely – at least in part – on the existing Riparian Corridor and Wetland overlays for protection. These two existing overlays provide full protection for SWI wetlands and limited protection for the riparian setback areas outside of protected water areas. The WR protection program will replace these two existing and overlapping overlay zones with a single revised Riparian Corridor Overlay Zone.

- The County has decided to remove SWI wetlands (except for those on city LWIs) from the County inventory of significant wetlands.
- The revised Riparian Corridor Overlay provides limited protection for riparian corridors (which require 50-foot riparian setbacks from the “ordinary high water line” for fish-bearing lakes, rivers and streams and a 75-foot riparian setback for the Columbia River).
- Wetlands and native riparian vegetation within the riparian corridor boundary are protected (but not “associated wetlands” that extend beyond the locally-defined riparian setback area).
- However, the County will continue to protect LWI wetlands consistent with city protection programs and wetlands in designated natural areas.

Therefore, it is reasonable to conclude that the revised WR program could have negative environmental consequences for fish and wildlife habitat where such habitat overlaps with “associated” SWI wetlands outside of and fish-bearing riparian corridors. However, as explained below, these potential adverse environmental impacts are:

- Mitigated by effective state and federal programs that provide limited protection for wetlands, water areas, and related fish and wildlife habitat.
- Outweighed by the adverse social and economic impacts that would result from implementation of the existing Riparian Corridor and Wetland overlays.

A. Economic Consequences

The following analysis considers the economic consequences of the County's full protection, limited protection, and no protection options. The ESEE analysis concludes that the proposed limited WR Program does a better job of balancing competing economic development and water resource protection objectives than the existing full WR protection program.

Full Water Resources Protection Option

As documented in Table 2 and in the discussion below, the full water resource protection option is implemented by the County's existing Riparian Corridor and Wetland overlays, which reduce the County's unincorporated industrial, commercial, and residential buildable land supply.¹³ By effectively prohibiting facilities that serve planned rural development to pass through riparian corridors, the full protection option substantially limits the efficient provision of public facilities and services. By restricting the ability of existing development to expand, the economic benefits resulting for increased employment and business expansion would be decreased.

2003 ESEE Analysis

In 2003, the County determined that all SWI wetlands and riparian corridors were significant for Goal 5 purposes – but understated the extent of potential conflicts with industrial, commercial, and residential land uses allowed by the underlying zoning district. As noted in CCCP Article X Water Resources:

Measures protecting wetlands could have a negative impact on the County if they stopped the development of income-generating land use activities. Not only could measures hinder property owners from reaping the benefits of their land, but potential tax revenue and employment opportunities could be lost to the community.

However, most of the wetlands located in the path of industrial, residential, or agricultural expansion have been filled, drained, and developed in years past. Remaining wetland characteristics in these areas are located along sloughs, rivers, and their associated riparian areas and will be protected under the Riparian Overlay Zone.

Landowners in Columbia County should not suffer severe economic hardship because of adopted regulations which protect wetland areas. Remaining wetlands are generally located in rural areas where little pressure exists for development.

However, this 2003 finding did not account for situations where existing, expanding, and new development allowed by the underlying zoning district is effectively precluded by the Wetland or Riparian Corridor overlays. Although many wetlands have been degraded over time, SWI wetlands cover substantial portions of the County's industrial, commercial and residential land supply. Because the wetland overlay not only "restricts" (as required by the Goal 5 wetland safe harbor) but *prohibits* all development on all SWI wetlands and water areas, these overlays substantially limit the County's

¹³ Although transportation and public facilities are allowed in WR riparian buffer areas, existing WR regulations do not permit transportation and public facilities or water related / water dependent uses in wetlands or water areas within riparian corridors. Because transportation and public facilities cannot pass through riparian corridors to serve planned industrial, commercial, and residential development, there is little practical difference between the "full protection option" and the County's existing WR program.

industrial, commercial, and residential land supply and substantially limit the County's ability to meet economic and housing development policies.

Industrial, Commercial, and Residential Land Supply Impacts¹⁴

The 2003 the County's ESEE Analysis downplayed the economic consequences of prohibiting development on:

- (a) 38% (about 1,290 acres) of the County's unincorporated industrial land supply that is subject to the Wetland and Riparian Corridor overlays;
- (b) 21% (about 97 acres) of the County's unincorporated commercial land supply that is subject to the Wetland and Riparian Corridor overlays; and
- (c) 13% (about 3,954 acres) of the County's unincorporated residential land supply that is subject to the Wetland and Riparian Corridor overlays.

Economic Development (Industrial and Commercial) Comprehensive Plan Policies

One great attraction of Columbia County is the availability of deep-water port sites along the Columbia River. The potential development of these sites is a great asset to the County. The suitability of three sites for major industrial expansion is discussed under industrial development.

The County has an important role in diversifying and improving the economy of the area, beyond the work accomplished by the OEDP committee. When private investors decide to spend private money in an activity which improves the local economy, the County can encourage that investment by having adequate land designated for industrial and commercial uses, and by assuring an adequate level of services will be able to be provided.

The County Board of Commissioners created the Port of St. Helens [now the Port of Columbia County] to be the body to further the economic development in the County. The Port has been an active leader in securing land and needed improvements for the expansion of the economy within their boundaries. The Port has played a leadership role in this venture and has given their support to the OEDP committee members, the cities, and the County.

1. Encourage the creation of new and continuous employment opportunities.
2. Encourage a stable and diversified economy.
3. Reflect the needs of the unemployed and of those persons who will enter the labor market in the future.
4. Place the County in the position of being able to respond to market opportunities by providing technical assistance in locating available sites for development.

County Finding: Full protection of 38 percent of the County's unincorporated industrial land supply would limit the County's ability to create new employment opportunities, limit the expansion of existing

¹⁴ Note that these county overlays apply to unincorporated industrial land within city UGBs as well as unincorporated communities identified in the CCCP.

industrial and commercial firms, increase potential unemployment, and reduce the County's ability to respond effectively to market opportunities, in contradiction to Policies 1-4.

1. *Encourage the activity of the community organizations which work for sound economic development.*

County Finding: Full protection of 38 percent of the unincorporated industrial land supply would frustrate the work of community organizations such as the Port and OEDP committee members to market land, attract new industrial development, and successfully increase job opportunities.

2. *Preserve prime maritime industrial sites from pre-emptive uses until needed for industrial uses.*

County Finding: Columbia County's primary industrial comparative advantage is the availability of vacant industrial land with access to deep water port facilities at Port Westward. As shown on Figure 3, substantial portions of vacant land on the Port Westward site are fully protected by the existing Wetland and Riparian Corridors overlays. The Wetland overlay prohibits the crossing of significant wetlands and sloughs to reach otherwise developable land at Port Westward.

Although DSL recently determined that wetlands on this NEXT site were not "significant" and therefore not subject to local water resource regulations, the County's existing full protection program has jeopardized approval of a recent biofuels industrial development proposal that depends upon access to deep water port facilities. According to the NEXT application, the NEXT facility will generate 3,500 short-term construction jobs and 140 long-term jobs in Columbia County. The proposed WR program would protect only the Columbia River and related slough riparian corridors and would allow transportation and public facilities to cross these corridors to serve permitted Port Westward development.



Figure 3 Protected Wetlands and Riparian Corridors on Port Westward Site

7. *Protect identified aggregate resources until they are extracted, and plan for the reclamation and future productive uses of those sites.*

County Finding: The SWI includes some ponds resulting from permitted mining on inventoried aggregate resource sites. Full protection of these ponds conflicts with permitted aggregate resource extraction, contrary to CCCP Policy 7 and OAR 660-023-0180 Mineral and Aggregate Resources. For example, the



Figure 5 Exception RIPD "A" showing Protected Riparian Corridors and Wetlands

10. Support improvements in local conditions in order to make the area attractive to private capital investment. Consideration of such factors as the following shall be undertaken:

- A. Tax incentives
- B. Land use controls and ordinances
- C. Capital improvements programming

County Finding: Columbia County has worked with the Port of Columbia County by seeking tax incentives, taking a Goal 3 exception to encourage industrial use, and adopting the RIPD (Resource Industrial - Planned Development) zone to implement industrial development policies to make industrial exceptions areas attractive to private capital. The NEXT Renewable Fuels proposal will generate more than \$45 million in annual tax revenue to Oregon and Columbia County. However, per existing wetland regulations, had DSL determined that on-site wetlands were significant, the existing Riparian Corridor and Wetlands overlays (which prohibit development in significant wetland areas) would have presented a major land use hurdle for the NEXT to overcome.

Residential Plan Policies

Columbia County currently has approximately 3,400 acres of unincorporated residentially-zoned land – including land within rural residential exception areas, rural communities and UGBs – where the existing Riparian Corridor and Wetland overlays apply.

Quoting from relevant policies found in the CCCP Part VI. Housing:

As the County population continues to increase, so will the demand for housing. One of the problems in trying to meet that need is that increased cost are pricing families out of the market.

POLICIES: It shall be a policy of the County to:

- 1. Encourage an adequate housing supply by providing adequate opportunity for the

development of new housing units and supporting the rehabilitation of the existing housing units when feasible.

2. Develop land use designations that provide for a wide range of housing units.

4. Encourage development which will provide a range of choices in housing type, densities, price, and rent ranges throughout the County.

6. Insure there is an adequate supply of zoned land available in areas accessible to employment and public services to provide a choice of type, location, density, and cost of housing units commensurate to the needs of County residents.

10. Assist all the appropriate organizations and individuals in their efforts to provide housing which meets the needs of the low income, elderly, and handicapped residents of the County, and to rehabilitate the existing housing stock.

County Finding: The full protection program (i.e., existing Riparian Corridor and Wetland overlays as applied to residentially-zoned land) would limit the supply of buildable residential land that could exacerbate already high housing development costs in Columbia County.

11. Allow the development of a permitted residential use on a lot of record under single ownership if it meets all the sanitation regulations and all other applicable County codes and ordinances.

County Finding: Columbia County is committed to providing rural housing opportunities on lots of record in rural residential exception areas. Figure 6 compares the impact of the existing Riparian Corridor and Wetland overlays (that protect non-fish-bearing streams and associated wetlands) with the proposed limited WR program on existing rural residential development (which protects only fish-bearing streams and county-determined riparian setbacks).

As shown in Figure 6, the existing Riparian Corridor overlay is wider and applies to both fish-bearing and non-fish-bearing streams that extend deep into the yards – and over some homes and accessory structures – in this existing rural residential development.



Figure 6 Impacts from Existing and Proposed WR Programs on Rural Residential Development (Oester Road between Scappoose and St. Helens)

In cases where the overlays cover parts of existing homes and accessory structures, these structures are nonconforming under existing county regulations. This nonconforming status can have serious adverse economic impacts on property owners who wish to expand existing structures or construct new ones on their property. Property values can be directly affected when property owners seek loans or want to sell their land, because lenders and title companies must recognize limitations imposed by zoning on property values. The inability of property owners to develop their land due to existing Riparian Corridor and Wetland overlay development prohibitions could significantly decrease the value of their land to potential purchasers or developers. Moreover, because the existing program does not allow extension of transportation facilities or public utilities through wetlands or water areas, the feasibility of extending public facilities to serve industrial, commercial, and residential areas would be called into question. Even if public utilities could be extended through protected water resource area, the public facilities construction costs would be increased substantially if the full protection program were had been implemented.

Public and Private Regulatory Costs

The 2003 ESEE analysis did not consider the County's costs to fund qualified planning staff with expertise related to the administration of local wetland and riparian corridor protection standards. For the last 19 years, the County has not been able to fund a single environmental planner capable of implementing the existing full protection program. Based on the proposed 2022-23 budget, it is estimated that it would take at least two full time environmental planners with the skills necessary to effectively implement the existing Riparian Corridor and Wetland overlays, at an average annual cost of about \$300,000 (including overhead). The County currently has five full-time planning staff who cannot keep up with current land use application reviews (not including the water resource application review load that would result if the County fully implemented the complex and overlapping Wetland and Riparian Corridor overlays). Additional public costs could include legal fees, hiring of experts, and administrative costs related to appeals of county land use decisions related to implementation of the existing full protection program.



Figure 7 Birkenfeld Rural Community - Area Protected by Existing and Proposed WR Programs

Figure 7 shows the area around the Birkenfeld Unincorporated Community restricted by the existing WR protection program. Because the large wetland northwest and adjacent to the community is partially

within a riparian corridor boundary, the “associated wetland” and has its own 50 feet riparian setback area. Thus, under the existing (2003) program, the restricted riparian corridor extends into the yards and partially covers structures within the rural community. The proposed WR program provides local protection for only the fish-bearing stream shown on the left side of the right-hand image.

The private costs of implementing the County’s existing Riparian Corridor and Wetlands overlay are also extremely high, as evidenced by the recent NEXT application and appeal process. If the proposed program were adopted, the applicant could have gone directly to DSL for review of wetland impacts, rather than going through the extensive local application review process to address wetland impacts. Although the BOCC ultimately approved the application, the private and public costs of preparing findings to support the application and defending this application approval on appeal are substantial.

Positive Economic Impacts of Full Local Protection

The County recognizes that functioning wetlands and riparian corridors provide many economic benefits that should be balanced when considering the appropriate level of local water resources protection. Table 7 summarizes recent academic studies that describe economic benefits that could result from wetland and riparian corridor protection.

In summary, riparian corridors provide valuable ecosystem services such as water filtration, flood control, and erosion mitigation, reducing infrastructure costs. Riparian corridors, especially diverse and high-quality riparian corridors, can increase property values for proximate homes.

Wetlands and riparian corridors are also a source of revenue from recreation (e.g., fishing, kayaking and hiking) and tourism. Tourism and recreational benefits from full wetland and riparian protection are linked to fish and wildlife habitat preservation, which has direct or indirect economic benefits to Columbia County businesses.

Although several of the case studies described below apply more to urban areas than to rural Columbia County, the County agrees that implementation of a full local protection program would preserve many of the economic benefits described in Table 7. Note that Table 7 identifies overlapping social and environmental benefits.

Table 7. Economic Benefits of Water Resource Protection

Topic	Key Findings	Citation
Property Values	Research in Tucson, AR suggests that homebuyers place value on proximity to riparian corridors, and particularly riparian corridors that have high habitat quality, aligning their interests with current riparian habitat restoration and preservation policies.	Bark, R. H., Osgood, D. E., Colby, B. G., Katz, G., & Stromberg, J. (2009). Habitat preservation and restoration: Do homebuyers have preferences for quality habitat? <i>Ecological Economics</i> , 68(5), 1465–1475. https://doi.org/10.1016/j.ecolecon.2008.10.005
Recreational Value	Authors estimated the value of wetlands-based recreation in the United States is approximately \$27 million (1990 dollars) in consumer surplus. This suggests that the economic impacts and benefits of wetlands is substantial.	Bergstrom, J. C., Stoll, J. R., Titre, J. P., & Wright, V. L. (1990). Economic value of wetlands-based recreation. <i>Ecological Economics</i> , 2(2), 129–147. https://doi.org/10.1016/0921-8009(90)90004-E
Recreational Value	Accepting that humans impact our landscapes, the author suggests that tourism and recreation can be used to secure protection and enhance important ecosystems. Tourism can benefit both local communities and local conservation efforts.	Burger, J. (2000). Landscapes, tourism, and conservation. <i>Science of The Total Environment</i> , 249(1), 39–49. https://doi.org/10.1016/S0048-9697(99)00509-4

Topic	Key Findings	Citation
Flood Mitigation Value	Flooding is the most common and damaging of all natural disasters, incurring high social and economic costs. A study of land in California finds areas that are both flood-prone and of high natural resource conservation value. The authors suggest that government programs to protect these areas could achieve social, economic, and environmental benefits.	Caill, J., Beck, M. W., Gleason, M., Merrifield, M., Klausmeyer, K., & Newkirk, S. (2015). Aligning Natural Resource Conservation and Flood Hazard Mitigation in California. <i>PLOS ONE</i> , 10(7), e0132651. https://doi.org/10.1371/journal.pone.0132651
Flood Mitigation, Ecosystem Services Costs	While riparian ecosystems are particularly vulnerable to climate change, they also have a critical role in ecosystem functioning and provide many ecosystem services including flood mitigation, water quality, erosion mitigation, and habitat. To conserve the benefits of riparian ecosystems, planners and policymakers should consider ways to bolster riparian ecosystem resilience.	Capon, S. J., Chambers, L. E., Mac Nally, R., Naiman, R. J., Davies, P., Marshall, N., Pittock, J., Reid, M., Capon, T., Douglas, M., Catford, J., Baldwin, D. S., Stewardson, M., Roberts, J., Parsons, M., & Williams, S. E. (2013). Riparian Ecosystems in the 21st Century: Hotspots for Climate Change Adaptation? <i>Ecosystems</i> , 16(3), 359–381. https://doi.org/10.1007/s10021-013-9656-1
Ecosystem Services, Property Values, Recreation Value	There are many studies that suggest economic benefits of protecting riparian zones. Americans have a high willingness to pay for water quality, there is evidence that environmental protections can substantially enhance property values, and numerous studies show the economic benefit of recreation and tourism in riparian areas.	Duffy, N. (n.d.). The Potential Economic Benefits of Riparian Buffers. 9.
Ecosystem Services, Recreation, Flood Mitigation Value	This article discusses the wide array of ecosystem services rivers and riparian ecosystems provide to human populations. These include fresh water supply, resources, recreation and tourism, power, flood control, water quality, aesthetic value, and fish and wildlife habitat.	Dufour, S., Rollet, A.-J., Oszward, J., & Arnauld De Sartre, X. (2010). <i>Ecosystem services, an opportunity to improve restoration practices in river corridors?</i> https://hal.archives-ouvertes.fr/hal-00587959
Ecosystem Services, Resource Value	The authors argue that the goals of managing riparian habitats and land use policies that emphasize economic values are not necessarily incompatible. When you holistically approach land management there may be options to maximize the ecological and economic benefits of riparian habitats that will improve multiple resource uses.	Everest, F. H., & Reeves, G. H. (2007). Riparian and aquatic habitats of the Pacific Northwest and southeast Alaska: ecology, management history, and potential management strategies. (PNW-GTR-692; p. PNW-GTR-692). U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. https://doi.org/10.2737/PNW-GTR-692
Ecosystem Services, Recreational Value	The authors argue the market has not sufficiently valued the benefits of riparian wetlands, resulting in inefficient conversion of wetlands to agricultural production. They used survey methods to determine willingness to pay for the recreation and the intrinsic values wetlands provide and suggest programs could be expanded to provide incentives for farmers to preserve wetlands, thus capturing the benefits from riparian corridors.	Lant, C. L., & Roberts, R. S. (1990). Greenbelts in the Cornbelt: Riparian Wetlands, Intrinsic Values, and Market Failure. <i>Environment and Planning A: Economy and Space</i> , 22(10), 1375–1388. https://doi.org/10.1068/a221375
Ecosystem Services Value	In a study of how to prioritize land use to optimize the value of ecosystem services to enhance ecosystem and human health, the authors found that the riparian land in urban areas had the highest estimated value of ecosystem services, \$7,312/hectare (~2.45 acres) in 2011 dollars.	Lee, J. A., Chon, J., & Ahn, C. (2014). Planning Landscape Corridors in Ecological Infrastructure Using Least-Cost Path Methods Based on the Value of Ecosystem Services. <i>Sustainability</i> , 6(11), 7564–7585. https://doi.org/10.3390/su6117564

Topic	Key Findings	Citation
Stormwater Management Costs	Stormwater runoff is a significant source of water pollution in the United States, low impact development practices have the potential to provide multiple ecosystem services that have direct and ancillary benefits.	Mazzotta, M. J., Besedin, E., & Speers, A. E. (2014). A Meta-Analysis of Hedonic Studies to Assess the Property Value Effects of Low Impact Development. <i>Resources</i> , 3(1), 31–61. https://doi.org/10.3390/resources3010031
Ecosystem Services, Flood Mitigation Value	Wetlands are sometimes described as the 'kidneys of the landscape' given their ability to remove extra wastes and fluids. They cleanse polluted water, protect shorelines, reduce flood impacts, and recharge aquifers.	Mitsch, W. J., Bernal, B., & Hernandez, M. E. (2015). Ecosystem services of wetlands. <i>International Journal of Biodiversity Science, Ecosystem Services & Management</i> , 11(1), 1–4. https://doi.org/10.1080/21513732.2015.1006250
Property Values	Using a hedonic price analysis, the author studies how the quantity and quality of riparian corridors effect the sale price of single-family residential properties in the Fanno Creek Watershed, in Portland, OR. They find property owners place a premium on lots with the highest ecological values (Riparian Class I) and a discount on lots with lower-valued habitat (Riparian Class II and III). Factors that increased a property's value included the percentage of a lot with a stream and the percentage of a lot with regionally significant resources.	Netusil, N. R. (2009). Economic Valuation of Riparian Corridors and Upland Wildlife Habitat in an Urban Watershed: Economic Valuation of Riparian Corridors. <i>Journal of Contemporary Water Research & Education</i> , 134(1), 39–45. https://doi.org/10.1111/j.1936-704X.2006.mp134001008.x
Water Quality Cost Reduction	Comparing a water treatment plant in Santa Monica to a 4,000 lineal foot riparian corridor in the area that provides similar water treatment services, the author finds that the cost to benefit ratio of each are similar, though the life span of the water treatment plant is expected to be less than the lifespan of the benefits of a protected riparian corridor.	Riley, A. L. (n.d.). Putting A Price On Riparian Corridors As Water Treatment Facilities.
Ecosystem Services, Flood Mitigation, Habitat, Recreation Value	This article aims to provide a broad overview of the main provisioning, regulating, and cultural ecosystem services riparian vegetation provides. Benefits include fuel provisioning, food, genetic material, water filtration, carbon sequestration, reduced pollution, erosion control, landslide buffering, flood protection, pollination, habitat, temperature control, fire regulation, recreation, and tourism. They suggest more research should be done on the sociocultural impacts of riparian vegetation.	Riis, T., Kelly-Quinn, M., Aguiar, F. C., Manolaki, P., Bruno, D., Bejarano, M. D., Clerici, N., Fernandes, M. R., Franco, J. C., Pettit, N., Portela, A. P., Tammeorg, O., Tammeorg, P., Rodriguez-González, P. M., & Dufour, S. (2020). Global Overview of Ecosystem Services Provided by Riparian Vegetation. <i>BioScience</i> , 70(6), 501–514. https://doi.org/10.1093/biosci/biaa041
Ecosystem Services, Health, Flood Mitigation Value	Wetlands provide many human population benefits, including disaster risk reduction. Wetlands can minimize the impacts of disasters by absorbing flood waters, reducing erosion, and reducing some of the stress and disease problems related to disasters. The authors suggest incorporating wetlands into community disaster response and recovery planning.	Sutton-Grier, A. E., & Sandifer, P. A. (2019). Conservation of Wetlands and Other Coastal Ecosystems: a Commentary on their Value to Protect Biodiversity, Reduce Disaster Impacts, and Promote Human Health and Well-Being. <i>Wetlands</i> , 39(6), 1295–1302. https://doi.org/10.1007/s13157-018-1039-0
Flood Mitigation Value	A review of existing research on flood risk management shows that conserving wetlands and implementing intentional development patterns are among key lessons to reducing flood risk and improving community resilience.	Tyler, J., Sadiq, A.-A., & Noonan, D. S. (2019). A review of the community flood risk management literature in the USA: lessons for improving community resilience to floods. <i>Natural Hazards</i> , 96(3), 1223–1248. https://doi.org/10.1007/s11069-019-03606-3

Topic	Key Findings	Citation
Flood Mitigation Cost Reduction	Estimates of the economic value of flood mitigation by the Otter Creek floodplains and wetlands to Middlebury, VT show that there was damage reduction of 54-78% across 10 flood events, amounting to an annual flood mitigation value of between \$126,000 and \$450,000.	Watson, K. B., Ricketts, T., Galford, G., Polasky, S., & O'Neil-Dunne, J. (2016). Quantifying flood mitigation services: The economic value of Otter Creek wetlands and floodplains to Middlebury, VT. <i>Ecological Economics</i> , 130, 16–24. https://doi.org/10.1016/j.ecolecon.2016.05.015
	The authors project an \$1.5 billion annual increase in monetary damages from flooding by 2100 due to climate change, assuming no change in the built environment or changes in property values.	Wobus, C., Lawson, M., Jones, R., Smith, J., & Martinich, J. (2014). Estimating monetary damages from flooding in the United States under a changing climate. <i>Journal of Flood Risk Management</i> , 7(3), 217–229. https://doi.org/10.1111/jfr3.12043

Again, the County recognizes that wetlands and riparian corridors have positive ecosystem, flood mitigation, fish and wildlife, and recreational economic impacts. The County also recognizes the positive aesthetic values and property value impacts that intact wetlands and riparian corridors provide. However, when it comes to wetland preservation and riparian corridor preservation, the County believes that most of the economic benefits described in Table 7 can, from the County's point of view, be more effectively and efficiently realized under the limited protection option as described below.

Limited Local Wetland and Riparian Corridor Protection

In contrast to the full WR protection program described above, the proposed limited WR protection program (as described in Table 2 above) would provide limited local protection for (a) water areas (lakes, rivers, and streams) and their respective riparian corridors (in concert with state and federal agencies), and (b) significant wetlands and streams identified in city LWIs.

The proposed width of the riparian setback would be same as the existing riparian setback width - but would not extend protect to "associated wetlands" outside the County-determined riparian corridor boundary – because SWI wetlands would no longer be "significant" for Goal 5 purposes. The allowed use list within riparian corridors (including water areas and riparian setback areas) would be expanded to include public utilities, transportation and drainage facilities, and water-dependent/related uses that currently are allowed only within riparian setback areas in the existing Riparian Corridor overlay. Expansion of existing uses within riparian corridors would be allowed subject to mitigation standards.

When compared with the existing full WR protection program, the proposed limited WR protection program would have fewer economic impacts because it would:

- Regulate about a quarter of the land area regulated by the existing WR protection program;
- Allow transportation and public utilities to cross water areas to serve developable land;
- Substantially reduce county and property owner regulatory costs when compared with the existing WR protection program.
- Reduce nonconforming development conditions (where a structure permitted by the underlying zone no longer complies with county zoning regulations due to its location in a WR overlay zone).
- Allow expansion of existing uses with riparian setback areas subject to mitigation standards.
- Continue to rely on state and federal agency programs to provide an additional or backup layer of protection for wetlands and riparian vegetation – and related fish and wildlife habitat.

- Have a marginal adverse impact on several categories of fish and wildlife habitat identified in Table 6 above; however, this potential adverse impact would be mitigated by state and federal programs related to endangered species, water quality, fish and wildlife habitat preservation, and wetland fill and removal.



Figure 8 Scappoose Creek - A Fish-Bearing Stream with Forested Riparian Buffer

The proposed WR program would apply in combination with state and federal programs to protect riparian corridor buffer areas. Figure 8 shows the South Scappoose Creek and adjacent riparian area. Note the economic value of providing local protecting the narrow cluster of trees that separates the top-of-bank from adjacent farm fields, in terms of erosion bank erosion, limiting stream channel migration, increased shading, and aesthetics.

State and Federal Wetland Protection Programs

From the County's point-of-view, DSL's wetland fill-removal program provides cost-effective protection for SWI wetlands (isolated, associated, and riverine wetlands) identified in the County's wetland inventory. Any in-water work required for transportation or public utility crossings, or water-dependent/related projects would require both DSL and Corps permits.

The DSL website www.oregon.gov/dsl/WW/Pages/Mitigation.aspx explains the functions and values associated with wetlands, lakes, and other waters:

Oregon's wetlands, streams and other waters provide important ecological and societal benefits, called functions and values. Some examples include habitat for fish and wildlife, water quality improvement, and retention of water to reduce flood damage.

State law requires the Department of State Lands (DSL) to regulate “waters of the state” to protect, conserve and provide for the best use of these aquatic resources. DSL uses a permit application process to document how a proposed project has reduced adverse effects to aquatic resources and how any unavoidable impacts have been offset by actions to replace the area, functions and values of the loss.

DSL requires that the edge of wetlands and the banks of lakes and streams (the “ordinary high water line”) of lakes and streams be delineated using methods approved by agency rules. The applicant for wetland fill-removal required for a proposed development must go through a sequenced mitigation process. The mitigation process first requires an explanation as to why the water resource cannot be avoided, followed by an evaluation of how impacts from proposed development on water resources can be minimized and a plan to repair or restore impacted areas after the project is complete, and finally a plan to compensate for (mitigate) unavoidable losses. Thus, unlike Columbia County, DSL has a cost-effective wetland protection program managed by trained wetland scientists.

In contrast to the full local protection program, the proposed revised Riparian Corridor Overlay would be relatively cost-effective to administer and would secure many of the economic benefits related to riparian corridor protection. There are a number of reasons why clear, objective, and reasonable county protection of riparian buffers makes good economic sense in Columbia County:

- Riparian buffers decrease erosion and water temperatures and improve fish habitat.
- Stream buffers are good for the recreation and commercial fishing economy.
- The reduced riparian buffers provide an objective but flexible means of retaining stream vegetation – and do not require high level of local expertise.
- Map corrections are encouraged if validated by local experts or through a DSL streambank (ordinary high water line) delineation process.
- Nonconforming status and buffer averaging provide needed flexibility.
- Almost all of the proposed riparian setback areas are also within the federally defined floodplain areas – which encourages construction in locations that are less likely to be located in areas that can be costly in terms of hazardous flood events and insurance.
- As documented above, building outside of locally-defined buffer areas will decrease the likelihood of running afoul of state and federal salmonid critical habitat area requirements.

Thus, the revised Riparian Corridor overlay would also provide greater certainty regarding the location of locally-defined riparian corridors and protection standards, without subjecting local property owners to a costly local wetland review process outside of riparian corridors.

Unlike the full protection program, the revised Riparian Corridor overlay would not substantially impact the back yards of existing homesites, and generally will not extend over existing homes and outbuildings and thus cause “non-conforming development.” As shown on Figure 7 Birkenfeld Rural Community, the proposed forested riparian corridor (limited to a fish-bearing stream) includes no homes or outbuildings. In this representative case, the positive ESEE values associated with forested riparian corridors are preserved without encroaching on maintained yards, gardens, or buildings. The riparian corridor (50 feet from the outer bank tops) is wide enough to limit costs associated with changes in streambank erosion and stream migration during flood events.

No Local Wetland and Riparian Corridor Protection

The no local protection option would not require DSL notification in a Riparian Corridor Overlay Zone and would rely entirely on state and federal agencies to protect wetlands and riparian corridors but would provide no local guidance as to where new construction can be placed in relation to the riparian setback areas of fish-bearing lakes, rivers and streams. Property owners would be subject to adverse economic consequences that could result from building too close to eroding stream banks or changing stream channels, and their neighbors' property values would be adversely affected by removing attractive riparian vegetation.

Economic Consequences Conclusion

On balance, the economic consequences of the limited WR protection program are positive when compared with the existing full protection WR program and a hypothetical no local protection program. The proposed WR program continues to protect significant natural areas and most fish and wildlife habitat, provides limited protection for locally-defined riparian corridors and related fish and wildlife habitat, and no local protection for wetlands other than DSL notification outside of riparian corridors.

The limited WR protection program could have marginal adverse impact on several categories of fish and wildlife habitat identified in Table 6 above. Because intact fish and wildlife habitat has positive economic consequences in terms of recreation and tourism, the limited WR protection program could have a marginally adverse economic impact. However, any potential adverse impacts would be mitigated by state and federal programs related to endangered species, water quality, fish and wildlife habitat preservation, and wetland fill and removal.

In any case, the County lacks the funds necessary to pay for the staff expertise necessary to (a) prepare a county-wide LWI that would be required if the County chose to continue to regulate rural wetlands, and (b) effectively regulate the 65,000 acres of water resources in wetlands and streams throughout the County. State and federal agencies are better equipped to review wetland impacts than county planning staff.

The proposed local WR protection program provides a reasonable regulatory approach by focusing on clear and objective local riparian setback standards, while relying on DSL notification and state and federal programs to manage wetland impacts outside of riparian corridors. The proposed WR program avoids the considerable adverse economic impacts on job creation that could result from implementation of the County's existing inflexible, full WR protection program.

B. Social Consequences

In this section, the social consequences of the full, limited and no local protection options are considered. In this section, the County addresses social impacts of unemployment, impacts on lower-income residents and workers, impacts on fish and wildlife habitat, and flood events.

Full Local Wetland and Riparian Corridor Protection

Social Impacts of Unemployment

The County's primary concern with the existing full protection program is that it limits planned economic growth and employment opportunities. The CCCP (page 66) expressly recognizes the decline in resource-based employment that has occurred in Columbia County over the last 47 years.

The County has long been aware of the forest products domination of the local economy. Approximately 55% of the County's employment is either directly or indirectly dependent on forest products industries. The County has recognized the need to diversify its economy and to reduce the unemployment rate. Since 1975, the unemployment rate has exceeded the federal and state levels.

As of April 2022, Columbia County's seasonally adjusted unemployment rate was 4.4%, the 11th highest among Oregon's 36 counties.

As documented in [Section A Economic Consequences](#), the County's economic development policies strongly emphasize the need to increase county job opportunities, especially in rural industrial exception areas such as Port Westward. Section A also provides persuasive evidence that the County's existing WR protection program has and could continue to adversely affect the supply of rural industrial and commercial land. The County's existing WR protection program also imposes regulatory obstacles to approval of job-producing rural industrial and commercial development applications.

It is widely recognized that unemployment contributes to a host of social problems. As documented in *Social Impacts of Unemployment* prepared by the Society for the Psychological Study of Social Impacts,¹⁵ unemployment contributes to a wide range of adverse psychological and social effects.

Psychological Effects of Unemployment and Underemployment Individual and family consequences. Job loss is associated with elevated rates of mental and physical health problems, increases in mortality rates, and detrimental changes in family relationships and in the psychological well-being of spouses and children. Compared to stably employed workers, those who have lost their jobs have significantly poorer mental health, lower life satisfaction, less marital or family satisfaction, and poorer subjective physical health (McKee-Ryan, Song, Wanberg, & Kinicki, 2005). A meta-analysis by Paul and Moser (2009) reinforces these findings – unemployment was associated with depression, anxiety, psychosomatic symptoms, low subjective well-being, and poor self-esteem. Unemployed workers were twice as likely as their employed counterparts to experience psychological problems (Paul & Moser, 2009). Unemployment can contribute to reduced life expectancy. In a longitudinal study in which

¹⁵ Deborah Belle and Heather E. Bullock, 2010.

the employment, earnings, and work histories of high-seniority male workers were tracked during the 1970s and 1980s, mortality rates in the year after job displacement were 50 to 100 percent higher than would otherwise have been expected. The effect on mortality risk declined sharply over time, but even 20 years after these men had lost jobs, elevated risk of death was found among those who had lost jobs earlier, in comparison to the stably employed (Sullivan & von Wachter, 2009). Even after controlling for baseline health and other demographic characteristics, unemployed workers report significantly poorer health and more depressive symptoms than those who remain stably employed (Burgard, Brand, & House, 2007). Low paying jobs typically offer minimal opportunities to utilize one's skills and come with a host of negative outcomes (McKee-Ryan et al., 2005). Underemployment is associated with decreased self-esteem, increased alcohol use, and elevated rates of depression, as well as low birthweight among babies born to underemployed women (Dooley & Prause, 2004).

The stress of unemployment can lead to declines in the well-being of spouses (Rook, Dooley, & Catalano, 1991) and to changes in family relationships and in outcomes for children. Research dating back to the Great Depression found that men who experienced substantial financial loss became more irritable, tense, and explosive. Children often suffered as these fathers became more punitive and arbitrary in their parenting. Such paternal behavior, in turn, predicted temper tantrums, irritability, and negativism in children, especially boys, and moodiness, hypersensitivity, feelings of inadequacy and lowered aspirations in adolescent girls (Elder, 1974; Elder, Caspi, & Nguyen, 1986). Subsequent studies have continued to find such a pathway from economic loss to father's behavior to child's well-being (e.g., Galambos & Silbereisen, 1987). Elevated depressive symptomatology has also been found among unemployed single mothers, and mothers who were more depressed more frequently punished their adolescent children (McLoyd et al., 1994). Frequently punished adolescent children, in turn, experienced increased distress and increased depressive symptoms of their own. Unemployment may even impact decisions about marriage and divorce. Unemployed or poor men are less likely to marry and more likely to divorce than men who are employed or who are more economically secure (McLoyd, 1990).

Community effects. *The impact of unemployment extends beyond individuals and families to communities and neighborhoods. High unemployment and poverty go hand in hand, and the characteristics of poor neighborhoods amplify the impact of unemployment (Wilson, 1996). Inadequate and low-quality housing, underfunded schools, few recreational activities, restricted access to services and public transportation, limited opportunities for employment – all characteristics of poor neighborhoods – contribute to the social, economic, and political exclusion of individuals and communities, making it more difficult for people to return to work. In a six country study, increased risk of mortality was associated with higher neighborhood unemployment rates (van Lenthe, Borrell, Costa, Diez, Roux, Kauppinen, et al., 2005). Unemployed workers also report less neighborhood belonging than their employed counterparts, a finding with implications for neighborhood safety and community well-being (Steward, Makwarimba, Reutter, Veenstra, Raphael, & Love, 2009).*

Occupational networks are also impacted. Coworkers who have not lost their jobs may suffer from anxiety that they, too, will soon be fired, and from a heavier work load, as they must now take on the work once done by their former colleagues. Those who retain their jobs in the midst of downsizing may experience comparable physical and emotional effects to workers who lose their jobs (Kivimaki, Vahtera, Elovainio, Pentti, & Virtanen, 2003).

An Urban Institute study entitled *Consequences of Long-Term Unemployment*¹⁶ also has examined social problems associated with unemployment:

*Being out of work for six months or more is associated with lower well-being among the long-term unemployed, their families, and their communities. Each week out of work means more lost income. The long-term unemployed also tend to earn less once they find new jobs. They tend to be in poorer health and have children with worse academic performance than similar workers who avoided unemployment. Communities with a higher share of long-term unemployed workers also tend to have higher rates of crime and violence. * * **

Long-term unemployment can plausibly affect individuals, families, and communities in direct ways. When individuals are out of work, their skills may erode through lack of use. That erosion or "depreciation of human capital" increases as time passes, meaning that the potential wages the unemployed can earn on finding a new job and even the chances of finding a new job decrease the longer they are out of work. Similarly, being out of work may reduce a worker's "social capital"—the network of business contacts that make finding new and good jobs easier. Social capital may decrease with longer unemployment duration because social circles defined by work contact can decay when work contact ceases, or because being out of work is increasingly stigmatizing the longer a person cannot find new employment. That erosion of social capital means that the longer a worker is unemployed, the less likely he or she is to find a new job. In addition, the stress of being out of work can influence an individual's physical and mental health, family dynamics, and the well-being of his or her children. Involuntary job loss is a stressful event, creating a variety of problems immediately, and long periods of unemployment can compound those problems.

Long-term unemployment can also influence outcomes indirectly. While a worker is unemployed, that worker's family income falls due to the lack of earnings, and that loss of income (which becomes larger as unemployment is longer) can affect the worker and the worker's household. The loss of income can reduce the quantity and quality of goods and services the worker's family can purchase. Further, dealing with the loss of income can exacerbate stress. To the extent that the negative consequences of long-term unemployment have an effect through the loss of income, tax and transfer programs can help mitigate those consequences. Finally, if many workers in the same geographic area are experiencing long-term unemployment, their communities could suffer because of an increase in demand for public services and a decrease in the tax base used to fund those services. Declines in community services, such as increased class sizes in public schools or

¹⁶ Austin Nichols, Josh Mitchell and Stephan Lindner, 2013.

*fewer public safety workers, can also feed back on individuals and families. * * **
*Sullivan and von Wachter (2009) find that the mortality consequences of displacement are severe, with a 50 to 100 percent increase in death rates the year following displacement and 10 to 15 percent increases in death rates for the next 20 years. For a 40-year-old worker, that implies a decline in life expectancy of a year to a year and a half. Long-term joblessness results in higher mortality, but voluntary and involuntary separations seem to have similar impacts on mortality (Couch et al. 2013). The mechanism for these mortality increases is unclear but could be related to income loss, increases in risky health behavior (Browning and Heinesen 2012), and losses of health insurance coverage (Olson 1992). ** **
The extensive evidence on far-reaching negative consequences of job loss is clear: Loss of a job can lead to losses of income in the short run, permanently lower wages, and result in worse mental and physical health and higher mortality rates. Further, parental job loss hampers children's educational progress and lowers their future earnings.

These observations are reinforced by an Australian study evaluating *The Social Consequences of Unemployment*.¹⁷ Like Columbia County, Australia's economy has historically and currently relies on resource-based jobs such as agriculture, forestry, mining.

***Overall social consequences.** The personal and social costs of unemployment include severe financial hardship and poverty, debt, homelessness and housing stress, family tensions and breakdown, boredom, alienation, shame and stigma, increased social isolation, crime, erosion of confidence and self-esteem, the atrophying of work skills and ill-health. Most of these increase with the duration of unemployment (Dixon 1992; EPAC 1992; Cass 1988; White 1991; Victorian Social Justice Consultative Council (VSJCC) 1992). Unemployed people report that being unemployed is one of the worst things that can happen to them (White 1991). In addition, unemployment falls disproportionately on already disadvantaged groups in society, for example, lower income earners, recently arrived migrants and indigenous Australians. The Brotherhood of St Laurence's Life chances study (Gilley 1993) found that compared with families who had an employed parent, more mothers in families in which there was no parent employed reported: serious health problems of young children, serious problems for themselves, serious disagreements with the partner, and serious financial problems and serious problems with housing. 'A drastic effect financially. It creates disturbances, causes stress. We feel hopeless.' (mother's comment, Gilley 1993, p. 85)*

***Poverty and hardship.** Unemployment is the major reason for poverty in Australia today. King (1998) finds that unemployed people in Australia had the highest rate of poverty with almost 70 per cent of unemployed people having incomes below the Henderson after Housing Poverty Line in 1996. The Victorian Social Justice Consultative Council (1992) has documented the rapidity with which unemployed people experience hardship and a decline in their standard of housing, diet, clothing and health care.*

¹⁷ Allison McClelland and Fiona Macdonald, Business Council of Australia, 1998.

Unemployment and health. Australian and overseas studies have unequivocally demonstrated a strong relationship between unemployment and health (National Health Strategy 1992; Smith 1987). This occurs for some specific causes of death (such as diabetes, pneumonia, influenza and bronchitis) as well as for a number of specific chronic illnesses (National Health Strategy 1992). Unemployment has been shown to cause certain forms of mental illness, such as depression (Smith 1987).

Long-term harm for children and young people. In 1997 702,800 children or 17.9 per cent of children under 15 years of age were in families with no parent in paid employment (ABS 1997). This is not only immediately distressing for the children's lives but is also likely to have long term consequences for their educational, employment and social futures. People with low education and skills are more likely to be unemployed or to have low wages (The World Bank 1993), and work by Williams and others (1993) indicates that school completion is lower for young people with parents who have low education and an unskilled occupational background (and thus who are more likely to be unemployed). The Australian Institute of Family Studies found that adolescents with lower levels of well-being (such as health and sociability) have fathers or both parents with no paid work (Weston 1993). Family stress arising from poverty and unemployment has been found to be associated with children's behavioural problems and with their adjustment over time (Shaw et al. 1994). Unemployment is also contributing to substantial alienation of a large number of teenagers and young adults.

Social division. There is increasing division between those families with children with both parents in the paid work force and those with no parents with paid work. The wives of unemployed men have much higher rates of joblessness than wives of employed men. Female sole parents also have high rates of joblessness (McClelland 1994). Unemployment may also contribute to greater divisions according to where people live. McDonald (1995) highlighted the higher rates of unemployment experienced by those in living in older industrial areas such as north-west Melbourne and mid-west Sydney. Gregory and Hunter (1995) found that there had been little or no employment growth for people living in low socioeconomic areas between 1976 to 1991 in contrast with the better experience of people living in higher socioeconomic areas.

Unemployment and retirement. The problems of long term unemployment amongst older people could lead to a resurgence in aged poverty in Australia in coming decades. High levels of long-term unemployment alongside lower declining levels of labour force participation of older men may prevent the possibility for important asset accumulation (such as paying off the family home prior to retirement). Home ownership has been a very important factor in containing aged poverty in Australia in the past. In addition, income inequality amongst older people could well increase with some, as a result of long term unemployment and joblessness, entering old age with very little and others having a substantial accumulation of superannuation and other assets.

The County is not, of course, suggesting that the existing WR program is responsible for all of the psychological and social effects related to unemployment. Rather, the County has provided substantial evidence that the existing WR protection program decreases the likelihood that the County will be

successful in permitting and attracting job-producing development and the social benefits these jobs provide.

Social Equity Considerations

For the County's point-of-view, the existing WR program disproportionately impacts less affluent county property owners who often lack the resources to respond to three layers of wetland and riparian corridor regulations. Unlike, for example, a large corporation or well-funded developers, the average property owner cannot afford the environmental and land use expertise necessary to address local regulatory standards – as well as DSL and Corps wetland protection programs. Thus, from a social equity perspective, the full WR protection program puts less affluent property owners in the position of either ignoring adopted local WR regulations or abandoning desired home and business development projects.

Industrial development placed near rural residential areas could adversely affect livability due to increased noise, odors, glare and air quality impacts. However, unlike most urban areas, the County's rural industrial exception areas generally are separated from residential areas and thus, in most cases, will have relatively low impact on rural residential livability. Like urban industrial firms, rural industrial firms must meet state and federal environmental and health and air quality regulations, which provide a reasonable level of mitigation. On balance, the County believes that adverse county-wide unemployment impacts resulting from the full WR protection program have more severe social impacts than the localized nuisance impacts that could result from approval of industrial development in the vicinity of rural residential development.

Another important social equity consideration is access to water resources and fish and wildlife habitat. The full protection option would ensure local protection of such resources, which are often located within and adjacent to cities and rural employment and residential areas.

Governance Considerations

Columbia County administers a wide range of social, economic and environmental programs on a limited budget. When the County invests social and political capital program on a regulatory program, it depends on public support for the program and efficient and consistent program implementation. When the County adopted the existing WR protection program in 2003, it did so based on an ESEE analysis that downplayed the extent and impacts of the Riparian Corridor and Wetlands overlays on development opportunities supported by most county residents and businesses. Because staff recognized the lack of public support for the on-the-ground effects of the adopted protection program, the 2003 WR program has not been systematically implemented since its adoption. The disconnect between the 2003 WR program and the County's economic development policies became obvious during the public review process for the NEXT biofuels development proposal. Thus, the existing WR program undermines the public's support for the County's adopted WR program and confidence in the County's fair and effective administration of this program.

Natural Hazards Considerations

Riparian corridors are closely associated with flood hazards. The existing WR program would restrict industrial, commercial and residential development opportunities in all SWI wetlands and wide riparian corridors that generally overlap with the 100-year floodplain. Thus, the full protection program reduces flooding risks on a countywide basis which has social benefits. On the other hand, the County has an effective flood management program which provides a high level of flood hazard protection.

Social Benefits of the Full Protection Program

Table 8 summarizes recent academic studies related to the social benefits of intact wetland and riparian corridors. Note that many of the same studies identify economic and environmental benefits as well.

The County recognizes that there are documented social benefits associated with the preservation of wetlands and riparian corridors and associated fish and wildlife habitat. People value wetlands and riparian corridors for their aesthetic, recreational, fish and wildlife habitat, and ecosystem service benefits. Homeowners place a premium on land that is proximate to riparian corridors, demonstrating willingness to pay for these social benefits. Intact wetlands and riparian corridor can reduce flooding impacts that contribute to stress. People report mental health benefits associated with interacting with water features and associated nature.

Table 8. Social Benefits of Water Resource Protection

Topic	Key Findings	Citation
Property Values	Research in Tucson, AZ suggests that homebuyers place value on not only on proximity to riparian corridors, but particularly riparian corridors that have high habitat quality, aligning their interests with current riparian habitat restoration and preservation policies.	Bark, R. H., Osgood, D. E., Colby, B. G., Katz, G., & Stromberg, J. (2009). Habitat preservation and restoration: Do homebuyers have preferences for quality habitat? <i>Ecological Economics</i> , 68(5), 1465–1475. https://doi.org/10.1016/j.ecolecon.2008.10.005
Recreation	Authors estimated value of wetlands-based recreation (including access to fish and wildlife habitat) in the United States is approximately \$27 million (1990 dollars) in consumer surplus. This suggests that the social impacts and benefits of wetlands is substantial.	Bergstrom, J. C., Stoll, J. R., Titre, J. P., & Wright, V. L. (1990). Economic value of wetlands-based recreation. <i>Ecological Economics</i> , 2(2), 129–147. https://doi.org/10.1016/0921-8009(90)90004-E
Recreation	Accepting that humans impact our landscapes, the author suggests that tourism and recreation can be used to secure protection and enhancement of important ecosystems. Tourism can benefit both local communities and local conservation efforts.	Burger, J. (2000). Landscapes, tourism, and conservation. <i>Science of The Total Environment</i> , 249(1), 39–49. https://doi.org/10.1016/S0048-9697(99)00509-4
Flood Mitigation	Flooding is the most common and damaging of all natural disasters, incurring high social and economic costs. A study of land in California finds areas that are both flood-prone and of natural resource conservation value. The authors suggest that government programs to protect these areas could have social benefits.	Calil, J., Beck, M. W., Gleason, M., Merrifield, M., Klausmeyer, K., & Newkirk, S. (2015). Aligning Natural Resource Conservation and Flood Hazard Mitigation in California. <i>PLOS ONE</i> , 10(7), e0132651. https://doi.org/10.1371/journal.pone.0132651

Topic	Key Findings	Citation
Flood Mitigation, Ecosystem services	While riparian ecosystems are particularly vulnerable to climate change, they also have a critical role in ecosystem functioning and provide many ecosystem services, including flood mitigation, water quality, erosion mitigation, and fish and wildlife habitat. To conserve the social benefits of riparian ecosystems, planners and policymakers should consider ways to bolster riparian ecosystem resilience.	Capon, S. J., Chambers, L. E., Mac Nally, R., Naiman, R. J., Davies, P., Marshall, N., Pittcock, J., Reid, M., Capon, T., Douglas, M., Catford, J., Baldwin, D. S., Stewardson, M., Roberts, J., Parsons, M., & Williams, S. E. (2013). Riparian Ecosystems in the 21st Century: Hotspots for Climate Change Adaptation? <i>Ecosystems</i> , 16(3), 359-381. https://doi.org/10.1007/s10021-013-9656-1
Health	There have been many studies on the psychological effects of green space (vegetated areas), this study details the benefits of blue space (water areas) on mental health and well-being. Respondents reported social and psychological benefits associated with visiting blue space.	De Bell, S., Graham, H., Jarvis, S., & White, P. (2017). The importance of nature in mediating social and psychological benefits associated with visits to freshwater blue space. <i>Landscape and Urban Planning</i> , 167, 118-127. https://doi.org/10.1016/j.landurbplan.2017.06.003
Ecosystem Services, Recreation, Flood Mitigation	This article discusses the wide array of ecosystem services rivers and riparian ecosystems provide to human populations. These include fresh water supply, resources, recreation and tourism, power, flood control, water quality, aesthetic value, and fish and wildlife habitat.	Dufour, S., Rollet, A.-J., Oszwald, J., & Arnaud De Sartre, X. (2010). <i>Ecosystem services, an opportunity to improve restoration practices in river corridors?</i> https://hal.archives-ouvertes.fr/hal-00587959
Health	A systematic literature review of the mental health benefits of green and blue spaces found that evidence was inadequate for the causal relationship of mental health to blue spaces due to the limited number of studies. There were only three studies that evaluated the mental health benefits of blue spaces.	Gascon, M., Triguero-Mas, M., Martínez, D., Dadvand, P., Forn, J., Plasencia, A., & Nieuwenhuijsen, M. J. (2015). Mental Health Benefits of Long-Term Exposure to Residential Green and Blue Spaces: A Systematic Review. <i>International Journal of Environmental Research and Public Health</i> , 12(4), 4354-4379. https://doi.org/10.3390/ijerph120404354
Ecosystem Services, Flood Mitigation	Wetlands are sometimes described as the 'kidneys of the landscape' given their ability to remove extra wastes and fluids. They cleanse polluted water, protect shorelines, reduce flood impacts, and recharge aquifers – all of which provide social benefits.	Mitsch, W. J., Bernal, B., & Hernandez, M. E. (2015). Ecosystem services of wetlands. <i>International Journal of Biodiversity Science, Ecosystem Services & Management</i> , 11(1), 1-4. https://doi.org/10.1080/21513732.2015.1006250
Ecosystem Services, Flood Mitigation, Habitat, Recreation	This article aims to provide a broad overview of the main provisioning, regulating, and cultural ecosystem services riparian vegetation provides. Benefits include fuel provisioning, food, genetic material, water filtration, carbon sequestration, reduced-pollution, erosion control, landslide buffering, flood protection, pollination, fish and wildlife habitat, temperature control, fire regulation, recreation, and tourism. They suggest more research should be done on the sociocultural impacts of riparian vegetation.	Riis, T., Kelly-Quinn, M., Aguiar, F. C., Manolaki, P., Bruno, D., Bejarano, M. D., Clerici, N., Fernandes, M. R., Franco, J. C., Pettit, N., Portela, A. P., Tammeorg, O., Tammeorg, P., Rodríguez-González, P. M., & Dufour, S. (2020). Global Overview of Ecosystem Services Provided by Riparian Vegetation. <i>BioScience</i> , 70(6), 501-514. https://doi.org/10.1093/biosci/biaa041

Topic	Key Findings	Citation
Ecosystem Services, Health, Flood Mitigation	Wetlands provide many human population benefits, including disaster risk reduction. Wetlands can minimize the impacts of disasters by absorbing flood waters, reducing erosion, and reducing some of the stress and disease problems related to disasters. The authors suggest incorporating wetlands into community disaster response and recovery planning.	Sutton-Grier, A. E., & Sandifer, P. A. (2019). Conservation of Wetlands and Other Coastal Ecosystems: a Commentary on their Value to Protect Biodiversity, Reduce Disaster Impacts, and Promote Human Health and Well-Being. <i>Wetlands</i> , 39(6), 1295-1302. https://doi.org/10.1007/s13157-018-1039-0
Flood Mitigation	A review of existing research on flood risk management shows that conserving wetlands and implementing intentional development patterns are key lessons to reduce flood risk and improve community resilience.	Tyler, J., Sadiq, A.-A., & Noonan, D. S. (2019). A review of the community flood risk management literature in the USA: lessons for improving community resilience to floods. <i>Natural Hazards</i> , 96(3), 1223-1248. https://doi.org/10.1007/s11069-019-03606-3

The County recognizes the social benefits of water resource preservation described in Table 8. The County believes that most of these benefits can be realized through effective implementation of the proposed limited WR protection program, in coordination with state and federal partners.

Limited Local Wetland and Riparian Corridor Protection

In contrast to the existing full WR protection program, the proposed limited WR protection program (as described in Table 2 above), would (a) rely on DSL notification and state and federal agency (including the Corps) to protect the functions and values of wetlands outside of riparian corridors (including fish and wildlife habitat), and (b) provide limited local protection for water areas (lakes, rivers, and streams) and their respective riparian corridors (including related fish and wildlife habitat).

There are several reasons why clear, objective, and reasonable county protection of riparian buffers has positive social impacts when thoughtfully applied in Columbia County:

- Riparian buffers decrease the adverse social impacts that could result from bank erosion and channel migration.
- Stream buffers provide social benefits related to a healthy recreational and commercial fishing economy.
- The reduced riparian buffers provide an objective but flexible means of retaining stream vegetation – which are less likely to adversely impact lower-income residents who lack the means to pay for high local regulatory costs that would result from implementation of the full protection option.
- Since riparian buffers are less likely to extend over homes and accessory structures, rural residential property owners would be less likely to be subject inequitable financial costs related to nonconforming use status.
- Riparian corridors provide aesthetic benefits for county residents and visitors.
- Almost all the proposed riparian setback areas are also within the federally defined floodplain areas; riparian corridor buffers discourage construction in hazardous floodplains.

- Intact riparian corridors provide habitat for a variety of fish and wildlife categories in Columbia County: white-tailed deer, fish including endangered salmonid species, furbearing animals, waterfowl, eagles and great blue heron, and many non-game species.

Social Impacts of Unemployment Reduced in Proposed Limited WR Program Option

By increasing the effective supply of buildable industrial and commercial land, and by streamlining the local WR review process, the limited protection program is more likely to result in approval of development applications that increase rural employment opportunities in Columbia County. By increasing job opportunities, the County will be taking a major step towards decreasing the adverse social impacts of unemployment. These adverse social impacts are documented in detail in the evaluation of the existing full protection program.

Social Equity Considerations Addressed in Proposed Limited WR Program Option

The limited protection program combines removes the Wetland overlay and revises the Riparian Corridor to allow expansion of existing development with mitigation. To meet county riparian corridor standards, the applicant needs only to identify the top-of-bank and build outside the 50 to 75-foot riparian corridor. If there is any doubt regarding the location of the bank top, a competent surveyor or wetland scientist can perform this function. The revised Riparian Corridor Overlay has provisions for variances and buffer averaging based on site conditions.

Thus, the proposed WR program will not disproportionately impact less affluent county property owners who lack the resources to respond to three layers of wetland and riparian corridor regulations. From a social equity perspective, the limited WR protection program provides a clearer and more objective process for ensuring that new construction avoids riparian buffers which reduce the likelihood of streambank erosion and related problems. County residents and their neighbors will benefit from a clear and objective process that does not substantially limit the location and design of residential or business development projects.

The County also considered the potential livability impacts of industrial development placed near developed rural residential areas related to noise, odors, glare and air quality. However, unlike most urban areas, the County's rural industrial exception areas are not located near existing residential areas and thus will have relatively low impact on rural residences. These nuisance impacts are also subject to state and federal health, noise, and air quality regulations, which limit potentially adverse social impacts. Like urban industrial firms, rural industrial firms must meet state and federal environmental and health regulations.

The proposed WR protection program will rely on an integrated combination of local, state and federal water resource and fish and wildlife programs and will continue to protect state-prescribed riparian corridors and related fish and wildlife habitat that is accessible to most Columbia County residents.

Governance Considerations Addressed in Proposed Limited WR Program Option

Columbia County administers a wide range of social, economic and environmental programs on a limited budget. When the County invests social and political capital program on a regulatory program, it depends on public support for the program and efficient and consistent program implementation. When the County adopted the existing WR protection program in 2003, it did so based on an ESEE analysis that downplayed the extent and impacts of the Riparian Corridor and Wetlands overlays on development opportunities supported by most county residents and businesses. Because staff recognized the lack of

public support for the on-the-ground effects of the adopted protection program, the 2003 WR program has not been systematically implemented since its adoption. The disconnect between the 2003 WR program and the County's economic development policies became obvious during the public review process for the NEXT biofuels development proposal. Thus, the existing WR program undermines the public's support for the County's adopted WR program and confidence in the County's fair and effective administration of this program.

To address these governance issues, the proposed limited WR protection program has clearly defined objectives, is based on clear and objective standards, and can be administered without a high level of biological or ecological expertise. Unlike the 2003 full WR protection program, the proposed 2022 limited protection program is based on an honest and thorough appraisal of the ESEE consequences of alternative WR programs.

Social Benefits of Limited Protection Program Related to Flood Hazards

The proposed WR program proposes 50-foot riparian buffers (above the top-of-bank) for fish bearing lakes, rivers and streams and a 75-foot riparian buffer for the Columbia River.

- Generally, larger rivers have broad floodplains. Based on in Winterbrook's GIS analysis, an estimated 99% of the proposed riparian buffer areas next to rivers are within the 100-year floodplain.
- Many of the smaller fish-bearing streams are located in more steeply-sloped forest areas where streamside buffers are protected by the FPA and the Goal 5 rule prohibits county regulation of riparian vegetation removal in EFU zones. Focusing just on unincorporated commercial, industrial, and residential areas, 62% of the 50-foot riparian buffer areas associated with lakes, rivers and streams are within the 100-year floodplain.¹⁸

Thus, the proposed riparian buffers not only limit adverse social impacts from streambank erosion, channel migration, and loss of critical fish habitat, but also protect against flood hazards and limit insurance costs for new development – a substantial social benefit. Moreover, the proposed riparian buffers reduce adverse social impacts on people and their property that could result from building too close to rivers and streams. Such adverse social impacts include flooding, erosion, channel migration, recreational fishing, and aesthetics.

No Local Wetland and Riparian Corridor Protection

The no local protection option would not include DSL notification in the revised Riparian Corridor Overlay Zone and would rely entirely on state and federal agencies to protect wetlands and riparian corridors. The proposed limited WR protection program includes narrower, county-defined riparian corridors. As discussed above, the County's proposed riparian corridor regulations are easier to understand and administer, fairer to all county residents and businesses, and offer additional protection for streambank erosion, channel migration, and flooding. Under the no local protection option, some of the social benefits associated with the County's proposed riparian corridor protection program would be compromised.

¹⁸ In some cases, riparian areas are technically within the 100-year floodplain but are protected from flooding by dikes.

Social Consequences Conclusion

On balance, the social consequences of the limited WR protection program are positive when compared with the existing full WR protection program and a hypothetical no local protection program. The proposed WR program continues to protect significant natural areas, provides limited protection for locally-defined riparian corridors, and no local protection for wetlands outside of riparian corridors other than DSL notification. The proposed WR program represents a better fit for Columbia County, and better addresses the chronic issues of unemployment, social equity, good governance, and natural hazard mitigation demanded by county residents and the business community.

C. Environmental Consequences



Figure 9 Scappoose Bay Bottomlands (Source: The Nature Conservancy)

Figure 9 shows one of the Natural Areas that will continue to be protected per CCCP Article X Water Resources and the revised Riparian Corridor Overlay.

Full Local Wetland and Riparian Corridor Protection

The existing full WR protection program, as implemented through the adopted Wetland and Riparian Corridor overlays, provides a high level of protection for “significant” water resources in Columbia County. From a strictly environmental perspective, these overlay zones preclude industrial, commercial, and residential development within their overlay zone boundaries – and therefore would have positive environmental consequences. However, as indicated above, county staff have not consistently applied these overlays since their adoption in 2003. The actual wetland fill-removal review decisions have been referred to DSL and the Corps for the last 19 years.

In an August 1, 2022, email to the Columbia County Planning Commission, the ODFW explained why it is important to recognize ecological functions and values that wetlands and riparian corridors provide to fish and wildlife:

Wetlands provide an integral relationship between the adjacent upland and riparian habitats, and essential functions and values to fish and wildlife. Wetlands, flowing water and riparian zones are identified as Goal 5 significant resources, as well as listed as Strategy Habitat in the Oregon Conservation Strategy³, which is the state’s strategy for conserving fish and wildlife. The goals of the Conservation Strategy are to maintain healthy fish and wildlife populations by maintaining and restoring functioning habitats, preventing declines of at-risk species, and reversing declines in these resources where possible.

Riparian zones are the dynamic interface between land and flowing water and an integral component to healthy fish and wildlife populations. Riparian habitats often have high species diversity and are critical for wildlife. These habitats are important to species that prefer moist shrubby or forested habitats. Riparian areas provide essential wintering habitat and travel corridors for birds, amphibians, reptiles, mammals, and other wildlife. These areas can serve as critical migration corridors, where species are reliant on to fulfill all or part of their life-cycle requirements. The plant assemblages and communities in riparian zones help buffer inputs and the cycling of nutrients. In addition to providing habitat for birds and other wildlife, riparian

habitats have important ecological functions. Healthy riparian vegetation protects banks from erosion, influences in-channel aquatic habitats, maintains favorable water temperature for fish through shading, filters runoff, and provides nutrients to support terrestrial and aquatic life.

The Comprehensive Plan (Part XVI, Article VIII) includes inventories and policies to protect a variety of fish and wildlife habitats (including big game habitat, Columbian white-tailed deer habitat, fish habitat, furbearer habitat, waterfowl habitat, and non-game wildlife habitat). Most of these habitat areas overlap with significant wetlands and riparian areas. Existing Article VIII policies rely on a variety of local, state and federal measures, including the existing Wetlands and Riparian Corridor overlays, to protect native vegetation and water areas that support fish and wildlife habitat areas.

The County recognizes the important fish and wildlife benefits that the full local protection option (if fully implemented) provides. The County also recognizes and supports state and federal programs that provide protection for fish and wildlife habitat throughout the County. Table 6 Summary of Program Implications for Fish and Wildlife Habitat documents how the existing WR protection program dovetails with a series of other county, state, and federal fish and wildlife protection measures to provide almost full protection for water resources (riparian corridors and wetlands) and related fish and wildlife habitat.

The environmental benefits of an effective full resource protection program are further described in Table 9 below. Note that many of these environmental benefits also have corresponding economic and social benefits as described in previous tables.

Table 9. Environmental Benefits of Water Resource Protection

Topic	Key Findings	Citation
Ecosystem services, Habitat	Largely excluded from water management planning, small waterbodies are numerous, critical for freshwater biodiversity, and have impactful ecosystem services. The authors suggest policymakers prioritize the management and protection of small waterbodies.	Biggs, J., von Fumetti, S., & Kelly-Quinn, M. (2017). The importance of small waterbodies for biodiversity and ecosystem services: implications for policy makers. <i>Hydrobiologia</i> , 793(1), 3–39. https://doi.org/10.1007/s10750-016-3007-0
Ecosystem Services	Recognizing the pressures from agriculture and development, the authors provide guidelines for three levels of “freedom space”. The first level describes the frequently flooded and highly mobile buffer area around river systems to the third level which includes exceptional flood areas. Incorporating the three zones of freedom space into river management promotes sustainable interaction with river systems.	Biron, P. M., Buffin-Bélanger, T., Larocque, M., Choné, G., Cloutier, C.-A., Ouellet, M.-A., Demers, S., Olsen, T., Desjarlais, C., & Eyquem, J. (2014). Freedom Space for Rivers: A Sustainable Management Approach to Enhance River Resilience. <i>Environmental Management</i> , 54(5), 1056–1073. https://doi.org/10.1007/s00267-014-0366-z
Ecosystem Services, Habitat	A white paper on the technical and scientific basis for Washington’s Aquatic Habitat Guidelines provides an overview of the ecological and habitat issues associated with Pacific Northwest streams and riparian zones, the ecological effects of channelization, and fish and wildlife habitat protection and mitigation techniques.	Bolton, S., & Schellberg, J. (2001). <i>Ecological Issues in Floodplains and Riparian Corridors</i> [Technical Report]. University of Washington Water Center. https://digital.lib.washington.edu/443/researchworks/handle/1773/17030
Recreation	Accepting that humans impact our landscapes, the author suggests tourism and recreation can be used to secure protection and enhancement of important ecosystems. Tourism can benefit both local communities and local conservation efforts.	Burger, J. (2000). Landscapes, tourism, and conservation. <i>Science of The Total Environment</i> , 249(1), 39–49. https://doi.org/10.1016/S0048-9697(99)00509-4

Topic	Key Findings	Citation
Ecosystem Services, Resources	The authors argue goals of managing riparian habitats and land use policies that emphasize economic values are not necessarily incompatible. When you holistically approach land management there may be options to maximize the ecological and economic benefits of riparian habitats that will improve multiple resource uses.	Everest, F. H., & Reeves, G. H. (2007). Riparian and aquatic habitats of the Pacific Northwest and southeast Alaska: ecology, management history, and potential management strategies. (PNW-GTR-692; p. PNW-GTR-692). U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. https://doi.org/10.2737/PNW-GTR-692
Ecosystem Services, Habitat, Water Quality	Riparian buffers provide increased filtration of surface runoff, allowing for groundwater to recharge. Buffers improve water quality and reduce eutrophication, they protect against erosion, provide aquatic and terrestrial habitat to many plant and animal species, and improve habitat quality by shading and cooling water.	Hawes, E., & Smith, M. (n.d.). Riparian Buffer Zones: Functions and Recommended Widths.
Water Quality, Habitat, Ecosystem Services	A literature review of the effectiveness of vegetative buffer strips finds there is highly variable findings regarding buffers' efficacy in removing nutrients or providing other ecosystem services. Most literature reviews 30 m wide buffers or more, but there needs to be more research on the efficacy of 1-10 m wide buffers, which can be more common in the field.	Hickey, M. B. C., & Doran, B. (2004). A Review of the Efficiency of Buffer Strips for the Maintenance and Enhancement of Riparian Ecosystems. <i>Water Quality Research Journal</i> , 39(3), 311–317. https://doi.org/10.2166/wqrj.2004.042
Habitat	Removal of riparian vegetation by clear cuts, patch cuts, and debris flows resulted in a 7° C increase of maximum stream temperatures. Stream temperatures gradually returned to preharvest levels after 15 years. Increases in stream temperature have been linked to fish mortality and increased prevalence of disease.	Johnson, S. L., & Jones, J. A. (2000). Stream temperature responses to forest harvest and debris flows in western Cascades, Oregon. <i>Canadian Journal of Fisheries and Aquatic Sciences</i> , 57(S2), 30–39. https://doi.org/10.1139/f00-109
Habitat	In the western United States, riparian vegetation occurs on less than 1% of the landscape yet provides habitat for more bird species than all other vegetation types combined.	Knopf, F. L., Johnson, R. R., Rich, T., Samson, F. B., & Szaro, R. C. (1988). Conservation of Riparian Ecosystems in the United States. <i>The Wilson Bulletin</i> , 100(2), 272–284. http://www.jstor.org/stable/4162566
Ecosystem Services	In a study to optimize the value of ecosystem services to enhance ecosystem and human health, the authors found that the riparian land in urban areas had the highest estimated value of ecosystem services, \$7,312/ha, in 2011 dollars.	Lee, J. A., Chon, J., & Ahn, C. (2014). Planning Landscape Corridors in Ecological Infrastructure Using Least-Cost Path Methods Based on the Value of Ecosystem Services. <i>Sustainability</i> , 6(11), 7564–7585. https://doi.org/10.3390/su6117564
Stormwater Management	Stormwater runoff is a significant source of water pollution in the United States, low impact development practices have the potential to provide multiple ecosystem services that have direct and ancillary benefits.	Mazzotta, M. J., Besedin, E., & Speers, A. E. (2014). A Meta-Analysis of Hedonic Studies to Assess the Property Value Effects of Low Impact Development. <i>Resources</i> , 3(1), 31–61. https://doi.org/10.3390/resources3010031
Flood mitigation, Water Quality	This study tested whether vegetation could reduce riverbank erosion and reduce the turbidity of water during a large magnitude flood. The study confirmed that vegetation significantly reduced riverbank erosion. Vegetation surrounding rivers has important benefits to water quality and availability.	McMahon, J. M., Olley, J. M., Brooks, A. P., Smart, J. C. R., Stewart-Koster, B., Venables, W. N., Curwen, G., Kemp, J., Stewart, M., Saxton, N., Haddadchi, A., & Stout, J. C. (2020). Vegetation and longitudinal coarse sediment connectivity affect the ability of ecosystem restoration to reduce riverbank erosion and turbidity in drinking water. <i>Science of The Total Environment</i> , 707, 135904. https://doi.org/10.1016/j.scitotenv.2019.135904

Topic	Key Findings	Citation
Ecosystem Services, Flood Mitigation	Wetlands are sometimes described as the 'kidneys of the landscape' given their ability to remove extra wastes and fluids. They cleanse polluted water, protect shorelines, reduce flood impacts, and recharge aquifers.	Mitsch, W. J., Bernal, B., & Hernandez, M. E. (2015). Ecosystem services of wetlands. <i>International Journal of Biodiversity Science, Ecosystem Services & Management</i> , 11(1), 1–4. https://doi.org/10.1080/21513732.2015.1006250
Habitat, Ecosystem Services	Riparian corridors are particularly biodiverse fish and wildlife habitats, effective riparian management could mitigate many ecological issues of land use, and the authors suggest that riparian corridors should play an essential role in water and landscape planning.	Naiman, R. J., Decamps, H., & Pollock, M. (1993). The Role of Riparian Corridors in Maintaining Regional Biodiversity. <i>Ecological Applications</i> , 3(2), 209–212. https://doi.org/10.2307/1941822
Habitat	Riparian areas have a disproportionality high biodiversity, which can be attributed to the complex fish and wildlife habitat, cool moist conditions, and high productivity. Moreover, they have microclimatic effects that could counterbalance some of the effect of upslope forest disturbance.	Olson, D. H., Anderson, P. D., Frissell, C. A., Welsh, H. H., & Bradford, D. F. (2007). Biodiversity management approaches for stream-riparian areas: Perspectives for Pacific Northwest headwater forests, microclimates, and amphibians. <i>Forest Ecology and Management</i> , 246(1), 81–107. https://doi.org/10.1016/j.foreco.2007.03.053
Ecosystem Services, Flood Mitigation, Habitat, Recreation, Water Quality	This article aims to provide a broad overview of the main provisioning, regulating, and cultural ecosystem services riparian vegetation provides. Benefits include fuel provisioning, food, genetic material, water filtration, carbon sequestration, reduced pollution, erosion control, landslide buffering, flood protection, pollination, fish and wildlife habitat, temperature control, fire regulation, recreation, and tourism.	Riis, T., Kelly-Quinn, M., Aguiar, F. C., Manolaki, P., Bruno, D., Bejarano, M. D., Clerici, N., Fernandes, M. R., Franco, J. C., Pettit, N., Portela, A. P., Tammeorg, O., Tammeorg, P., Rodriguez-González, P. M., & Dufour, S. (2020). Global Overview of Ecosystem Services Provided by Riparian Vegetation. <i>BioScience</i> , 70(6), 501–514. https://doi.org/10.1093/biosci/biaa041
Ecosystem Services, Health, Flood Mitigation	Wetlands provide many ecosystem services such as fish nursery habitat, water purification, flood risk reduction, climate modulation, nutrient cycling, reducing erosion, and fish and wildlife habitat.	Sutton-Grier, A. E., & Sandifer, P. A. (2019). Conservation of Wetlands and Other Coastal Ecosystems: a Commentary on their Value to Protect Biodiversity, Reduce Disaster Impacts, and Promote Human Health and Well-Being. <i>Wetlands</i> , 39(6), 1295–1302. https://doi.org/10.1007/s13157-018-1039-0

Limited Local Wetland and Riparian Corridor Protection

The limited WR protection program would rely primarily on DSL and the Corps to review wetland fill-removal applications outside of state-prescribed riparian corridors. The limited protection program includes coordination with state and federal agencies to minimize impacts of development on SWI wetlands and water areas to facilitate state and federal agency involvement. In this respect, the proposed limited WR protection program would effectively continue the referral program that has been in effect since 2003. However, as documented below, state and federal regulations are reasonably effective in protecting wetland functions and values.

According to the DSL website www.oregon.gov/dsl/WW/Documents/AssessingFunctionsValues.pdf "aquatic resources" (wetlands and riparian corridors) provide a "wealth of ecological services to Oregonians":

Aquatic resources provide a wealth of ecological services to Oregonians that are important to our quality of life: clean and healthy streams, diverse and abundant fish and wildlife, and resilience to floods. The Aquatic Resource Management Program in the Department of State Lands is directed to conserve these resources so the functions and values are not lost.

Because the contribution of different wetlands and waterways varies, it is important to have tools to identify these qualities at different sites. Assessment methods have been developed to identify and rate the capacity and the ability of a wetland or waterway to provide important ecological functions. The methods also rate the socio-economic importance of these functions depending on their location.

Examples of Aquatic Functions and Values

Water Storage and Supply. *Many wetlands capture and temporarily store stormwater flows, which otherwise may reduce flood depths and streambank erosion in downstream or downslope areas. Preserving these wetlands reduces flood damage and the need for expensive flood-control devices such as levees. These wetlands may also slowly release stored water to stream systems, augmenting flows when the water is needed the most. Seasonal wetlands—the most common in Oregon and the most easily overlooked because they are dry in the summer—have great capacity to absorb storm water as they “recharge” in the winter and spring.*

Waterways provide temporary in-channel and floodplain water storage; sub-surface storage in porous substrate, and inter-flow with adjacent groundwater. Flows can vary daily with tides, in response to storms, seasonally and between years. These processes in turn provide habitat and migration pathways for fish and invertebrates, outlet for surface drainage and/or recharge of aquifers; exchange of nutrients and other chemicals; and habitat variability.

Food-web Support. *Wetlands and riparian areas (areas bordering rivers and streams) are the foundation of many food chains. Ample water and nutrients allow these areas to produce diverse flora and fauna. Algae and other micro-organisms provide food for insects that feed amphibians, fish, birds and other wildlife.*

Wildlife and Plant Habitat. *Wetlands and waterways provide essential water, food, cover and breeding areas for many wildlife species. For example, nearly two-thirds of the commercially important fish and shellfish species are dependent on estuarine wetland habitats for food, spawning and nursery areas. Similarly, millions of waterfowl, shorebirds and other birds depend on wetlands. In semi-arid eastern region, riparian areas and springs are crucial to the survival of many birds, amphibians and mammals.*

Riparian corridors and wetlands are amongst the most biodiverse, productive and high-quality habitat land types. They reduce flooding by acting as a sponge, recharge aquifers, reduce erosion, and reduce eutrophication. They provide habitat for aquatic and terrestrial species and are recognized as areas of high biodiversity. Riparian buffers around streams keep water cool, essential for fish and salmon habitat.

Water Quality Improvement. *Wetlands and waterways help store, transfer and transform nutrients and chemicals, and help moderate water temperature. Wetlands are highly effective at removing nitrogen and phosphorus, sediment and other pollutants from the water that flows over or percolates through them. For this reason, artificial wetlands are*

often constructed for cleaning stormwater runoff. Natural wetlands and riparian areas bordering streams and rivers intercept runoff from roads, urban areas and farm fields, and provide this valuable service without the typical costs of engineering and infrastructure.

Aesthetics, Recreation and Education. *Many wetlands and waterways provide opportunities for boating and paddling, fishing, hunting, photography and wildlife observation. They are also visually pleasing, interesting elements in the landscape, often increasing property values for nearby homes. Wetlands and waterways are also wonderful outdoor classrooms.*

How does DSL Assess Aquatic Functions and Values?

As acknowledged by DSL, wetlands and waterways vary greatly by type and location, perform different functions, and are valued differently by people. DSL requires that evaluation methods and forms be based on local conditions. DSL describes the Rapid Assessment and Stream Function Assessment Method (SFAM) as follows:

Rapid assessment methods are based on observations and measurements of various characteristics that are known to correspond with certain functions. Some characteristics may indicate good migratory bird habitat. Another set of characteristics may indicate that a wetland is good at removing pollutants from water. Rapid assessment methods compare the characteristics evaluated to a larger dataset or best available information to evaluate the extent to which a specific wetland or waterway may perform key functions, and the relative importance of those functions, in that location, to society (value).

The Stream Function Assessment Method (SFAM) is used for assessing the functions and values of wadable, non-tidal streams for the purposes of Oregon's Fill-removal Law, as well as purposes related to Section 404 of the federal Clean Water Act.

The statewide mitigation program has been updated to cover all aquatic resources using a watershed-based approach and function-based mitigation requirements. This new approach to compensating for wetland and stream losses was collaboratively implemented by the Oregon Department of State Lands (DSL), US Army Corps of Engineers-Portland District (Corps) and US Environmental Protection Agency-Region 10 (EPA) in April 2019.

What is compensatory mitigation?

Under [Oregon's Fill-removal Law](#) and [Section 404](#) of the federal Clean Water Act (CWA), impacts to aquatic resources require a permit from DSL and the Corps. Mitigation requires a series of steps, called a mitigation sequence, to eliminate or reduce the negative effects of a proposed project. The sequence includes avoidance, minimization and compensation for unavoidable impacts.

There are two basic compensatory mitigation options: purchasing credits from a mitigation bank or in-lieu fee site, or permittee-responsible mitigation, usually conducted on the project site. Both the [Corps website](#) and [DSL website](#) have detailed information on mitigation. Science-based tools inform mitigation planning and decision-making. These

tools will help improve consistency and transparency in the mitigation process. Several functional assessment tools and online data viewers are available to the public:

[Oregon Rapid Wetland Assessment Protocol \(ORWAP\)](#) – version 3.2 was released in April 2020 and can be used to assess functions and values of wetlands across the state.

[Stream Function Assessment Method \(SFAM\)](#) – version 1.1 can be used to assess the functions and values of wadable, non-tidal streams across the state. SFAM consists of the Workbook used to calculate function and value scores for given site, the User Manual that provides step-by-step instructions and guidance on completing an SFAM Assessment, and a Scientific Rationale document that describes the development of SFAM and provides supporting information from the scientific literature. Training videos for the office portion of the assessment are available.

[Aquatic Mitigation Topic Page & Map Viewers](#) – The topic page hosts the ORWAP Map Viewer and SFAM Map Viewer, used to complete the office portion of an ORWAP or SFAM assessment, respectively; and a Mitigation Planning Map Viewer, used for strategically planning mitigation projects.

Under Oregon state law, a DSL [fill-removal permit](#) is required for projects that remove or place **any** amount of material into the beds or banks of ESH waterways and some wetlands. Types of projects that likely require a permit include building a dock, adding riprap, and other activities that may seriously affect important ESH habitat.

These permitting requirements are both complex and effective in protecting wetland functions and values. Moreover, DSL has staff that include professional wetland scientists to evaluate wetland fill-removal applications and ensure that the fill-removal standards are met. Although concerns have been raised regarding DSL’s ability to protect riparian vegetation through its wetland fill-removal permitting process, DSL has the authority to condition fill-removal permit applications to protect riparian vegetation beyond the ordinary high water mark.¹⁹

DSL has the discretion to include any condition that is related to protection of water resources, even if the condition involves a non-jurisdictional area. For example, even though vegetation removal is not regulated, DSL can require that riparian vegetation be avoided or replaced to protect the waterway.

The proposed limited WR program is supported by additional state and federal programs to protect riparian vegetation. For example, most of Columbia County’s rivers and streams (including Scappoose Creek) are classified as “critical salmon habitat” under the Environmental Species Act (ESA) and the National Marine Fisheries Service (NMFS). As a federal agency, the Corps must consider impacts on critical salmon habitat (including riparian vegetation) when reviewing fill-removal permits that affect riparian vegetation associated with most wetlands, rivers, and streams. The Oregon Forest Practices Act

¹⁹ A Guide to the Fill-removal Permit Process (DSL, p. 6-15).

(FPA) also provides limited protection for riparian vegetation on state and federal lands. The ESA limits logging and spraying activities near critical salmon habitat on federal and state forest lands.

The Oregon Department of Fish and Wildlife (ODFW) also has voluntary incentive programs to encourage voluntary protection of riparian vegetation. In a brochure entitled *Riparian Lands – Tax Incentive Program* (2019), ODFW summarizes the environmental benefits of riparian corridors as follows:

Healthy riparian zones (the land along the border of streams and rivers) provide numerous benefits:

- 1. Cooler water from shading results in better fish habitat*
- 2. More diverse habitat for game and non-game wildlife alike*
- 3. Increased water during summer low flow periods*
- 4. Erosion control by stabilizing streambanks with protective vegetation*
- 5. Flood control.*

Environmental Impacts from Proposed Water Resources Program Changes

The CCCP Chapter XVI, Article VIII Fish and Wildlife Habitat and Table 9 above document the important role that the existing Riparian Corridor and Wetland overlays play in supporting the County's overall fish and wildlife habitat. As shown in Table 6, these existing overlays are the primary means of protecting aquatic fur-bearing animal habitat and play a supporting role in protecting Columbia white-tailed deer, fish, and non-game wildlife habitat. Therefore, it is reasonable to conclude that the revised WR program could have negative environmental consequences for fish and wildlife habitat where such habitat overlaps with SWI wetlands and fish-bearing riparian corridors.

However, as shown in Table 6, these potential adverse environmental impacts are mitigated effectively by habitat-specific local implementation measures, combined with state and federal programs that provide limited protection for wetlands, water areas, and related fish and wildlife habitat. Although the revised Riparian Corridor Overlay provides greater flexibility for expansion of existing uses, mitigation is required to ensure that there will be not net loss in habitat value. As documented in Sections A and B above, these potential adverse environmental impacts are outweighed by the adverse social and economic impacts that would result from systematic implementation of the existing (almost) full protection Riparian Corridor and Wetland overlays.

Limited Protection Conclusion

Providing no *local* protection for wetlands outside of riparian corridors does not mean that wetlands will not be protected at all. Thus, it is reasonable for the County to conclude that the adverse environmental impacts resulting from no local wetland protection outside of locally-defined riparian corridors will not be substantial.

The County is committed to regulating development within riparian corridors. The proposed limited protection program would be implemented by an objective and effective county riparian corridor protection program, combined with reliance on a system of state and federal regulatory programs to protect wetlands outside of locally-established riparian corridors.

On balance, a riparian corridor program that is simple, understandable, effective, and easy to administer will have positive environmental consequences at the local level.

No Local Wetland and Riparian Corridor Protection

The no local protection option in principle would have adverse environmental consequences, when compared with the full protection and limited protection options. In practice, the no local wetland protection program would continue as the *de facto* county policy since 2003: refer removal-fill applications to DSL rather than implement adopted WR protection standards.

Environmental Consequences Conclusion

The full WR protection option would have the more positive environmental consequences for wetlands, riparian corridors, and fish and wildlife habitat – if fully funded and implemented by Columbia County. However, the adopted program is inconsistent with the Goal 5 Wetland rule, because it protects wetlands that have not been inventoried through DSL's LWI process. Moreover, in practice, the environmental consequences of relying on state and federal programs to protect significant water resources and related habitat do not appear to have been particularly significant or adverse. The County recognizes that systematic implementation of the existing full protection program would have been more effective in protecting environmental functions and values associated with significant wetlands and riparian corridors in the County.

Thus, on balance, the proposed limited WR protection option does a good job of protecting state-prescribed riparian corridors while relying on the expertise of state and federal programs that offer effective regulation of SWI located outside of riparian corridors.

D. Energy Consequences

The energy consequences of the full WR protection program (existing WR program that would not allow transportation, drainage facilities or utilities), the proposed limited WR protection program, and the hypothetical no WR protection program, are considered below.

Full Local Wetland and Riparian Corridor Protection

For many years, Columbia County residents have commuted to the Portland region for job opportunities, which has increased vehicle miles traveled and increased energy costs. Implementation of the existing full water resources protection program would have adverse energy consequences because rural employment opportunities would not be provided close to existing small cities, rural communities, and rural exception areas in Columbia County.

The Port Westward industrial exceptions area is served by a deep water port and a rail spur near Clatskanie. Shipping by barge and rail are relatively energy efficient, when compared with truck transport. The full WR protection program would limit the supply of buildable industrial land at Port Westward and other rural industrial exception area sites, which would result in less efficient transportation options that increase fossil energy consumption. Energy benefits of full water resource protection can be attributed to their ability to provide ecosystem services that reduce human infrastructure needs. Riparian corridors reduce flooding impacts, erosion, and filter water lessening the need for energy-intensive infrastructure and repairs. Vegetated riparian corridor buffer areas also protect water quality and fish habitat by cooling lakes, rivers and streams.

Table 10. Energy Consequences

Topic	Key Findings	Citation
Flood Mitigation	Flooding is the most common and damaging of all natural disasters, incurring high social and economic costs. A study of land in California finds areas that are both flood-prone and of natural resource conservation value. The authors suggest that government programs to protect these areas could achieve social, economic, and environmental benefits. Protecting flood-prone areas could reduce energy costs associated with development.	Calii, J., Beck, M. W., Gleason, M., Merrifield, M., Klausmeyer, K., & Newkirk, S. (2015). Aligning Natural Resource Conservation and Flood Hazard Mitigation in California. <i>PLOS ONE</i> , 10(7), e0132651. https://doi.org/10.1371/journal.pone.0132651
Flood Mitigation, Ecosystem services	While riparian ecosystems are particularly vulnerable to climate change, they also have a critical role in ecosystem functioning and provide many ecosystem services, including flood mitigation, water quality, erosion mitigation, and habitat. To conserve the benefits of riparian ecosystems, planners and policymakers should consider ways to bolster riparian ecosystem resilience.	Capon, S. J., Chambers, L. E., Mac Nally, R., Naiman, R. J., Davies, P., Marshall, N., Pittock, J., Reid, M., Capon, T., Douglas, M., Catford, J., Baldwin, D. S., Stewardson, M., Roberts, J., Parsons, M., & Williams, S. E. (2013). Riparian Ecosystems in the 21st Century: Hotspots for Climate Change Adaptation? <i>Ecosystems</i> , 16(3), 359–381. https://doi.org/10.1007/s10021-013-9656-1
Ecosystem Services, Property Values, Recreation	Riparian forest buffers absorb and impede water, reducing flood damage. They reduce sedimentation, making streams and rivers less likely to overflow. Development that leads to the loss of riparian buffers has the potential to increase flood costs and potentially drive down the value of existing housing stock in flood prone areas.	Duffy, N. (n.d.). The Potential Economic Benefits of Riparian Buffers. 9.

Ecosystem Services	In a study of how to prioritize land use to optimize the value of ecosystem services to enhance ecosystem and human health, the authors found that the riparian land in urban areas had the highest estimated value of ecosystem services, \$7,312/ha, in 2011 dollars.	Lee, J. A., Chon, J., & Ahn, C. (2014). Planning Landscape Corridors in Ecological Infrastructure Using Least-Cost Path Methods Based on the Value of Ecosystem Services. <i>Sustainability</i> , 6(11), 7564–7585. https://doi.org/10.3390/su6117564
Water Quality	By comparing a water treatment plant in Santa Monica to a 4,000 lineal foot riparian corridor in the area that provides similar services, the author finds that the cost to benefit ratio of each are about the same, though the life span of the water treatment plant is expected to be less than the lifespan of the benefits of protecting the riparian corridor. The energy costs of operating a water treatment plant are higher than preserving the riparian corridor.	Riley, A. L. (n.d.). Putting A Price On Riparian Corridors As Water Treatment Facilities.
Ecosystem Services, Flood Mitigation, Habitat, Recreation	This article aims to provide a broad overview of the main provisioning, regulating, and cultural ecosystem services riparian vegetation provides. Benefits include fuel provisioning, food, genetic material, water filtration, carbon sequestration, reduced pollution, erosion control, landslide buffering, flood protection, pollination, habitat, temperature control, fire regulation, recreation, and tourism.	Riis, T., Kelly-Quinn, M., Aguiar, F. C., Manolaki, P., Bruno, D., Bejarano, M. D., Clerici, N., Fernandes, M. R., Franco, J. C., Pettit, N., Portela, A. P., Tammeorg, O., Tammeorg, P., Rodríguez-González, P. M., & Dufour, S. (2020). Global Overview of Ecosystem Services Provided by Riparian Vegetation. <i>BioScience</i> , 70(6), 501–514. https://doi.org/10.1093/biosci/biaa041

Limited Local Wetland and Riparian Corridor Protection

By encouraging employment opportunities near small cities, rural communities and rural residential exception areas in Columbia County, commuting distances would be decreased and energy consumption would be correspondingly decreased. By increasing the supply of buildable land at Port Westward, the County will be able to rely on more energy-efficient modes of transportation such as cargo ships and rail. The proposed limited WR protection program also captures ecosystem energy benefits (e.g., reduced energy costs for operating constructed wastewater, flood control and stormwater treatment systems) related to local protection of riparian corridors and state and federal protection of wetlands outside these corridors, as identified in Table 10 above.

No Local Wetland and Riparian Corridor Protection

The no local protection option could result in increased rural employment opportunities and decreased vehicle miles traveled but would not have the corresponding ecosystem benefits as the full protection and limited protection options.

Energy Consequences Conclusion

The limited WR protection program will likely result in increased rural employment opportunities that are currently restricted by the existing full WR protection program. Overall, the energy consequences of the limited protection program are positive, because the proposed WR program will reduce vehicle miles traveled when commuting to rural employment opportunities from small cities, rural communities, and rural residential development. There could be marginal energy savings that could result from the ecosystem benefits of using natural systems for stormwater, wastewater, and flood control rather than constructed systems.

Overall ESEE Findings and Conclusions

The ESEE Analysis below relies on the following key findings in support of a revised WRPP as described in Appendix B:

1. The Riparian Corridor and Wetland inventory and overlays adopted in 2003 cover a much larger area than county staff or elected officials originally thought, did not meet key Goal 5 rule requirements when adopted, and are more restrictive than previously recognized.
2. The existing Riparian Corridor and Wetland overlays have not been consistently applied or enforced since their adoption in 2003 due in part because they did not fully comply with Goal 5 rule requirements, and in part due to limited staff resources and expertise.
3. The existing Riparian Corridor and Wetlands regulations place an undue burden on small landowners who lack the resources to address local regulatory requirements in addition to state and federal regulations.
4. The existing Wetland overlay has a much greater adverse impact on development allowed by the underlying zoning district than originally thought and thus has substantial adverse economic and social consequences.
5. The County lacks the authority to protect wetlands in agricultural and forest zones, which cover over 50,000 acres of rural land in Columbia County – and are already protected by state forest and agricultural practices regulations.
6. The County lacks staff resources and expertise to review proposed development on rural industrial, commercial, and residential exception areas with SWI wetlands; existing county wetland regulations thus have adverse social and economic consequences for taxpayers, property owners and limited local government resources.
7. Enforcement of existing county wetland regulations makes it impossible to implement county economic development policies, given that almost a third of the County's rural industrial land supply is covered by significant wetlands and riparian corridors.
8. State and federal agencies are better equipped to regulate development impacts on SWI wetlands than the County, because they have the requisite expertise and experience managing water resource protection programs.
9. The County has adopted several habitat-specific overlay zones to protect big game, Columbia white-tailed deer, fish, wildfowl, and non-game habitat. For this reason, and because wetlands and fish and wildlife habitat are already protected on a limited basis by a variety of state and federal programs, most adverse environmental and fish and wildlife habitat impacts will be effectively mitigated.
10. Limited protection of the County's riparian corridors recognizes that stream banks can erode and that stream channels can change over time; limited protection of riparian corridors reduces risks from flood hazards, and supports the County's fisheries and sports fishing industries.
11. On balance, local protection of significant wetlands outside of riparian corridors has negative economic and social consequences, given limited staff resources and recognizing that state and federal regulations already provide a reasonable level of protection to wetland resources.

12. On balance, the ESEE consequences of continuing to provide limited protection for significant natural areas, some significant LWI wetlands within city UGBs and Natural Areas, and the riparian corridors of fish-bearing lakes, rivers and streams in Columbia County are positive.

For the reasons stated above, the County concludes that conflicting uses and activities related to wetlands outside of locally-defined riparian corridors should be allowed fully (*i.e.*, no local protection). The County is committed to implementing the proposed locally-defined riparian corridor protection program and a series of adopted county environmental overlay zones designed to protect fish and wildlife habitat, to notifying DSL of projects that could impact wetlands and water areas as required by state law, and to coordinating with ODFW and other state and federal agencies to ensure effective fish and wildlife habitat protection.

Section 4: Water Resource Program Recommendations

Very few counties outside the Portland region have adopted rural wetland protection programs, in part because it is costly and time-consuming to meet the demanding requirements for local wetland inventories (LWI). Instead, most Oregon counties rely on DSL and the Corps to protect wetlands, although several counties have local programs to protect riparian corridors.

In 2003, Columbia County adopted the most restrictive wetland and water area protection program in Oregon, by applying the Wetland overlay to all SWI wetlands in unincorporated areas, and interpreting the word “restrict” in the wetland safe harbor rule to mean “prohibit.” Thus, uses and activities typically allowed by wetland overlay districts (such as transportation, wastewater, storm drainage facilities necessary to serve planned industrial, commercial, and residential uses) are prohibited by the Wetland Area Overlay Zone in wetlands and water areas throughout the County.

This section describes key elements of the existing full WR protection program and the proposed limited WR protection program.²⁰

Appendix B Water Resources Program Recommendations includes amended plan text and policies; Appendix C revised Riparian Corridor Overlay includes the revised Riparian Corridor Overlay Zone to implement the proposed limited protection program.

Existing Safe Harbor Protection Programs

In 2003, the County improperly determined that all wetlands listed on the Statewide Wetland Inventory (SWI) were significant for Goal 5 purposes – without meeting the demanding requirements for local wetland inventories (LWIs) found in DSL rules. Rather, the County elected to protect wetlands on the SWI, regardless of quality or location, or proper determination of “significance”. In addition, where SWI wetlands are located within or partially within a riparian corridor, the riparian corridor extends to include the significant wetland. In rural unincorporated areas, these provisions fully protect SWI wetlands.

- Notably, the provisions prohibit all types of development in significant wetlands – whether the wetlands are associated significant fish-bearing streams or rivers or isolated from the riparian corridors of significant streams and rivers.
- These regulations also provide a high level of protection for the riparian corridors of “fish-bearing” and non-fish-bearing lakes, streams and rivers shown on ODF and ODFW maps. Riparian corridors (the buffer area located outside of protected wetlands) allow limited development (i.e., roads, utilities and “water-related/water-dependent” uses).

²⁰ The Riparian Corridor Overlay Zone allows limited conflicting uses within riparian buffer areas, however water areas and wetlands within riparian corridors are fully protected.

- In 2003, the County also elected to protect the riparian corridors of non-fish-bearing streams with a 25-foot buffer without determining the significance of these streams and ditches and without conducting a thorough ESEE analysis.²¹

The Proposed Limited Protection Program

Unlike the adopted full protection program, the proposed limited Water Resources (WR) Protection Program will have the following key provisions:

1. **Wetlands on City Local Wetland Inventories.** The County shall continue to protect significant wetlands identified on DSL-approved LWIs within unincorporated city urban growth areas (*i.e.*, the unincorporated area within acknowledged UGBs) consistent with city comprehensive plan policies.
2. **Significant Natural Areas.** The County shall continue to protect significant natural areas per CCCP Part XVI, Article X.
3. **Riparian Corridors.** The County will retain state-prescribed 50- to 75-foot riparian corridor setbacks and will protect riparian vegetation and wetlands within these corridors unless there is no reasonable alternative to allow a permitted use. However, the County will not extend riparian setbacks to include “associated wetlands” because SWI wetlands have not been reviewed through the required LWI process.

The County will provide limited protection for significant fish-bearing lakes, rivers and streams and their respective riparian corridors by allowing (a) water-dependent and water-related uses, and (b) planned transportation and other public facilities where there is no reasonable alternative, and (c) expansion of existing development subject to mitigation standards.

4. **Department of State Lands Notification.** The County shall continue to notify DSL of development applications on parcels with wetlands or riparian corridors identified on county water resource inventory maps – *i.e.*, the SWI (which includes “riverine wetlands”) and the riparian corridors of lakes and fish-bearing streams.
5. **No Local Wetland Protection in Rural Areas Outside of Riparian Corridors.** The County will not provide local protection for wetlands – whether associated with or isolated from riparian corridors – in rural areas outside of UGBs. Instead, the County will rely on state and federal agencies to regulate these water resources.
6. **DSL Wetland Delineation Concurrence Required.** The County will not issue final land use approval for development that would disturb a mapped wetland or fish-bearing stream until DSL has concurred in any required wetland delineation.

²¹ Note that Goal 5 riparian corridor safe harbor provisions do not authorize the protection of riparian corridors associated with non-fish-bearing streams without going through the standard Goal 5 process, including a formal ESEE analysis.



Figure 10 Nehalem Creek Riparian Corridor (Nehalem Creek Park)

Amendments to Comprehensive Plan Part XVI Goal 5 Resources

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PART XVI. GOAL 5: OPEN SPACE, SCENIC AND HISTORIC AREAS, AND NATURAL AREAS

[Amended by Ordinance No. 98-01 eff. 6/29/98; Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

ARTICLE I. PURPOSE OF PLAN:

To conserve open space and protect the identified natural and scenic resources in Columbia County as defined by Statewide Planning Goal Five and the related administrative rule.

[Amended by Ordinance No. 98-01 eff. 6/29/98].

ARTICLE II. GOAL FIVE REQUIREMENTS:

- A. Evaluation Resources. All Goal 5 resources except wilderness areas, Oregon Recreational trails, critical groundwater areas, and federal/state wild and scenic waterways are found within Columbia County. Therefore, in order to meet the requirements of the Statewide Goal 5, the following resources must be evaluated according to the Goal 5 process referred to below:
1. Land needed for open space;
 2. Mineral and aggregate resources;
 3. Energy sources;
 4. Fish and wildlife areas and habitat;
 5. Ecologically and scientifically significant natural areas;
 6. Outstanding scenic views and sites;
 7. Water areas, wetlands, watersheds, and ground water resources;
 8. Historic areas, sites, structures, and objects;
 9. Cultural areas;
 10. Potential and approved Oregon Recreational trails;
 11. Potential and approved federal wild and scenic waterways and state scenic waterways;

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

- B. Goal 5 Process. Procedures, criteria and definitions necessary to inventory and evaluate Goal 5 resources and to develop land use programs to conserve and protect significant Goal 5 resources are specified in Oregon

Administrative Rule (OAR) 660, Division 23 which became effective in September 1996. OAR 660, Division 23 provides standard procedures and requirements for all Goal 5 resource categories, including optional "safe harbor" provisions meeting certain requirements under the standard process and specific rules for each resource category.

The "safe harbor" option consists of an optional course of action that satisfies certain requirements under the standard process. Local Governments may follow "safe harbor" requirements rather than addressing certain requirements in the standard Goal 5 process. For example, a jurisdiction may choose to identify "significant" riparian corridors using the "safe harbor" criteria under OAR 660-23-090(5) rather than follow the general requirements for determining "significance" in the standard Goal 5 process under OAR 660-23-030(4).

OAR 660, Division 23, explains how Columbia County must apply Goal 5 when conducting periodic review and amending the Columbia County Comprehensive Plan and land use regulations affecting Goal 5 resources in the County. Columbia County's adopted 1998 periodic review work program includes amendments to the Columbia County Comprehensive Plan and implementing ordinances addressing mineral and aggregate resources and sensitive lands and habitats. All amendments to the plan map or zoning map affecting Goal 5 resources shall comply with the following OAR 660, Division 23 procedures, as follows:

1. Inventory the Goal 5 resource using the following steps as applicable. The nature and extent of the inventory process will depend on the type of Goal 5 resource and the scope of a particular post acknowledgment plan amendment (PAPA) or periodic review work task:
 - a. Collect information.
 - b. Determine the adequacy of information.
 - c. Determine significance of the resources.
 - d. Adopt a list of significant resource sites into the comprehensive plan consistent with OAR 660-23-030, Comprehensive Plan Administrative Procedures Policy 5; and Citizen Involvement Policy 4.
2. Develop a program to achieve Goal 5 for all resources determined to be significant, based on the following:
 - a. "safe harbor" provisions (where available); or
 - b. An analysis of economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit conflicting use using the following steps:
 - i. Identify conflicting uses.
 - ii. Determine the impact area.

- iii. Analyze the ESEE consequences.
- iv. Develop a program to achieve Goal 5 by allowing, limiting or prohibiting conflicting uses. The program shall consist of plan provisions and land use regulations which address the degree of protection for the significant resource site by adopting measures to be applied to conflicting uses. *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

ARTICLE III. OVERALL GOAL 5 POLICY STATEMENT CONCERNING FOREST OPERATIONS:

- A. Columbia County recognizes that forest operations for which notification is required by ORS 527.670(2) shall be governed by the Forest Practices Act.
- B. Columbia County shall rely upon the Forest Practices Act and any supplemental agreements between Fish and Wildlife Commission and the Board of Forestry to protect critical wildlife habitat sites; and
- C. Columbia County shall not apply the provisions of Sections 1120, ~~1170, 1180-1182~~, 1185, 1186, and 1190 of the Zoning Ordinance to commercial forest operations covered by ORS 527.670(2).

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

ARTICLE IV. MAPS AND ATTACHMENTS.

Some inventory Maps and other documents referenced in Part XVI of the Comprehensive Plan are attached to the Comprehensive Plan in the Technical Appendix, Part XVI. Unless specifically stated, the attached Maps and other documents are not incorporated into the Comprehensive Plan but are attached to the Technical Appendix for reference.

[Added by Ordinance No. 2003 - 5, eff. December 15, 2003].

ARTICLE V. OPEN SPACE

- A. **DEFINITION:** Open Space is defined by the Goal as consisting of lands used for agricultural or forest uses, and any land area that would, if preserved and continued in its present use:
 - 1. Conserve and enhance natural and scenic resources;
 - 2. Protect air or streams or water supply;
 - 3. Promote conservation of soils, wetlands, beaches, or tidal marshes;
 - 4. Conserve landscaped areas, such as public or private golf courses, that reduce air pollution and enhance the value of abutting or neighboring property;

5. Enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, nature reservations or sanctuaries, or other open space;
6. Promote orderly urban development.

An open space system may be developed as a base for land use to preserve natural features and resource land, eliminate waste and pollution, and make more useful and valuable those spaces involving development and building. *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

B. INVENTORY:

The borders of Columbia County stretch from the low mountainous Coast Range in the southern and western sections of the County, over rolling hills and fingers of river valleys, to the reaches of the Columbia River on its northern and eastern edges. Approximately ninety (90) percent of the Six Hundred and Seventy-six (676) square miles contained within this area is comprised of lands in forest, farm, recreational, or other open space use. About thirty (30) square miles are covered by water. *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

C. POTENTIAL CONFLICTING USES:

The major conflicting uses affecting the open space value of forest and agricultural land are the expansion of rural residential, commercial, and industrial development. These uses convert valuable resource land for other purposes. They also impact and degrade adjacent resource lands and the ability of these lands to protect water quality, conserve soils, and perform other functions.

Specific open space resources, such as wetlands, riparian corridors, the Willamette River Greenway, natural areas, scenic features and parks, which exist in the County, are addressed in other sections of Part XVI of the Comprehensive Plan. A discussion of conflicting uses and measures for their resolution can be found in the section pertaining to each particular resource. *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

D. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

1. Economically, limiting conflicting uses for open space values is beneficial. Forest and farm uses are significant contributors to the local economy. They provide job opportunities, generate tax revenue, and support a number of related industries in the community. In addition, the combination of lands for farm, forest, and natural uses makes Columbia County an attractive place to live and visit. An abundance of game and waterfowl are supported by these

open spaces and attract fishermen, hunters, and other recreators to the County. The income generated from these forms of recreation adds substantially to County coffers.

2. Socially, protecting open space values is a positive use of the land. It promotes a quality of life that balances urban growth with preservation of lands used for farming or other extractive purposes, for viewing, parks, wildlife, and for conservation.
3. Environmentally, limiting conflicting uses protects those characteristics of the land which serve naturally to provide fish and wildlife habitat as well as to reduce water and air pollution, flooding, soil erosion, and other problems related to man-induced and naturally caused changes in the environment.
4. Limiting conflicting uses for open space also has positive energy consequences. Such limitation encourages the clustering of residential development and restricts major developments to rural centers and urban growth boundaries. Therefore, resources which otherwise might be wasted by providing roads and to scattered areas throughout the County can be used more efficiently.

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

E. FINDINGS:

Almost all of the County's forest and agricultural lands are zoned Primary Forest (PF-38), Forest-Agriculture (FA-19), and Primary Agriculture (PA-38). While the primary intent of this zoning is to conserve resource lands for resource uses, the zones protect the land's open space as well. Uses that conflict with open space are minimized in these resource zones. Conflicts may exist in some areas of open space which are built and committed to non-resource use. The extent of existing development in these areas has already reduced their open space value. The County has taken exceptions to Goal 5 to exclude these built and committed areas from resource zones.

To conserve areas of open space, the County has adopted policies and implementing measures to protect its identified sensitive resources, including hazard areas, flood plains, riparian vegetation, and wetland areas. It has also adopted policies to encourage the retention of open space through clustering and other measures within residential resource areas.

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

F. OPEN SPACE GOALS AND POLICIES:

GOAL:

To conserve open space in Columbia County.

POLICIES:

It is the policy of the County to:

1. Recognize the economic and aesthetic value of open space as it relates to planning for agriculture, forestry, wetlands, and other open space resources.
2. Encourage the design of residential development to include park areas and corridors of open space along streams, waterways, cliffs, and other special features by using clustering and other development techniques.
3. Recognize the need for public access to the Columbia River and other scenic and recreational features. The County will work with commercial, industrial, and residential developers to promote public use and provide public access to these features whenever possible.

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

ARTICLE VI. SURFACE MINING

[Title amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

[Amended by Ordinance No. 98-01 eff. 6/29/98].

INVENTORY OF MINERAL AND AGGREGATE RESOURCES

Introduction:

Sand, gravel, and rock deposits exist along most of the alluvial plains adjacent to the Columbia River in the northeast section of the County. They exist as well in the Scappoose Bay areas, sometimes at depths of twenty (20) feet or more.

Mines, quarries, placers, prospects, and occurrences of mineral resources in Columbia County are listed in the Key to Oregon Mineral Deposits Map, by the State of Oregon Department of Geology and Mineral Industries, dated 1964. While the information in this report is very general, and at most describes sites only by township, range, and section, it does identify the existence of the resources and therefore is shown below:

1. Bauxite - deposits are known to occur along the foothills in the eastern portion of the County.
2. Limonite - T5N, R2W, S31; T4N, R2W, S34, 27; T4N, R3W, S35; T5N, R3W, S24;

- T5N, R1W, S18.
3. Coal - T5N, R3W, S27; T4N, R4W, S23, 26.
 4. Mineral Pigment - T4n, R3W, S35; T3N, R2W, S3.
 5. Refractory Clays - T8N, R3W, S33.

Aggregate deposits located in Columbia County are of generally good quality. The quality of deposits existing in the Scappoose Bay area is said to be some of the highest in the State.

Aluminum ore deposits are of low-grade quality. However, through a refining process, these resources could prove economically feasible.

Limonite deposits in the Scappoose area are some of the most important in the State though these deposits contain far too little tonnage to be economically feasible.

Coal and shale deposits in the County are of low grade.

Inventory Process:

The County shall follow the process and apply the criteria contained in State Goal 5 and Oregon Administrative Rule 660, Division 23, for inventorying and evaluating mineral and aggregate resources and developing land use programs to conserve and protect significant mineral and aggregate resources.

Inventories of mineral and aggregate resources provide information necessary to locate and evaluate these resources and develop programs to protect them. An inventory of mineral and aggregate resources shall follow the process contained in OAR 660-23-180(2). Resources which are inventoried shall be evaluated to determine whether or not they are significant as defined in Oregon Administrative Rule.

Determination of Significance:

A mineral and aggregate resource shall be deemed significant if it meets the definition of significance contained in OAR 660-23-180(3) as follows:

1. A representative set of samples of aggregate material in the deposit on the site meets Oregon Department of Transportation (ODOT) specifications for base rock for air degradation, abrasion, and sodium sulfate soundness, and the estimated amount of material is more than 2,000,000 tons.
2. The material meets local government standards establishing a lower threshold for significance than #1 above; or
3. The aggregate site is on an inventory or significant aggregate site in an acknowledged plan on September 1, 1996.
4. Notwithstanding #1-3 above, except for an expansion area of an existing site, if the operator of the existing site on March 1, 1996 had an enforceable property interest in the expansion area on that date, an aggregate site is not significant if the criteria in either a. or b. of this subsection apply:
 - a. More than 35 percent of the proposed mining area consists of soil classified

as Class I on Natural Resource and Conservation Service (NRCS) maps in September 1996; or

- b. More than 35 percent of the proposed mining area consists of soil classified as Class II, or a combination of Class II and Class I or Unique soil on the NRCS maps available in September 1996, unless the average width of the aggregate layer within the mining area exceeds 60 feet.

Significant Mineral and Aggregate Sites:

Sites listed in Table XVI-1 were sites actively being mined in 1984 and have been determined to be significant in the acknowledged 1984 Columbia County Comprehensive Plan.

**TABLE XVI-1
ACTIVE AGGREGATE SITES**

with

ACTIVE MINING AND LAND RECLAMATION PERMITS (1-20-84)

<u>Name</u>	<u>Location</u>
1. Backlund, Dick	5121-000-00200
2. B&B Excavating	4227-043-00900 4227-043-00901
3. B&B Construction	7404-020-00600
4. Cascade Aggregates	4131-000-00100 4131-000-01000 4132-000-00300 4132-000-00400 4032-000-00500
5. Crown Zellerbach	5305-000-00300
6. Deer Island Sand & Gravel	5106-000-00902 5107-000-00102 5108-000-00302
7. Les Darr Trucking	5107-000-00101 5107-000-00300
8. Floyd Graham	6212-000-01301
9. Don Hooper, Inc.	7410-010-01000
10. Kynsi Construction	7509-000-00300

11. J. L. Ledgett Co.	7307-000-00300
12. George Lammi	7509-000-00400
13. Lakeside Industries	7218-010-00300
14. J. L. Ledgett Logging	7303-000-00400
15. O&T Rock Products, Inc.	6212-000-01100
16. Oregon State Highway Division	5305-000-00400
17. Peter-Billy-Glen Tree Farm, Inc.	4304-000-00100
18. Parks & Palm Logging Co.	7408-011-00300 7408-011-00400 7409-020-01300 7409-020-01400
19. Petersen, John (DBA: Tide Creek Rock Products)	6236-000-00500
20. Swedetown Gravel & Rock	7422-000-00200
21. Scappoose Sand & Gravel	3201-040-00600 3201-040-00700 3212-000-00100
22. Sutter, Fred	7318-000-01300
23. Watters Concrete Products	5133-000-00300
24. Zimmerly, Paul	7411-000-01000 7411-040-00100 7411-040-00200

Sites may be added to the list of significant mineral and aggregate sites during Periodic Review or in conjunction with a Post-Acknowledgment Plan Amendment (PAPA) process by amendment of the Comprehensive Plan.

The list of significant sites which have been added to the inventory of significant sites is contained in Table XVI-2.

TABLE XVI-2
SIGNIFICANT AGGREGATE SITES & POST-MINING USE

[Amended by Ordinance No. 98-01 eff. 6/29/98; Ordin. No. 2000-04 eff. 11/13/00; Ordin. No. 2013-2 eff. 11-26-13].

Meier Site	[N.W. Aggregates/Glacier]	3106-000-00100		
		3106-000-00101		
		3106-000-00200		
		3106-000-00504		
		3106-000-00505		
		3106-020-00100		
		3106-020-00101		
		3106-020-00200		
		3106-020-01800		
		3106-020-01900		
		3106-020-02000		
		4131-040-01800		
		Tide Creek Rock	[John Petersen]	6236-000-00900
				6236-040-00900
6236-040-00600				

DECISION REGARDING THE MINING OF SIGNIFICANT SITES:

For significant mineral and aggregate sites, the County will determine whether mining will be allowed during Periodic Review of the Comprehensive Plan or in response to a Post Acknowledgment Plan Amendment request by applying the provisions of OAR 660-23-180(4) and (5) which include:

1. Identifying conflicting uses.
2. Determining the impact area.
3. Analyzing the economic, social, environmental and energy (ESEE) consequences of a decision to allow, limit, or prohibit a use which may conflict with surface mining.
4. Developing a program to achieve Goal 5 by allowing, limiting or prohibiting conflicting uses. The program shall consist of plan provisions and land use regulations which address the degree of protection for the significant resource site by adopting measures to be applied to conflicting uses.

Detailed procedures to carry out these steps are contained in Section 1030 of the Zoning Ordinance.

SURFACE MINING GOALS AND POLICIES

[Amended by Ordinance No. 98-01 eff. 6/29/98]

GOAL:

To protect and utilize appropriately the mineral and aggregate resources of Columbia County.

POLICIES: It is the policy of the County to:

1. Develop an on-going program to determine the quality, quantity, location, and type of mineral and aggregate resources in the County so that up-to-date material will be available to make informed decisions.
2. Consider the preservation of aggregate material in all its land use actions.
3. Pay special attention to any development adjacent to mineral and aggregate resources and take the necessary steps to minimize the impacts of development on these resources.
4. Recommend the establishment of an ad hoc committee to review inactive and undeveloped sites identified in the surface mining inventory and make recommendations as to whether or not the sites should be zoned Surface Mining (SM) and protected upon application of the Goal 5 process.
5. Designate as Surface Mining (SM) those sites with current active mining and land reclamation permits as of January 20, 1984 and the one inactive but proposed 700-acre site in the Scappoose area. Change, upon completion of mining activities, those sites that will revert to uses as indicated in the reclamation plan or to uses compatible with surrounding lands.
6. Designate new mining deposits not shown on the existing inventory as Surface Mining when a report is obtained from a certified geologist, engineer/geologist, or qualified engineering testing firm verifying the location, type, quality, and quantity of the material and when other steps of the Goal 5 process are satisfied.
7. Encourage timely utilization of mining resources to protect the site from incompatible development on adjacent lands.
8. Require that all sites proposed for surface mining be inventoried for their archaeological significance in accordance with standards set by the State Archaeologist. If an archaeological site(s) is discovered, the Planning Commission shall hold a public hearing to review the site(s) and establish measures to mitigate potential conflicts as necessary.
9. Retain in its possession lands it now owns which contain aggregate material. The County may permit private operators to mine county materials.

10. Require that proposals for new extraction operations be accompanied by detailed plans of the method of operation and assurances that the area will be suitably reclaimed for uses designated by the plan.
11. Require that once mining and/or associated activities (~~h.e.i.e.~~, rock crushing) have begun they shall be in accordance with state standards and any more stringent standards that the County may enact. In particularly sensitive areas, such as forestry, residential, agricultural, or wildlife habitat, the mining and associated operations shall be subject to more restrictive standards to keep noise, dust, erosion, and other hazards to a level compatible with the adjacent uses. Such standards may include requirements for barrier isolation, setbacks, operating times, concomitant reclamation, limits to active mining area, mining lifetime, water quality, and restrictions on on-site processing.
12. Prohibit extraction of sand and gravel from rivers and streams unless appropriate regulating agencies such as the Oregon Department of Environmental Quality, Department of Fish and Wildlife, Oregon State Land Board, Division of State Lands, Corps of Engineers, and Columbia County are in agreement and there is no other economically feasible alternative.
13. Make all possible efforts to ~~insure~~ensure the retention of riparian habitat, the prevention of erosion and sedimentation, and maintenance of the water quality which exists prior to extraction operations.
14. ~~Insure~~Ensure that extraction operations approved by the County and other regulating agencies do not screen and wash within any river or stream. In addition, settling ponds shall not discharge directly into any watercourse.
15. Require, as a minimum standard, that extractive industries have access to a public road with two-way capability. As allowed by ORS 487.905, the County may impose weight/load restrictions and may also require the operator to post an adequate surety bond for road repairs.
16. Encourage DOGAMI to conduct a comprehensive inventory of the mineral resources. Upon completion of this study, the County shall up-date zoning and other ~~implementing~~inary ordinances to accommodate newfound resources.
17. Prohibit new or expanded mineral or aggregate mining operations within 5,000 feet of the edge of a runway at Scappoose Industrial Airpark. *[Added by Ordinance No. 2000-04 eff. 11/13/00].*
18. Prohibit new or expanded water impoundments greater than or equal to one-quarter (¼) acre in size, individually or cumulatively, within 5,000 feet of the edge of a runway at the Scappoose Industrial Airpark. *[Added by Ordinance No. 2000-04 eff. 11/13/00].*

ARTICLE VII. ENERGY

[Title amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

INVENTORY:

Energy sources identified in Columbia County are the Trojan Nuclear Plant near Prescott, Oregon, Beaver Combustion and Steam Plant at Port Westward, and the natural gas wells in the Mist area. The Trojan Plant is the major thermal plant in the County, with an output capacity of 106,000 kilowatts. The Beaver Plant is capable of generating power either from natural gas or oil. However, its use is restricted to emergency situations due to the high cost of operation. Portland General Electric receives about 60% of the Trojan capacity and all the output from the Beaver Plant. The locations of these plants are:

Trojan T7N, R2W, S35, Tax Lot #01000 and 01200 and T6N, R2W, S2,
Tax Lot #00100.

Beaver - T8N, R4W, S15 and 16, Tax Lot #300 and 400.

Currently there are eleven (11) producing natural gas wells in Columbia County, all of which have been drilled by Reichhold Energy Corporation. The locations of these wells are shown on map 43.

Information concerning the County's oil and coal deposits lacks specificity. These sites have been determined (1B) and will be addressed in the future when more information becomes available concerning their location, quality, and quantity.

POTENTIAL CONFLICTING USES:

Both the Trojan Nuclear Plant and Beaver Plant are located in areas zoned Rural Industrial Planned Development (RIPD). In addition, PGE has instated a site Exclusion Zone around Trojan in which activities posing potential conflicts are regulated. No conflicting uses are identified for these energy sources.

The eleven producing natural gas wells are located on lands zoned Primary Forest (PF-80). Potential conflicts for wells in this zone are: 1) pollution of fresh water sources by gas; 2) accidents which cause fire; and 3) development of lands for residential or other uses that restrict access to the site, or which may be disturbed by noise and mining activities.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

A natural gas well is a temporary land use that affects approximately one-half acre of ground. Economically, the use benefits property owners, mineral rights holders, and service districts. Under ORS 632-10-158, the Oregon Department of Geology and Mineral Industries (ODOGAMI) has established a spacing unit of 160 acres for gas well producing zones above 7,000 feet in depth. All producing wells in the County are between 2,200 and 2,900 feet in depth and must conform with this regulation. The unit is located along section lines and

quarter section lines. Any party who holds mineral rights on acreage within the spacing unit shares in a producing well percentage-wise as their total acreage compares to 160 acres, or 640 acres. For this reason, owners of property surrounding the well have an interest in its productive capabilities.

Columbia County also has a varying interest in each well. In the late 1930's and early 1940's, the County acquired thousands of acres of land on tax foreclosure sales. While most of this land has since been sold, the County has reserved the mineral rights on all sales. Portions of the royalties from producing gas wells are also received by both the school district and fire district in the affected area.

Environmental consequences of gas well drilling and exploration may be the disruption of sensitive ecosystems by land disturbance and water source pollution. Unknown long-range effects may also be experienced because of gas removal, though research is too limited to address these effects at this time. Environmental consequences are controlled through regulations imposed by ODOGAMI. Each well must be drilled, cased, and plugged in accordance with standards to prevent the escape of gas out of a stratum or the intrusion of water or other foreign materials into a strata. Rules are also enforced by ODOGAMI to prevent wells from being drilled, operated, and produced in such a manner as to cause injury to neighboring leases or property, to prevent fires, and require the reclamation of drill sites.

Social consequences resulting from the development of resource lands for residential or other purposes that restrict access to the site or which may be disturbed by mining operations are minimal in the County. Wells are primarily located in areas containing large tracts of commercially grown timber zoned for forest use. The development of non-forest related dwellings on such lands is restricted and limited to one (1) dwelling per 38 acres.

FINDINGS:

Potential conflicting uses for natural gas wells in the County are minimized by the controls and regulations imposed by ODOGAMI. They are also minimized since wells are located in remote forested areas and surrounding property owners share in the profits of producing wells. The County will conserve forest lands for forest uses and allow operations conducted for the exploration, mining, and processing of subsurface resources as a conditional use. The County will rely on ODOGAMI to ~~insure~~ensure future protection of resources and surrounding lands.

ENERGY SOURCES GOALS AND POLICIES

GOAL:

To protect deposits of energy materials in the County and prevent injury to surrounding lands and residents.

POLICIES: It is the policy of the County to:

1. Rely on ODOGAMI to require that wells are drilled, cased, and plugged in such a manner as to ensure public safety.
2. Coordinate with ODOGAMI to conduct a comprehensive inventory of energy

sources in the County, including those oil and coal deposits determined as (1B). Upon completion of this study, the County shall complete the Goal 5 process for newfound resources, and up-date zoning and other implementing ordinances to accommodate them.

ARTICLE VIII. FISH AND WILDLIFE HABITAT

[Amended by Ordinance No. 2003-06, eff. 7/30/03; Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

The 2023 ESEE Analysis supplements and, in cases of conflict, supersedes the limited ESEE analyses found in Article VIII.

BIG GAME HABITAT

1. LOCATION:

[Amended by Ordinance No. 2003-06, eff. 7/30/03].

Three types of big game habitat have been identified in Columbia County by the Oregon Department of Fish and Wildlife. The location of big game habitat is shown in the 1995 Beak Consultants maps entitled "Wildlife Game Habitat" in the Technical Appendix Part XVI, Articles VIIIA, which are incorporated herein by this referenced. In Columbia County, these habitat types are defined as:

- a. Major - Areas of the County which supports the majority of big game. These areas provide forage and cover for game during most of the year.
- b. Peripheral - Areas of the County which are also important for sustaining big game populations. These areas are generally at lower elevations and serve as critical habitat during severe winter months. Peripheral Big Game Habitat Areas in Columbia County are:
 - i. Clatskanie River Drainage
 - ii. Nehalem River Drainage
 - iii. Rock Creek Drainage
 - iv. Tide Creek Drainage
 - v. Merrill Creek Drainage
 - vi. Milton Creek Drainage
 - vii. Scappoose Creek Drainage
 - viii. Clear Creek Drainage
 - ix. Woodson Upland Area

x. Mayger Area

- c. Impacted - Areas of the County for which an acknowledged "built and committed" exception has been taken. Because of existing levels of residential land use, these areas are no longer considered resource land and/or viable big game habitat. These "built and committed areas" are typically in urban areas or on lands that have been zoned Rural Residential or Rural Community. These areas frequently contain populations of big game despite their status as being impacted. [Amended by Ordinance No. 2003-06, eff. 7/30/03].

2. QUALITY: [Amended by Ordinance No. 2003-06, eff. 7/30/03].

Columbia County contains large amounts of forested lands that provide a range from good to excellent big game habitat. Logging practices have created mixed stands of mature forests, clear-cuts, and brush lands that offer excellent forage and cover conditions. Game go to clear-cut areas to feed, use brush lands for hiding cover, and rely on mature forest cover for thermal protection. In addition, the many drainage areas serve as migration corridors for big game travel between different ranges. Big Game animals spend summer months in the higher elevations which offer abundant food and protection from human disturbance. As harsh winter conditions hit these higher elevations, the animals migrate to lower elevations where they can still find food and protection from the cold. The topography and land use pattern in Columbia County accommodates these needs well.

In addition, the majority of land in Columbia County has been designated and zoned for Forestry. Big Game habitat is predominantly found in these forest zoned areas. Since 1993, the minimum parcel size for resource zoned property is 80 acres. The 80-acre parcel size limits the development that can occur in forest land consistent with the 80-acre density standards recommended by ODFW. Furthermore, much of the forest land in Columbia County is prohibited from development by state law. Therefore, because of the large parcel size requirements and the limited development possibility on forest lands, the quality of Columbia County Big Game Habitat is expected to remain high without additional density regulations if siting standards are applied.

3. QUANTITY: [Amended by Ordinance No. 2003-06, eff. 7/30/03].

The majority of the 676 square miles of land located within Columbia County has been identified as habitat for big game by the Oregon Department of Fish and Wildlife. These lands lie within the County's low mountainous Coastal Range and eastern rolling hills.

According to the Oregon Department of Fish and Wildlife the types of Big Game animals found in Columbia County include Roosevelt Elk, Black-tailed Deer, White-tailed Deer, Black Bear, and Cougar. Big game population estimates are currently unavailable for Columbia County.

4. POTENTIAL CONFLICTING USES: [Amended by Ordinance No. 2003-06, eff. 7/30/03].

- a. The majority of the areas designated in Columbia County as being either Major or Peripheral Big Game Habitat are zoned Primary Forest (PF-38), Forest-Agriculture (FA-19), and Primary Agriculture (PA-38). Activities permitted within these zones are generally considered to be compatible with Big Game Habitat. In fact, agricultural and forest practices often

unintentionally enhance Big Game Habitat by providing feed for animals. However, game can conflict with these land uses when they browse young, planted trees and/or destroy and eat crops intended for livestock.

- b. Portions of the Major and Peripheral Big Game Range have been found to be "built and committed" and are zoned rural-residential because of previous residential impact. The Rural Residential zone allows residential development at densities higher than those recommended by the Oregon Department of Fish and Wildlife (1 dwelling per 80 acres). Lands within this rural residential zone correspond with those areas recognized and mapped in "impacted" areas by the Oregon Department of Fish and Wildlife. Substantial conflicts between big game and residential use already exist in these areas. Because of the existing conflict, little additional impact on big game is expected in areas zoned for rural residential use. All rural residential and other exception areas are impacted and exempt from the development siting standards of the CCZO found in the Big Game Range Overlay District.
- c. Other non-resource uses have been identified which could permanently alter big game habitat areas. These uses often have the same general characteristics:
 - i. the introduction of people to habitat areas on a year-round basis;
 - ii. the permanent introduction of groups of people on a seasonal or weekly basis; or
 - iii. the use of land in a manner which necessitates the removal of large amounts of vegetative cover.
- d. The major problems associated with the introduction of people to habitat areas are dog harassment, poaching, traffic harassment, and lost forage and cover areas.

5. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

[Amended by Ordinance No. 2003-06, eff. 7/30/03].

- a. Economic: The loss of big game habitat and subsequent reduction in big game population could have negative economic consequences on revenue generated from big game recreation. Development within habitat areas could also prove costly to the County if the County must provide to remote forested areas. Negative economic consequences would also result from not allowing further development within "built and committed" areas of the County where the infrastructure and have already been developed. The infrastructure and should be used to their maximum capacity in order to obtain the most value from previous investments. Such areas provide opportunities for rural residential living.
- b. Social: If residential densities are allowed above levels recommended by the Oregon Department of Fish and Wildlife, there will be increased forage of ornamental vegetation and gardens. Allowing conflicting uses may also reduce the enjoyment people receive from hunting and other recreational activities. A

balance must be achieved because some County residents may experience personal losses if development is restricted in Big Game Habitat areas.

- c. Environmental: If potential conflicting uses are properly managed in Big Game Habitat, big game will have an opportunity to flourish and increase. If potential conflicting uses are allowed without any limitations, big game populations will probably decrease because of increased harassment and habitat loss. Other animals whose habitat requirements are similar to big game would also be affected. If potential conflicting uses are limited and impacts to big game are minimized by siting standards, big game populations will probably remain steady.
- d. Energy: The energy consequences of limiting rural development in Big Game Habitat are positive. Traffic and road construction associated with the development in remote areas of the County will be reduced because of development standards.

6. FINDINGS:

[Amended by Ordinance No. 2003-06, eff. 7/30/03].

- a. While there are conflicting uses in Big Game Habitat areas, such conflicting uses cannot be completely prohibited without negative consequences. Therefore, the County has adopted a program to protect Big Game Habitat and allow limited impact from conflicting uses. The County will achieve a balance between these Big Game Habitat and conflicting uses by following mandatory Oregon Administrative Rules for siting dwellings and other uses in resource zones and by requiring development siting standards that minimize the impact on Big Game Habitat from new development when new development is otherwise allowed. Dwellings or other conflicting uses that meet State siting standards will be allowed in Big Game Habitat provided that impact from the dwelling or other use will be mitigated by development siting standards. Resource land that is not eligible for new uses is high quality habitat and will remain undeveloped and protected as Big Game Habitat under the Oregon Administrative Rules. In addition, the 80-acre minimum parcel size on resource land will further limit the potential for new development that may negatively impact Big Game Habitat.
- b. In Big Game Habitat areas, new residential uses in forest and farm zones shall follow development siting standards to mitigate their impact upon Big Game Habitat. These standards require any new use to be located to avoid habitat conflicts and utilize least valuable habitat areas. In addition, road development shall be the minimal amount necessary to support residential use. Areas for which "built and committed" exceptions have been taken shall be considered impacted. Because of existing conflicts in these areas, no additional standards to protect big game in such impacted areas are proposed.

7. Program to Protect Big Game Habitat.

[Added by Ordinance No. 2003-06, eff. 7/30/03].

- a. Any resource zoned property that is not eligible for a new dwelling or use, based upon the criteria found in the Oregon State Administrative Rules, shall be protected Big Game Habitat.
- b. Any resource zoned property that is eligible for a new dwelling or use based upon the criteria found in the Oregon State Administrative Rules, shall be eligible under the County's program to protect Big Game Habitat, provided that, the negative impacts from the dwelling or other use on big game is mitigated by compliance with development siting standards.
- c. All new residential development and uses located in Major and Peripheral Big Game or Columbian White-tailed Deer Habitat shall be subject to siting standards substantially the same as the following:
 - i. Dwellings and structures shall be located as near each other and existing developed areas as possible considering topography, water features, required setbacks, and firebreaks.
 - ii. Dwellings and structures shall be located to avoid habitat conflicts and utilize least valuable habitat areas.
 - iii. Road development shall be minimized to that which is necessary to support the proposed use and the applicant shall utilize existing roads as much as possible.
 - iv. The owner/occupant of the resource parcel shall assume responsibility for protection from damage by wildlife.
 - v. Riparian ~~and Wetland~~ areas shall be protected in accordance with Sections 1170 Riparian Corridor Overlay Zone and 1182.
- d. The County shall notify the Oregon Department of Fish and Wildlife (ODFW) of all proposed uses or development activities which require a permit and are located in Major or Peripheral Big Game Habitat. The County will consider the comments and recommendations of ODFW, if any, before making a decision concerning the requested use or activity.
- e. The County shall notify the Oregon Department of Fish and Wildlife (ODFW) and the U.S. Fish and Wildlife (USFW) of all proposed uses or development activities which require a permit and are located in Columbian White-tailed Deer Habitat. The County will consider the comments and recommendations of ODFW and USFW, if any, before making a decision concerning the requested use or activity.

COLUMBIAN WHITE-TAILED DEER HABITAT

1. LOCATION: [Amended by Ordinance No. 2003-06, eff. 7/30/03].

The present habitat of the Columbian White-tailed deer in Columbia County is limited to that portion of the Clatskanie Flats north of Highway 30 from approximately Westport east to the Beaver Power Plant, and Crims Island. Deer were transplanted to Crims Island in 1999 and 2000. The greatest concentrations of White-tailed Deer are found along the north edge of the Clatskanie Flats near the Columbia River. Lord and Walker Islands have been identified by the Fish and Wildlife Service as a potential location for future White-tailed Deer transplants. The location of the Columbian White-tailed Deer Habitat is shown on the 1995 Beak Consultants' Maps entitled "Wildlife Game Habitat" in the Technical Appendix Part XVI, Article VIII(A), which are incorporated herein by this reference. The habitat for this deer once included the islands and shore lands from The Dalles to Astoria and the valleys along the Willamette and Cowlitz rivers.

2. QUALITY: [Amended by Ordinance No. 2003-06, eff. 7/30/03].

The White-tailed Deer population has declined over the years with increase of intensive agriculture employing efficient drainage and clearing of all season cover (i.e., trees and shrubs). These agricultural practices restricted White-tailed Deer to islands and to the remaining brushy, undeveloped areas, and to a network of sloughs, rivers, and ditches. However, in the 1990's, the conversion of open pasture lands to hybrid poplar plantations has provided cover, enabling the White-tailed Deer to spread over a larger area.

3. QUANTITY: [Amended by Ordinance No. 2003-06, eff. 7/30/03].

In 2002, an estimated 100-150 Columbian white-tailed deer were present in Columbia County. The area identified by the U.S. Fish and Wildlife Service and the Oregon Department of Fish and Wildlife as habitat for these deer includes approximately 10,000 acres. In addition, Lord and Walker Islands have been identified as potential habitat for transplanting white-tailed deer. As of the year 2003, the Columbia White-tailed Deer is a Federally listed endangered species.

4. POTENTIAL CONFLICTING USES: [Amended by Ordinance No. 2003-06, eff. 7/30/03].

- a. Lands within the Columbian White-tailed Deer habitat area are zoned Primary Agriculture (PA-80). Generally, practices allowed within this zone are those that enhance the deer's habitat. White-tailed deer often prefer to feed on pastureland, especially pastureland kept short by cattle grazing or by haying. However, the deer also require brushy vegetation for hiding and thermal cover. Columbian white-tailed deer will often feed on open pasture lands and find cover in the thickly vegetated riparian areas.
- b. Potential conflicting uses for Columbian White-tailed deer include: 1) the removal of brushy, vital habitat for creating and improving pasture and agricultural lands, and 2) the draining, filling, and tilling of wetlands. The introduction of residential development and non-residential development such as surface mining into native riparian Columbian White-tailed deer habitat could be a potential conflict, but considering current zoning and other circumstances, the conflict should be very limited.
- c. The intrusion of residential development will be limited somewhat by the 80-

acre minimum lot size and other restrictions placed on farm and non-farm dwellings by the Zoning Ordinance. In addition, the threat of residential development is limited in habitat areas because much of these areas is unsuitable for residential construction. Much of the land in the area has standing water for parts of the year. Therefore, even if the number of 38 80-acre lots increased, there would be a very limited increase in residential development because many of the new lots would contain little or no land suitable for a construction site. Residential development will also be restricted by the limited availability of drinking water in the habitat areas. The County's zoning regulations requiring clustering of dwellings will further limit residential development.

- d. ~~In addition to Section 1190 Big Game Habitat Overlay Zone, c~~Conflicts will also be reduced because of the County's ~~Wetlands~~, Natural Area and ~~Riparian Areas Riparian Corridor~~ Overlay Zones. ~~The majority of the main~~Some White-tailed deer habitat is in ~~the Water Resources~~Riparian ~~Corridor Overlay Zone or the Natural Areas Overlay Zone. Wetlands outside of riparian and natural areas will have no local protection but will continue to be are either the Riparian Overlay Zone or protected by DSL and Corps wetlands programs. the Wetlands Overlay Zone~~The impact of these zones ~~and programs~~ will be to substantially limit residential development in a manner that will protect the habitat for the White-tailed deer. In particular, ~~the Riparian Corridor Overlay Zone~~ ~~each zone~~ limits impact on the natural environment, including the removal of vegetation and filling or draining of wetlands ~~within riparian corridors~~.
- e. The U.S. Fish and Wildlife Service has approved a recovery plan to restore the Columbian white-tailed deer distributed in suitable secure habitat throughout their former range in at least 4-5 viable sub-populations. A plan to re-establish and/or maintain habitat for Columbian white-tailed deer is one adopted approach for bringing about this recovery. This approach includes protecting and enhancing habitat on off-refuge land and applies to the Clatskanie Flats, Wallace Island, and Crims Island areas of Columbia County. The recovery plan identifies the Magruder Ranch, the most western part of the Columbian white-tailed deer area in Columbia County, as one viable sub-population with suitable habitat that contains Columbian white-tailed deer. The recovery plan recognizes that the Wallace Island-Westport subpopulation in Columbia County is also viable, but states that additional measures to secure habitat are needed before the species can be considered recovered.

5. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

[Amended by Ordinance No. 2003-06, eff. 7/30/03].

a. Economic:

Measures protecting Columbian white-tailed deer habitat could have negative economic consequences for the County if they stopped agricultural and forest production in the area. Presently, much of the area is being planted intensively for the production of hardwood pulp. If these practices were severely restricted, property owners would lose potential income from their land and the County would lose potential tax revenues and job opportunities. Property owners would also suffer financial loss if they were unable to build

on their land.

However, if agricultural and residential development is unrestricted, such development may further limit natural Columbian white-tailed deer habitat and force animals to encroach onto adjacent developed lands. The impact of these animals trampling and browsing developed lands could be costly for property owners. A possible solution for potential conflicts could be the acquisition of habitat areas by private and public agencies and management of these lands as habitat. However, this alternative requires that large sums of money, presently unavailable, be invested by such agencies.

b. Social:

The browsing of garden crops and ornamental vegetation can be a nuisance for property owners in the habitat areas. If the White-tailed Deer population increases, residents may find more damage from browsing. Property owners may also suffer a personal loss if they are restricted from building on their land because of white-tail habitat. A positive social consequence of limiting conflicting uses is an opportunity for nature and animal enthusiasts to see the endangered Columbian white-tailed deer.

c. Environmental:

The main consequence of allowing conflicting uses to occur is that white-tailed deer habitat may be further degraded or destroyed. When habitat is destroyed, the remaining herd will be forced to gather in remaining unimpacted areas. The destruction of habitat in the past for other land use purposes played a major role in reducing the Columbian white-tailed deer population. If significant habitat for these animals continues to be lost, the population of endangered Columbian white-tailed deer will most likely decline further.

In order to minimize the potential loss, the County is limiting residential development, in White-tailed Deer Habitat by imposing siting standards for development in such habitat, ~~and~~ by establishing wetland and riparian corridor boundaries [for DSL notification. The removal of local wetland protection could adversely impact white-tailed deer habitat; however, state and federal wetland protections minimize this risk. The Riparian Corridor Overlay Zone establishes riparian corridor setbacks and require retention of native vegetation and avoidance of wetlands unless there are no reasonable alternatives.](#)

d. Energy:

If residential development in the Columbian White-tailed Deer Habitat area is managed, energy resources will be reserved. These reserve resources may then be put to more efficient use in other areas of the County.

6. FINDINGS:

[Amended by Ordinance No. 2003-06, eff. 7/30/03].

The County shall adopt an 80-acre minimum parcel size for all new parcels in resource zoned land located in Columbian white-tailed deer habitat areas. Within the Columbian white-tailed deer range, non-forest and non-farm dwellings shall be located to avoid habitat conflicts and utilize least valuable habitat areas. To minimize adverse habitat impacts, siting standards for forest and farm dwellings will be applied to residential uses on all new and existing parcels within the Columbia white-tailed deer habitat. [County and state measures](#) protecting riparian

and wetland habitat for Columbian white-tailed deer will also be implemented in the area. Taken together, these measures will adequately protect the habitat without unreasonably impacting the economy of the area.

FISH HABITAT

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

1. PROTECTED FISH:

Three groups of fish have been identified for Fish and Wildlife Protection in Columbia County by the Oregon Department of Fish and Wildlife ([ODFW](#)). These are:

- a. Anadromous fish - fish which begin life in freshwater, rear to maturity in saltwater, and return to freshwater to spawn. Anadromous fish include coho and chinook salmon, winter steelhead trout, and sea-run cutthroat trout.
- b. Resident trout - freshwater fish including rainbow and cutthroat trout.
- c. Warm-water game fish - a group which includes bullhead catfish, crappie, bluegill, largemouth bass, and yellow perch.

2. LOCATION: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

No fewer than thirty waterways in Columbia County provide spawning and rearing habitat for anadromous fish. The major spawning, rearing, and migrating areas are the Columbia, Nehalem, Clatskanie, and Scappoose Systems. Other small streams in the County, including, but not limited to, Beaver, Conyers, Goble, Honeyman, McNulty, Merrill, Milton, Rock, and Tide Creeks, are also important habitat areas for anadromous fish. Resident trout are found in nearly all of the perennial streams in Columbia County and have been stocked in many lakes and ponds.

Warm-water game fish are restricted primarily to the Columbia River and its flood plain but can also be found in Vernonia Lake. Some of the most productive warm-water angling spots are on Sauvie Island, Multnomah Channel, Scappoose Bay, Deer Island Slough, Prescott Slough, Beaver Slough, and Westport Slough.

~~For purposes of fish habitat protection, all streams designated by the Oregon Department of Forestry as "fish-bearing" in its Stream Classification maps, and all lakes identified in "Lakes of Columbia County", are significant fish habitat. The County shall use such maps, as amended, to determine the significance. The County shall coordinate with the Oregon Department of Forestry to obtain the most current Classification Maps. A copy of the most current Oregon Department of Forestry Stream Classification Maps shall be kept in Part XVI, Article X(B) of the Technical Appendix, for reference. "Lakes of Columbia County" is attached in the Technical Appendix, Part XVI, Article X(B), and is incorporated herein by this reference.~~

3. INVENTORY AND SIGNIFICANCE: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

~~[In 2003, Columbia County adopted a wetland and riparian corridor inventory that did not meet the Goal 5 "safe harbor" provisions. Specifically, Columbia County used inventories from the](#)~~

Oregon Department of Forestry (ODF) alone to determine if streams were "fish-bearing":

"Columbia County used the "safe harbor" provisions of Goal 5 to determine riparian corridor significance. The main purpose of the riparian area is to protect fish habitat. For purposes of this inventory, all streams and lakes designated by the Oregon Department of Forestry as "fish-bearing" and all lakes identified in "Lakes of Columbia County," are considered significant fish habitat."

The Goal 5 "safe harbor" requires consideration of ODFW maps indicating fish habitat in concert with ODF stream classification maps and Oregon Water Resource Department information on average annual stream flows. The 2023 fish habitat inventory relies on ODFW Oregon Fish Habitat Distribution Data (published January 13, 2023), until a subsequent inventory update and ESEE Analysis is completed.

4. **QUALITY:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Historically, habitat for fish in Columbia County is generally of good to excellent quality. Local Watershed Councils have also been established to work to improve fish habitat in Columbia County.

5. **QUANTITY:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Many rivers and streams in Columbia County drain from the Coastal Mountains to the Columbia River. There they meet a network of lakes, ponds, sloughs, and other water bodies formed in the old Columbia River flood plain. These water features provide an abundance of fish habitat within Columbia County. All ~~streams and lakes designated by the Oregon Department of Forestry as "fish-bearing" and all lakes~~ identified in "Lakes of Columbia County", and all streams identified as fish habitat on the 2023 ODFW Oregon Fish Habitat Distribution maps, are significant for purposes of Goal 5. All riparian areas established by Article X(B) of Part XVI, are significant fish habitat.

6. **BACKGROUND AND CONFLICTING USES** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Three major land use activities which take place within and adjacent to fish habitat areas are potential conflicting uses. These activities are forest practices, agricultural practices, as well as residential, commercial, and industrial development. Actual potential conflicts which may be caused by these practices and activities include, but are not limited to:

- a. Limited available access to rivers and streams because of private land ownership may restrict the release of fish stock and recreational enjoyment of fish resources.
- b. Obstructions to fish passage may be created for other land use purposes. Obstructions, which hinder migration, include dams, culverts, tide gates, and logging practices.
- c. Streamflow levels may be reduced below acceptable levels when waters are diverted for residential, industrial, agricultural, or other purposes.
- d. Pollutants introduced into the water because of land use actions may reduce

water quality.

- e. Removal of riparian and wetland vegetation may destroy fish habitat in rivers, streams, wetlands, and other water bodies by elevating water temperatures and stream sedimentation.
- f. Mining and filling practices which change the structure of the stream channel may destroy spawning and rearing habitat in streams and rivers.

7. **SUMMARY AND ESEE REFERENCE:** *[Amended by Ordinance No. 2003 – 5, eff. December 15, 2003].*

Habitat for fish exists in the lakes, rivers, and streams of Columbia County. All streams ~~identified as fish habitat on the 2023 ODFW Oregon Fish Habitat Distribution maps designated by the Oregon Department of Forestry as “fish-bearing”~~ and all lakes identified in “Lakes of Columbia County” are significant for purposes of Goal 5. In addition, all riparian areas listed in Article X(B) of Comprehensive Plan, Part XVI are significant fish habitat. Potential conflicting uses affect habitat quality in a number of ways: by removing vegetation, introducing pollutants, creating obstructions to fish passage, reducing streamflow levels, destroying spawning and rearing habitat, or by reducing water quality by increased temperatures and sediments. The consequences of these conflicting uses have been determined in the 2023 ESEE analysis and the Riparian Corridor (Article X(B)) portion of this report.

Many of the activities that affect a stream or lake and reduce fish habitat are subject to state and federal regulations. As documented in the County’s 2023 Goal 5 ESEE Analysis, the County will rely on implementation of these programs to protect fish habitat. In addition, the County will ~~revise adopt a limited riparian corridor protection program – as implemented by “safe harbor” provisions of the within~~ the Columbia County Zoning Ordinance (CCZO), Riparian Corridor Overlay Zone ~~and Wetlands Overlay Zone~~— to mitigate development impacts to significant habitat, including fish-bearing rivers, streams, ~~wetlands~~ and lakes, thereby providing protection for all significant fish habitat. Policies will be adopted to encourage the acquisition of access both to and along rivers, streams, and lakes for the release of fish and recreational enjoyment of County residents.

FURBEARER HABITAT

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

1. **LOCATION:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Furbearers include both aquatic forms of wildlife such as beaver, muskrat, mink, and otter, and terrestrial forms such as skunk, fox, and bobcat. Furbearers require open space associated with forest, agriculture, and other resource land uses. However, their important habitat areas are wetlands, ponds, lakes, swamps, streams, and riparian vegetation associated with these water bodies.

2. **QUALITY:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

The quality of furbearer habitat is good in Columbia County. The quality of important habitat areas for furbearers such as wetlands, ponds, lakes, swamps, streams, and riparian vegetation, are described in more detail in Part XVI, Article VIII(C) of the Comprehensive Plan.

3. QUANTITY: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Columbia County has a large amount of lands in forest and agricultural use. The County also contains an abundance of water bodies including wetlands, lakes, ponds, streams, and swamps. Therefore, a large amount of habitat for furbearing animals exists in the County.

4. POTENTIAL CONFLICTING USES:

Land use development activities which reduce the quality and quantity of habitat areas are potential conflicting uses for furbearers. Particularly damaging activities include the draining and filling of wetlands, and expansion of development into riparian areas. Potential conflicts also arise between furbearers and landowners when animals cause damage. Beavers, for example, may cut down trees or block culverts with dams and flood developed lands.

5. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

- a. Economic: The furbearer trapping and processing industry could be adversely affected if wetland habitat areas are not locally protected. Restricting furbearer animal habitat areas from being logged could cause hardship for property owners unable to benefit from their timber resource. It could also have negative consequences for the community because of lost tax revenue, employment, and income.
- b. Social: The positive consequences of preserving furbearer animal habitat would be for wildlife watchers and other outdoor enthusiasts. These tourists also add to the local economy. The negative consequence of preserving habitat for non-game would be for landowners unable to build or conduct certain other activities within specified areas.
- c. Environmental: Fill and removal of wetland could have adverse impacts on furbearer animal habitat; however, wetlands generally are protected by state and federal regulations. Allowing logging activities or other conflicting uses within habitat areas could cause furbearer animal populations to decrease. In the absence of state and federal wetland regulation, the destruction of wetland habitat could endanger their survival.
- d. Energy: No significant consequences have been identified.

5.6. SUMMARY:

The important habitat areas for furbearers have been identified as wetlands, ponds, lakes, swamps, streams, and associated riparian vegetation. The identified potential conflicting uses for furbearers are all related to the expansion of development into these water resource areas. The economic, social, environmental, and energy consequences of allowing or restricting these types of development in water resource areas are further have already been addressed in the 2023 ESEE Analysis and in Part XVI, Article X, ~~and they are not again determined here.~~

Based on an analysis of these ESEE consequences for identified conflicting uses in important

habitat areas, the County will adopt a program to limit conflicting uses and protect furbearer habitat. Limited protection for these habitats is provided by adopting and applying the Water Resources Riparian Corridor Overlay Zone described in "safe harbor" provisions for riparian corridor protections and wetlands protection in Part XVI, Article X.

WATERFOWL HABITAT

1. LOCATION: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Waterfowl habitat areas have been identified in Columbia County by the Oregon Department of Fish and Wildlife, as shown on the 1995 Beak Consultants Map entitled, "Wildlife Game Habitat". These areas lie near the Columbia River and hold standing or slowly moving water during at least part of the year. The areas provide ideal nesting, feeding, and resting habitat for waterfowl. Wet agricultural areas are also important waterfowl habitat. Often agricultural areas are flooded in the fall and winter and attract large numbers of migrating birds.

2. QUALITY: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

The numerous wetlands, sloughs, rivers, and agricultural lands in Columbia County provide excellent habitat for waterfowl. During late fall and early winter, thousands of migrating birds visit the Columbia River flood plain and Sauvie Island. Crops planted in managed game areas and on private agricultural lands feed this waterfowl population and the intricate network of sloughs and drainage ditches provides provide refuge.

3. QUANTITY: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

The majority of that land within the natural flood plain of the Columbia River is habitat for waterfowl.

4. POTENTIAL CONFLICTING USES: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Areas identified as waterfowl habitat are primarily zoned for agricultural use. In addition, the north end of the Scappoose Bay contains valuable gravel deposits and are zoned for surface mining. Port Westward, a designated industrial area because of its deep-water access on the Columbia River, is also within the area identified as habitat for waterfowl.

Activities that are potential conflicts with waterfowl are:

- a. Filling, draining, or tilling of wetlands;
- b. Removal of riparian vegetation or other vegetation that serves as nesting, feeding, or resting habitat;
- c. Conversions of sloughs, flood plains, and swamp areas to other uses;
- d. Springtime waterfowl damage to pasture and grain fields.

5. SUMMARY:

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

The major economic consequence of allowing conflicting uses in habitat areas is the reduction of waterfowl populations and the subsequent loss of income from associated recreational activities. Other consequences for conflicting uses in waterfowl habitat areas are identified and analyzed in the [2023 ESEE Analysis and in the](#) riparian, wetland, and surface mining portions of Part XVI of the Comprehensive Plan.

State and Federal programs limiting conflicting uses in waterfowl habitat include Section 404 of the Clean Water Act and the State [\(DSL\)](#) Fill and Removal Law. In addition, the County will ~~implement the Natural Area Overlay Zone and Riparian Corridor Overlay Zone~~ ~~adopt "safe harbor" provisions within its Zoning Ordinance (CCZO) Riparian Corridor Overlay Zone and Wetlands Overlay Zone~~ to provide [limited](#) protection for significant [rivers](#), streams, wetlands and lakes [within riparian corridor boundaries](#), thereby providing additional protection for waterfowl habitat. See Comprehensive Plan Part XVI, ~~Article X(A) – Wetlands and~~ Article X(B) - Riparian Areas.

NON-GAME WILDLIFE HABITAT

1. **LOCATION:** *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Non-game wildlife requires a diversified habitat that provides both cover and food. Lands in forest and agricultural use are the primary non-game habitat areas in Columbia County. The riparian area, which contain a diversity of vegetation, supports a large number of non-game species. Specifically, the Oregon Department of Fish and Wildlife has identified nesting sites for Bald Eagles, Northern Spotted Owls, and Great Blue Herons, three significant non-game species in Columbia County. Other important non- game wildlife includes; but ~~are-is~~ not limited to bats, turtles, frogs, martins and any other non-game-species identified by ODFW.

The following sites have been identified as being significant nesting sites by the Oregon Department of Fish and Wildlife. The sites are presumed to be accurate and shall remain in the County inventory unless information establishes that the site is not an important nesting site:

- a. **Bald Eagle Nest Sites:**
 - i. Nest is located in a large Cottonwood tree beside Multnomah Channel in T4N, R1W, SE 1/4 of the NE 1/4 of Sec. 20. The property is owned by Oregon State and the site was discovered in 1983.
 - ii. Nest is located in a Douglas Fir tree, on a bluff opposite the downstream end of Walker Island in T8N, R3W, SE 1/4 of the NW 1/4 of Sec. 28 near Mayger, Oregon. The property is in private ownership.
 - iii. Two nest trees are located on a timbered hill overlooking Hwy. 30 in SE 1/4 of the SE 1/4 of Sec. 1, R5W, T7N. The property is in private ownership.
 - iv. Any additional nests identified by ODFW in the future or listed on the Bald Eagle Nest Survey conducted by the Oregon Cooperative Fish and Wildlife Research Unit, Oregon State University, Frank Isaacs & Bob Anthony, as amended.
- b. **Blue Heron Nest Rookery:**

- i. Rookery is located on Deer Island along Deer Island Slough in NW 1/4 of the NE 1/4 of Sec. 30, T6N, R1W. The property is in private ownership.
- ii. Any additional nest rookeries identified by ODFW in the future.
- c. Northern Spotted Owl Nests:
 - i. Nest area is located along Cedar Creek in Sec. 1, T4N, R3W on BLM land.
 - ii. Nest area is located along Cedar Creek in Sec. 7, T4N, R2W on BLM land.
 - iii. Any additional nest areas identified by ODFW in the future.

2. QUALITY: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

The Northern Bald Eagle and the Northern Spotted Owl are both listed as threatened species by the Oregon Department of Fish and Wildlife and U.S. Fish and Wildlife Service. A threatened species is defined as a species that is likely to become endangered within the foreseeable future through all or a significant portion of its range. Because the nest and the area adjacent to the nest are considered the most sensitive habitat for these animals, the safety of the nest and adjacent areas is critically important.

3. POTENTIAL CONFLICTING USES:
[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Important habitat areas for all non-game species, and the specific nesting sites identified for the Bald Eagle, Great Blue Heron, and Northern Spotted Owl, are located on lands zoned for forest and agriculture. The major potential conflict in these areas are forest and agricultural practices, such as logging activities or the clearing of land for farm use, which destroy or disturb nest sites. Residential development, surface mining activities, or other practices which remove vegetation and/or cause animal harassment could be potential conflicts. Generally, conflicts result for two reasons: First, human activities destroy and disturb sensitive non-game habitat, and second, non-game animals, such as coyotes, encroach onto developed land destroying vegetation and killing livestock.

3.4. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

- a. Economic: Restricting certain non-game habitat areas from being logged could cause hardship for property owners unable to benefit from their timber resource. It could also have negative consequences for the community because of lost tax revenue, employment, and income.
- b. Social: The positive consequences of preserving non-game habitat, particularly the identified eagle, heron, and spotted owl nest sites, would be for bird watchers and other outdoor enthusiasts. These tourists also add to the local economy. The negative consequence of preserving habitat for non-game would be for landowners unable to build or conduct certain other activities within specified areas.

- c. Environmental: Allowing logging activities or other conflicting uses within habitat areas could cause non-game animal populations to decrease. Both the Northern Bald Eagle and Northern Spotted Owl are presently classified as threatened. The destruction of their nesting, breeding, and feeding habitat would further endanger their survival.
- d. Energy: No significant consequences have been identified.

5. FINDINGS:

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Potential conflicting uses exist for non-game animals. Habitats for these animals are on forest and agricultural lands where a diversity of vegetation and land features can be found. The County will adopt a program to limit conflicting uses in significant habitat areas. In addition, specific significant nesting and roosting sites were identified by the Oregon Department of Fish and Wildlife within Columbia County for the Bald Eagle, Great Blue Heron, and Northern Spotted Owl. Some of these sites are located on forest lands and are threatened by forest practices. The County will rely on the Cooperative Agreement between the Board of Forestry and the Oregon State Fish and Wildlife Commission and on coordination provided by the Forest Practices Act to resolve conflicts for sensitive nesting habitat on forest land from forest operations.

For significant nesting habitat on forestland used for non-forest purposes, and for the other future identified nest sites the County will apply the **Sensitive Bird Habitat Overlay Zone**. In addition, the County will apply, when appropriate, Goal 5 "safe harbor" provisions for riparian corridors and wetlands as adopted in the Riparian Corridor and Wetland ~~the Water Resources~~ Riparian Corridor Overlay Zones of the Columbia County Zoning Ordinance. Development and projects for which permits or other land use decisions are required within the Sensitive Bird Overlay Zone shall be coordinated with ODFW. The County shall periodically consult annually with ODFW to obtain the most current inventory of Non-Game Wildlife Habitat.

UPLAND GAME HABITAT

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

1. LOCATION: ~~f.~~ *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

- a. Upland game birds in Columbia County are found on forest and agricultural lands. Their optimum habitat contains a diverse mixture of vegetation that provides nesting, feeding, resting, and escape areas.
- b. According to the Fish and Wildlife Protection Plan for Columbia County created by ODFW, there are two types of upland game birds, those that require forest lands; and those that utilize agricultural lands. The forest species include band-tailed pigeons, blue grouse, ruffed grouse, and mountain quail. Optimum habitats for these birds are patchworks of clear cuts, fields, timber, brush, and water. Species found in agricultural areas include valley quail, mourning dove, and ring-necked pheasant. These birds often use brushy edges, fencerows, ditches, and wood lots adjacent to grain producing areas or old fields of seed-producing grasses and herbs.

- c. The majority of land within Columbia County has retained the forest and agricultural character safety necessary for upland game birds, and supports a large bird population.
- d. Specifically, three important mineral spring areas have been identified in Columbia County as habitat for band-tailed pigeons. These mineral springs are attractive to the pigeons primarily during nesting season and early migration.

The following mineral springs sites have been identified as being habitat for band- tailed pigeons:

i. Conyers Creek Pigeon Springs

Location: T7N, R4W, S 19, NE1/4

Quality: Mineral springs located in a sparsely populated area. The area is presently in agricultural use.

Quantity: 68 acres

ii. Clatskanie Pigeon Springs

Location: T7N, R4W, S 27, NE1/4

Quality: Mineral springs are located in an agricultural area, on private property, and are attractive to the band-tailed pigeon.

Quantity: 20 acres

iii. Dutch Canyon Pigeon Springs

Location: T3N, R2W, S17

Quality: Mineral springs have been impacted by residential development. Quantity: 1 acre

2. POTENTIAL CONFLICTING USES: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Important habitat areas for upland game are located on lands zoned for forest, agriculture, and rural residential use. Generally, conflicts result when farming and forest practices reduce vegetative diversity by removing fencerows and streamside cover, or apply intensive amounts of pesticides. Conflicts may result for the band-tailed pigeon when land use activities are introduced into an area within 600 feet of the identified springs.

3. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

Positive social and environmental consequences will result from restricting conflicting uses in upland game habitat areas. Birds, such as the band-tailed pigeon, will continue to nest, breed, and feed in the County and provide sport for hunters and other outdoor enthusiasts. However, if certain farming, forest, and residential practices are restricted, property owners may experience economic and/or social hardship because of lost opportunities.

4. FINDINGS: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Potential conflicts could reduce the habitat available for upland game birds in Columbia County, if not restricted. However, restrictions must be applied carefully to have minimal impact on existing land use practices. Therefore, the County will adopt programs to limit conflicting uses in significant habitat areas including the identified pigeon mineral springs by applying the **Sensitive Bird Habitat Overlay Zone**, where appropriate.

FISH AND WILDLIFE HABITAT GOALS AND POLICIES

[Amended by Ordinance No. 2003 - 6, eff. July 2003; Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

The County's 2023 Goal 5 ESEE Analysis recognizes the fish and wildlife habitat values are found within water resource areas (SWI wetlands and riparian corridors). The ESEE Analysis concludes that the Riparian Corridor Overlay Zone provides an appropriate level of local protection for significant fish and wildlife habitat within significant water resource areas.

GOAL:

To protect and maintain important habitat areas for fish and wildlife in Columbia County.

POLICIES: It is the policy of the County to:

1. Encourage the provision and acquisition of public access both to and along rivers, streams, and lakes for the release of fish and recreational enjoyment of County residents.
2. Protect significant nesting habitat from the adverse effect of logging and other land use practices through implementation of Section 1120 Sensitive Bird Habitat Overlay and other related overlay zones.
3. Manage its spraying programs to minimize adverse effects on water quality and fish and wildlife habitat.
4. Support preferential taxation methods and density transfers to encourage retention of riparian habitat, brushy fencerows, and wetlands on private lands.
5. Protect habitat areas identified as sensitive for the Northern Bald Eagle, Northern Spotted Owl, Great Blue Heron, and Band-tailed pigeon from activities that would either destroy or result in the abandonment of the sensitive habitat area.
6. Cooperate with the Oregon Department of Fish and Wildlife to better identify sensitive habitat areas for fish and wildlife and adopt implementing measures for their protection.
7. Rely on coordination provided by the Cooperative Agreement between the Board of Forestry and the Oregon State Fish and Wildlife Commission to resolve conflicts between forest operations and sensitive nesting habitat on forest lands. For sites not covered by such Agreement, the Forest Practices Act and Rules shall be administered to protect these sites. *[Amended by Ordinance No. 2003 - 5, effective December 15, 2003].*
8. Rely on the State Department of Water Resources to ensure that minimum

streamflow standards are established and maintained in all streams to ~~insure~~ensure a productive fish habitat and protect aquatic life.

9. Encourage the use of nonstructural methods of bank stabilization in areas experiencing accelerated soil loss.
10. Prohibit diversion or impoundment of stream courses, which adversely impact fish and wildlife habitat.
11. Notify the Oregon Department of Fish and Wildlife (ODFW) and U.S. Fish and Wildlife (USFW) of all proposed uses or activities requiring permits or other land use decisions within inventoried wildlife habitat areas and give consideration to comments received prior to a final decision concerning the proposed uses or activities. *[Amended by Ordinance No. 2003 - 5, effective December 15, 2003].*
12. Cooperate with the Oregon Department of Fish and Wildlife to ensure that future development does not unduly conflict with Big Game and Columbian White-tailed Deer by:
 - a. Limiting potential conflicting uses by designating major and peripheral big-game habitat and White-tailed Deer Habitat in resources zones.
 - b. Limiting new parcel creation in resources zones by enacting an 80 acre minimum parcel size.
 - c. Minimizing impacts to Big Game Habitat and White-tailed Deer Habitat by requiring all new residential development and uses in Big Game Habitat and White-tailed Deer Habitat to follow development siting standards substantially the same as:
 - i. Dwellings and structures shall be located as near each other and existing developed areas as possible considering topography, water features, required setbacks, and firebreaks.
 - ii. Dwellings and structures shall be located to avoid habitat conflicts and utilize least valuable habitat areas.
 - iii. Road Development shall be minimized to that necessary to support the proposed use and shall utilize existing roads as much as possible.
 - iv. The owner/occupant of the resource parcel assumes responsibility for protection from damage by wildlife.
 - v. ~~Riparian and Wetland~~ (including wetlands within riparian corridor boundaries and wetlands classified as natural areas) areas shall be protected in accordance with Section 1170 Riparian Corridor Overlay Zone and 1185 Natural Areas Overlay Zone ~~and 1182.~~
 - vi. Implementation of Section 1190 Big Game Habitat Overlay Zone.
 - d. Columbia County shall notify the Oregon Department of Fish and Wildlife

(ODFW) of all proposed uses or activities which require a permit located within the Big Game Habitat. The County will consider the comments and recommendations of ODFW before making a decision concerning the requested use or activity.

- e. Columbia County shall notify the Oregon Department of Fish and Wildlife (ODFW) and the U.S. Fish and Wildlife (USFW) of all proposed uses or activities which require a permit located within Columbian White-tailed Deer Habitat. The County will consider the comments and recommendations of ODFW and USFW before making a decision concerning the requested use or activity.

[Amended by Ordinance No. 2003 - 6, eff. July 2003].

- 13. Designate "built and committed" areas as being impacted which, because of existing levels of land use, are no longer considered viable big game habitat.

[Amended by Ordinance No. 2003 - 6, eff. July 2003].

- 14. Require the owner or occupant of a dwelling sited in major or peripheral habitat or White-tailed Deer habitat to assume the responsibility for protecting the property from wildlife damage.

[Amended by Ordinance No. 2003 - 6, eff. July 2003].

- 15. Protect significant streams, lakes and wetlands, [designated riparian corridors and natural areas](#) from the ~~adverse affects~~[adverse effects](#) of development and other land use practices.

[Added by Ordinance No. 2003 - 5, effective December 15, 2003].

- 16. Cooperate with the Oregon Department of Fish and Wildlife and U.S. Fish and Wildlife to ensure that future development does not unduly conflict with riparian area protection.

[Added by Ordinance No. 2003 - 5, effective December 15, 2003].

- 17. Limit development along water bodies by adopting "safe harbor" provisions for riparian areas and wetlands.

[Added by Ordinance No. 2003 - 5, effective December 15, 2003].

- 18. Coordinate development or projects that affect Fish and Wildlife habitat ~~shall~~ with ODFW.

[Added by Ordinance No. 2003 - 5, effective December 15, 2003].

- 19. [Protect fish and wildlife habitat through implementation of applicable agricultural and forest resource zones, and through implementation of the following overlay zones:](#)

[a. Section 1030 and 1040 Surface Mining.](#)

[b. Section 1100 Flood Hazard Overlay.](#)

[c. Section 1120 Bird Habitat Overlay.](#)

[d. Section 1140 Greenway Overlay.](#)

[e. Section 1170 Water Resource Overlay.](#)

[f. Section 1185 Natural Area Overlay.](#)

[a-g. Section 1190 Big Game Habitat Overlay.](#)

ARTICLE IX. NATURAL AREAS

A. DEFINITION: ~~f.~~ [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Natural areas have been defined by The Nature Conservancy as follows:

A natural area is a piece of land, or of land and water, that has substantially retained its natural character, or that - although altered in character - is important as plant or animal habitat, which is set aside for the study and appreciation of its natural features and for the preservation of natural diversity.

According to The Nature Conservancy, these Natural Areas provide:

1. Living laboratories for monitoring changes in the environment, for expanding the limited horizons of peoples' ecological awareness, and for developing new land management principles.
2. Reservoirs of genetic material, tested by time rather than by human beings, for revitalizing domestic stocks, both plant and animal, and - perhaps - for repopulating the earth.
3. Outdoor classrooms for learning, and recreation sites for those with naturalist interests.

B. INVENTORY OF NATURAL AREAS IN COLUMBIA COUNTY: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

For inventory purposes, Natural Areas shall be those public land areas occurring in Columbia County that are listed as Natural Areas in the Oregon State Register of Natural Heritage Resources pursuant to OAR 660-023-0160 and those private land areas that are owned by The Nature Conservancy or which meet the Natural Area definition and have been identified as being significant in this Comprehensive Plan. The Oregon State Register of Natural Heritage Resources is attached hereto in the Technical Appendix Part XVI, Article IX, and is incorporated into the Comprehensive Plan by this reference. The two Natural Area ecosystems listed in the State Register that are in Columbia County are the Coast Range and Willamette Valley Ecosystems.

According to the Oregon State Register of Natural Heritage Resources, there are currently four (4) public Natural Areas located partially or wholly within Columbia County. They are listed below. However, the Oregon State Register of Natural Heritage Resources is a dynamic document that is amended regularly. While a list of current sites is provided below, the official inventory of significant public Natural Areas shall be the Oregon State Register of Natural Heritage Resources, as amended. In other words, the proper course of action when

determining whether a public site is a significant Natural Area is to refer to the Register list in effect at the time the question is posed. Significant privately owned Natural Areas in Columbia County can be identified by contacting the Nature Conservancy.

1. **Prescott and Carr Sloughs**

Location: T7N, R2W, S35 and 26

Quality: Sloughs comprise a large Wapato marsh and provide a natural contrast to the manicured grounds of the Trojan Nuclear Plant. Wapato is a rare plant that was once an important food source for the Native American Indians. At one time, Wapato was widespread and common in lakes, ponds, and sloughs of the Columbia and tributaries, but dikes, fills, agriculture, and grazing have decimated its habitat. This is one of only a few known riparian sites with good populations of Wapato. All other Oregon sites, for which information is available, have very small populations, heavy disturbance, or both. This Wapato wetland provides an opportunity to study native wetland habitat in conjunction with similar altered habitat at the nearby Trojan Nuclear site.

Quantity: 239 acres

2. **Scappoose Bay Inlet**

Location: T4N, R1W, S8, 9, 16, 17, 19, 20, 21, 29, 30, 31

Quality: The wetlands in this area are part of a diverse set of aquatic, wetland, and upland habitats that include a large stand of Wapato. The area supports emergent and forest vegetation that provide habitat for wildlife.

Quantity: 355 acres

3. **Sandy Island**

Location: T6N, R1W, S7 and 18

Quality: A long, forested alluvial island in the Columbia River covered by a riparian cottonwood and willow forest. Beaver, deer, small mammals, and various waterfowl constitute a rich assortment of riverine wildlife. This island is a good example of a potential riparian and riverine environment and may provide valuable study in the future.

Quantity: 350 acres

4. **Wapato Marsh "Millionaire Lake"**

Location: T4N, R1W, S10, 15, and 16

Quality: The marsh at the north end of Sauvie Island is part of the Sauvie Island Wildlife Area and is an excellent example of the lower Columbia River wapato-sedge-marsh/willow-ash ecosystem. Because of its remoteness and marshy ground, it is unsuitable for farming and valuable as an ecosystem for study.

Quantity: 172 acres

C. **POTENTIAL CONFLICTING USES:**

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Three of the four sites listed above are zoned Primary Agriculture (PA-38). In addition, Prescott and Carr Sloughs, the Scappoose Bay Inlet, and "Millionaire Lake" are water areas considered

Significant Wetland Areas and covered by the Riparian Corridor Wetland Area (WA) Overlay Zone. Millionaire Lake is within the Sauvie Island Wildlife Management Area and is zoned Community Service Recreation. Potential conflicting uses for Natural Areas are uses which convert the Natural Areas for other uses, or otherwise disturb those site conditions necessary to support the significant resource. Potential conflicts include agricultural practices such as livestock grazing and crop production, draining and filling of wetlands, and other activities which alter vegetation in the natural area.

D. ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

1. Economic: If agricultural practices in and surrounding natural areas in Columbia County were severely limited, negative consequences would result. The County depends on these practices both for tax revenue and for job opportunities. Maintaining efficient operations is a high priority for the County. However, job opportunity and income are also received from protecting these sites as educational and recreational resources and must not be overlooked.
2. Social: If conflicting uses are allowed in natural areas, the educational, recreational, historical, and scenic values of the resource may be lost to the community and the State. Natural areas near residential areas can provide valuable recreational and educational opportunities for area residents. Natural Areas are outdoor classrooms for learning, and recreational sites for those with a naturalist bent. They also are often historically significant resources. For example, the rare Wapato plant links us with past cultures that depended on this plant for food. If conflicting uses are restricted, property owners and workers may experience personal loss from lost opportunity.
3. Environmental: If conflicting uses in the identified natural areas are restricted, positive environmental consequences will result. These areas have been identified as Natural Areas because their natural diversities have remained relatively undisturbed. Columbia County contains very few naturally significant resources because it was one of the first settled areas in the State. The area contains no remaining stands of old growth timber and most sensitive plant life has been destroyed by past conflicting land usage. If conflicting uses are not restricted, the remaining natural areas may also be encroached upon and destroyed.

E. FINDINGS:

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

This inventory of ecologically and scientifically critical lands defined by the Oregon Natural Heritage Program is not a selective inventory. Lands have not been rated and categorized on a priority scale. The reason for this is that protecting one unit of land will change the priority for protecting other lands. Also, often the individuals and opportunities at hand will dictate the appropriate strategy for applying protection. These Natural Areas have been identified and citizens and officials have been notified of their significance. The County will adopt measures to protect the significant character of these features and direct incompatible land uses away from sensitive areas. Both the Riparian Corridor Overlay Zone and the Wetland and Riparian Area Natural Area Overlay Zones, as well as measures particular to Natural Areas, will apply protection for these features. In addition, the County will work with landowners, appropriate State and Federal agencies, The Nature Conservancy, and other private groups to

ensure that these and other examples of the full range of Oregon's natural ecosystem are preserved for future study and enjoyment.

F. NATURAL AREAS GOALS AND POLICIES [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

GOAL:

To protect the remaining ecologically significant natural features in Columbia County.

POLICIES: It shall be the policy of the County to:

1. Protect ecologically significant natural features and areas by restricting land use activities which may degrade their unique characteristics and direct incompatible land uses away from such areas.
2. Cooperate and coordinate with public and private agencies, such as The Nature Conservancy, to advise landowners of the natural area's value and secure their cooperation in applying the appropriate strategy for its protection.
3. Apply the most appropriate program for protecting the unique characteristics of an area including the use of techniques such as fee acquisition, land trades, conservation easements, and management agreements.
4. Coordinate with citizens and public and private agencies to identify potentially significant Natural Areas in Columbia County which might have been overlooked by the Oregon State Register of Natural Heritage Resources or the Nature Conservancy and advocate for their inclusion as a significant natural area.
5. Notify The Nature Conservancy and other appropriate reviewing bodies of actions proposed within natural areas.

ARTICLE X. WATER RESOURCES

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Water resources include significant wetlands, and the riparian corridors of significant (fish-bearing) rivers, streams, and lakes. The Goal 5 Rule (OAR 660-023) includes specific sections related to Columbia County's inventory of and protection program for significant wetlands and riparian corridors.

Columbia County substantially revised Article X Water Resources in 2023. The following discussion begins by explaining the policy rationale behind the County's decisions to (a) determine that wetlands identified on the SWI are not significant for Goal 5 purposes, and (b) to replace existing Wetland and Riparian Corridor overlays with a single Water Resources Overlay Zone. The Goal 5 administrative rule basis for these decisions are also explained below.

THE BASIS FOR THE COUNTY'S 2023 DECISIONS

2003 Water Resources Amendments

In 2003, Columbia County amended the Comprehensive Plan to include Article X, Water Resources. The County applied the safe harbor provisions of the Goal 5 administrative rule (OAR 660, Division 023) to inventory riparian corridors and to protect significant riparian corridors and wetlands throughout the County. However, in 2003 the County incorrectly determined that all wetlands on the Statewide Wetlands Inventory (SWI) were "significant" -- without going through the "Local Wetland Inventory" (LWI) process required by OAR 660-023-0100. Further, in 2003 the County used inventories from the Oregon Department of Forestry alone to determine if streams were "fish-bearing". The Goal 5 administrative rule requires consideration of Oregon DFW maps indicating fish habitat in concert with ODF stream classification maps and OWRD information on average annual stream flows.

To implement plan policies, the County adopted two overlay zones to protect significant riparian corridors and wetlands in 2003:

- Chapter 1170 Riparian Corridors, Wetlands, Fish and Wildlife Habitat Protection Overlay Zone
- Chapter 1180 Wetland Area Overlay

However, because the County has never had a valid rural inventory of significant wetlands, it inappropriately adopted wetland safe harbor protection measures.

Table 1 shows that 15% of Columbia County's zoned land (including zoned water areas) was protected by Chapter 1170 and/or Chapter 1180 overlay zones. Protection of these water resources conflicts with uses allowed in the underlying zoning districts. Notably, 38% of the County's industrial land supply is protected by these two overlay zones. These overlay zones exempt farm and forest uses and practices from review.

Table 1 Columbia County's 2003 Article X. Water Resource Protection Areas

County Base Zone:	Significant / Protected Acres	Percent (%) of County Base Zone with Overlay Protection
County Commercial Zones (C-2, C-3, C-4, C-5, EC, RC)	97 acres	21%
County Industrial Zones (AI, CS-I, M-1, M-2, RIPD)	1,290 acres	38%
County Public Utility & Recreation Zones (CS-R, CS-U)	8,708 acres	81%
County Residential Zones (MFR, MHR, R-10, RR-2, RR-5)	3,594 acres	13%
County Resource Land Zones (FA-80, PA-80, PF-80, SM)	51,085 acres	14%
Unincorporated Areas with City zoning or no zone	386 acres	3%
TOTAL	65,159 acres	15% of the County

Columbia County has not enforced these highly-restrictive regulations over the last 20 years, primarily due to (a) the lack of a valid LWI, and (b) the lack of staff resources and expertise to effectively regulate proposed development that may adversely affect significant wetlands.

Instead, the County has relied on the Department of State Lands (DSL) and the U.S. Army Corps of Engineers (Corps) to provide limited state and federal protection for water resources. Wetlands and stream corridors are also regulated by the Oregon departments of Environmental Quality (DEQ), Fish and Wildlife (ODFW), and Water Resources (OWRD). Although these agencies occasionally allow wetland fill and removal when there is no reasonable alternative for development approved by a city or county, the County's huge wetland inventory has not been seriously threatened by development during this period. By relying on state and federal agencies to manage wetland impacts, most significant water resource sites have been protected from conflicting land development uses.

The original justification for adoption of county wetland and riparian corridor policies and regulations was based on a finding that planned rural development would not be significantly limited by application of the two overlay zones. This finding turned out to be inaccurate. For example, in 2021, the County received an application for a major industrial development on land planned for industrial use at Port Westward. Application of local wetland regulations may have significantly complicated approval of the proposed industrial development, despite adopted economic development policies and a goal exception that allows industrial development that depends on deep water port access.

2023 Water Resources ESEE Analysis and Program Amendments

In December of 2021, the County Board of Commissioners authorized the preparation of an ESEE (economic, social, environmental and energy) consequences analysis to justify removal of local wetland protections and reduce regulatory impacts from riparian corridor protections on property owners and potential residential, commercial, and industrial development. Based on

the draft ESEE analysis, the Board decided to limit application of the new Riparian Corridor Overlay Zone to apply only to fish-bearing lakes, rivers and streams and their respective riparian corridors (excluding application to non-fish bearing water bodies), and to allow the expansion of existing development within riparian corridors with mitigation. The County has chosen not protect wetlands outside of (a) riparian corridors, (b) Natural Areas, or (c) where required by city plan policies applicable to unincorporated land within UGBs.

In 2003, Columbia County inappropriately applied the "safe harbor" inventory provisions of the Goal 5 rule (OAR 660-0023) to identify and map "significant" wetlands and riparian corridors. And, as noted above, did not prepare the LWI required to determine local wetland significance. Further, the County used inventories from the Oregon Department of Forestry alone instead of ODFW inventories to determine if streams were "fish-bearing"; and incorrectly applied the riparian corridor safe harbor to inventory and protect riparian corridors associated with non-fish-bearing streams and ditches. ODFW inventories of fish-bearing water bodies capture and expand upon ODF fish-bearing inventories.

In 2023, based on advice from the Department of Land Conservation and Development, Columbia County decided to remove SWI wetlands from its inventory of significant wetlands. Fish-bearing rivers, lakes and streams, as determined by ODFW, and their riparian corridors of fish-bearing streams, -continue to be "significant" for Goal 5 purposes.

- Technical Appendix Part XVI, Article X(A) includes maps of wetlands found on the SWI; the SWI is used by County staff and the public for DLS notification purposes. Significant wetlands include wetlands identified in adopted city Local Wetland Inventories (LWI). The cities of Clatskanie, Scappoose, St. Helens and Vernonia have adopted LWIs for wetlands and streams within their respective UGBs.
- Technical Appendix Part XVI, Article X(B), includes maps of all significant lakes, rivers, and streams in unincorporated areas of Columbia County. Significant riparian corridors include fish-bearing lakes, rivers and streams and their riparian setback areas, and are based on Oregon Department of Fish and Wildlife (ODFW) Fish Habitat Distribution Data published on January 13, 2023.

In 2003, the County identified conflicting uses based on the safe harbor provisions of the Goal 5 rule. OAR 660-023-0100 identifies grading, excavation, placement of fill, and vegetation removal (other than perimeter mowing and other cutting necessary for hazard prevention) as uses that conflict with wetland conservation.

Table 1 above identifies the land area covered by significant wetlands and riparian corridors in unincorporated areas of Columbia County by base zoning district. OAR 660-023-0090 states that any land use permitted either outright or conditionally the applicable base zone that results in these activities is considered a "conflicting use."

The Goal 5 rule exempts agricultural and forest practices from County Goal 5 regulations, and instead relies on the Forest Practices Act and agricultural statutes that protect water resources on land zoned for farm and forest use.

In 2003, the County conducted a short ESEE consequences analysis to justify protection of significant wetlands and riparian corridors. In part because the 2003 ESEE analysis included critical substantive and procedural errors, the Board authorized preparation of a revised and more expansive ESEE analysis in 2023.

The Revised 2023 ESEE Analysis

The revised 2023 ESEE analysis is found in Part XVI, Article X(C). Key findings from the revised ESEE analysis include the following:

- a. The County's existing wetland regulations (inappropriately adopted in 2003) are among the most restrictive in Oregon, and effectively prohibit development on significant wetlands.
- b. Wetlands are abundant in Columbia County and cover over a third of the County's rural industrial sites, which means that significant portions of these sites are not available for development and employment opportunities called for in the Comprehensive Plan.
- c. The County recognizes that wetlands and riparian corridors provide valuable habitat for a wide range of wildlife species, including big game, Columbia white-tailed deer, fish, furbearing animals, waterfowl, and non-game wildlife.
- d. Although wetlands provide a variety of ESEE benefits, including fish and wildlife habitat, the County has determined that providing an additional layer of local wetland protection imposes economic and social costs on Columbia County landowners.
- e. Columbia County lacks the resources and expertise to effectively administer 2003 Wetland Overlay Zone provisions.
- f. The County also recognizes that removal of SWI wetlands from the County inventory of significant wetlands combined with (a) removal of local wetland protection outside of designated riparian corridors could have adverse environmental impacts for these habitat areas.
- g. However, as documented in the 2023 ESEE Analysis, state and federal regulations provide a high level of protection for SWI wetlands, while providing a process for wetland fill and removal consistent with local comprehensive plan policies and land use regulations.
- h. Columbia County recognizes the importance of providing limited local protection for the County's fish-bearing rivers, lakes and streams – and related fish and wildlife habitat – by adopting riparian corridor setbacks for most types of development. The revised riparian corridor protection program allows water-related uses, and public facilities that support development throughout the County.
- i. The County also recognized that the 2003 Riparian Corridor Overlay Zone made it difficult to expand existing development, and (based on the 2023 ESEE Analysis) amends this overlay to allow for expansion within riparian corridors provided there is no net loss in habitat value.
- j. Requiring that most types of development be constructed outside of riparian buffers recognizes that stream locations change over time and that riparian vegetation limits streambank erosion, maintains water quality, supports the commercial and sport fishing industry, and retains significant wildlife habitat.

Revised Water Resources Program

The revised Chapter 1170 Riparian Corridor Overlay Zone amends the original Chapter 1170 Riparian Corridors, Wetlands, Fish and Wildlife Habitat Protection Overlay Zone and removes the Chapter 1180 Wetland Area Overlay from the County Zoning Ordinance. The Riparian Corridor Overlay District provides (a) no local protection for SWI wetlands (outside of designated riparian corridors) or non-fish-bearing streams, and (b) limited protection for fish-bearing lakes, rivers and streams, their state-prescribed riparian corridors, and wetlands within riparian corridor boundaries.

Table 2 provides an overview of the revised water resource protections by zone.

Table 2 Columbia County's 2023 Riparian Corridor Overlay District

<u>County Base Zone:</u>	<u>Significant / Protected Acres</u>	<u>Percent (%) of County Base Zone with Overlay Protection</u>
<u>County Commercial Zones</u> (C-2, C-3, C-4, C-5, EC, RC)	55 acres	16%
<u>County Industrial Zones</u> (AI, CS-I, M-1, M-2, RIPD)	391 acres	16%
<u>County Public Utility & Recreation Zones</u> (CS-R, CS-U)	4,158 acres	39%
<u>County Residential Zones</u> (MFR, MHR, R-10, RR-2, RR-5)	1,286 acres	5%
<u>County Resource Land Zones</u> (FA-80, PA-80, PF-80, SM)	14,567 acres	4%
<u>Unincorporated Areas with City zoning or no zone</u>	154 acres	7%
TOTAL	20,612 acres	5% of the County

Rather than providing local protection for 15% of the County's zoned land and water areas, the revised Chapter 1170 will provide local protection for 5% of the zoned area. The County will rely on state and federal programs to protect the significant and non-significant wetlands from filling, draining, or other alterations which would degrade their biological value. Riparian corridor protection will apply to 16% - rather than 38% - of the County's industrial land supply. The majority of the significant wetlands and riparian corridors are zoned for agricultural or forest uses, which are exempted from local wetland regulations in any case.

COUNTY APPLICATION OF GOAL 5 WETLAND AND RIPARIAN CORRIDOR RULES

Counties must follow Goal 5 rules related to wetlands and riparian corridor when water resource inventories and programs are adopted or amended. However, these rules provide counties wide latitude in developing local protection programs. In fact, there is no requirement for counties to protect wetlands – other than providing notice to the Department of State Lands.

Wetland Rules (OAR 660-023-0100)

Inventory Options

- (5) For areas outside UGBs and UUCs, local governments shall either adopt the statewide wetland inventory (SWI, see ORS 196.674) as part of the local comprehensive plan or as a land use regulation, or shall use a current version for the purpose of section (7) of this rule.*
- (6) For areas outside UGBs and UUCs, local governments are not required to amend acknowledged plans and land use regulations in order to determine significant wetlands and complete the Goal 5 process. Local governments that choose to*

amend acknowledged plans for areas outside UGBs and UUCs in order to inventory and protect significant wetlands shall follow the requirements of sections (3) and (4) of this rule.

- (3) For areas inside urban growth boundaries (UGBs) and urban unincorporated communities (UUCs), local governments shall: (a) Conduct a local wetlands inventory (LWI) using the standards and procedures of OAR 141-086-0110 through 141-086-0240 and adopt the LWI as part of the comprehensive plan or as a land use regulation; and (b) Determine which wetlands on the LWI are "significant wetlands" using the criteria adopted by the Division of State Lands (DSL) pursuant to ORS 197.279(3)(b) and adopt the list of significant wetlands as part of the comprehensive plan or as a land use regulation.

Program Options

- (4) For significant wetlands inside UGBs and UUCs, a local government shall:
(a) Complete the Goal 5 process and adopt a program to achieve the goal following the requirements of OAR 660-023-0040 and 660-023-0050; or
(b) Adopt a safe harbor ordinance to protect significant wetlands consistent with this subsection, as follows: (A) The protection ordinance shall place restrictions on grading, excavation, placement of fill, and vegetation removal other than perimeter mowing and other cutting necessary for hazard prevention; and (B) The ordinance shall include a variance procedure to consider hardship variances, claims of map error verified by DSL, and reduction or removal of the restrictions under paragraph (A) of this subsection for any lands demonstrated to have been rendered not buildable by application of the ordinance.
- (7) All local governments shall adopt land use regulations that require notification of DSL concerning applications for development permits or other land use decisions affecting wetlands on the inventory, as per ORS 227.350 and 215.418, or on the SWI as provided in section (5) of this rule.

County Application of Wetland Rules in 2003 and 2023

In 2003, Columbia County chose (but was not required) to amend its comprehensive plan and zoning ordinance to inventory and protect significant wetlands. However, the County mistakenly interpreted Section (5) of the Wetland rule to allow counties to adopt the SWI to meet wetland inventory requirements – rather than DSL notification requirements. The County also erroneously applied wetland safe harbor protection measures to SWI wetlands, which is not authorized by the Wetland rule. Nevertheless, the Land Conservation and Development Commission (LCDC) later acknowledged this erroneous county decision.

Note that the Wetland protection safe harbor does not provide a definition for "restrict" and does not explain what is meant by the phrase "place restrictions on" as used in subsection (4)(b)(A) above. The County's Wetland Area Overlay Zone interpreted the term "restrict" to mean "prohibit" all development within wetlands identified on the State Wetland Inventory (SWI). Since the SWI includes riverine wetlands (streams and ditches), this highly restrictive interpretation was applied to water areas within riparian corridors as well.

In 2023, Columbia County removed SWI wetlands from the inventory of significant wetlands based on a correct interpretation of the Wetland rule and removed local protection measures for rural wetlands outside of UGBs, natural areas, and riparian corridors. Because the County's 2003 decision to inventory and protect SWI wetlands was inconsistent with Goal 5 Wetland rule

requirements, DLCD suggested that an ESEE analysis may not be required. However, because the decision to remove SWI wetlands from the County inventory effectively removes existing wetland protection measures, the County conducted an ESEE analysis in an abundance of caution.

The County's decision to remove SWI wetlands from its inventory of significant wetlands, and not to regulate wetlands outside of riparian corridor boundaries, is supported by (a) the correct interpretation of the Goal 5 Wetland rule (OAR 660-023-0100) and the 2023 ESEE Analysis in Part XVI, Article X(C) of the Columbia County Comprehensive Plan.

As required by the Goal 5 rule and local regulations, the County will continue to notify the Department of State Lands (DSL) when development permit applications affect wetlands on the SWI.

Riparian Corridor Rules (OAR 660-023-0090)

(1) Definitions

(b) "Riparian area" is the area adjacent to a river, lake, or stream, consisting of the area of transition from an aquatic ecosystem to a terrestrial ecosystem.

(c) "Riparian corridor" is a Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary.

(h) "Water area" is the area between the banks of a lake, pond, river, perennial or fish-bearing intermittent stream, excluding man-made farm ponds.

(2) Local governments shall amend acknowledged plans in order to inventory riparian corridors and provide programs to achieve Goal 5 prior to or at the first periodic review following the effective date of this rule, except as provided in OAR 660-023-0250(5).

Inventory Options

(3) Local governments shall inventory and determine significant riparian corridors by following either the safe harbor methodology described in section (5) of this rule or the standard inventory process described in OAR 660-023-0030 as modified by the requirements in section (4) of this rule.

(5) As a safe harbor in order to address the requirements under OAR 660-023-0030, 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 shown on the documents listed in subsections (a) through (f) of section (4) of this rule, as follows:

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

(b) Along all lakes, and fish-bearing streams with average annual stream flow less than 1,000 cfs, the riparian corridor boundary shall be 50 feet from the top of bank.

(c) Where the riparian corridor includes all or portions of a significant wetland as set out in OAR 660-023-0100, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland.

Protection Options

(8) As a safe harbor in lieu of following the ESEE process requirements of OAR 660-023-0040 and 660-023-0050, a local government may adopt an ordinance to protect

a significant riparian corridor as follows:

- (a) The ordinance shall prevent permanent alteration of the riparian area by grading or by the placement of structures or impervious surfaces, except for the following uses, provided they are designed and constructed to minimize intrusion into the riparian area: (A) Streets, roads, and paths; (B) Drainage facilities, utilities, and irrigation pumps; (C) Water-related and water-dependent uses; and (D) Replacement of existing structures with structures in the same location that do not disturb additional riparian surface area.
- (b) The ordinance shall contain provisions to control the removal of riparian vegetation, except that the ordinance shall allow: (A) Removal of non-native vegetation and replacement with native plant species; and (B) Removal of vegetation necessary for the development of water-related or water-dependent uses.
- (c) Notwithstanding subsection (b) of this section, the ordinance need not regulate the removal of vegetation in areas zoned for farm or forest uses pursuant to statewide Goals 3 or 4;
- (d) The ordinance shall include a procedure to consider hardship variances, claims of map error, and reduction or removal of the restrictions under subsections (a) and (b) of this section for any existing lot or parcel demonstrated to have been rendered not buildable by application of the ordinance.

County Application of Riparian Corridor Rules in 2003 and 2023

In 2003, Columbia County amended its comprehensive plan and zoning ordinance to inventory and protect significant riparian corridors. The county also chose to apply the "safe harbor" provisions of Goal 5 to inventory and protect significant riparian corridors of fish-bearing rivers, streams, and lakes.

However, the County also chose to protect non-fish-bearing stream corridors – which is not authorized by the riparian corridor safe harbor provisions above. Because the County did not follow the regular Goal 5 inventory and decision-making process in making its decision to protect such corridors, the decision to protect non-fish-bearing streams was inconsistent with Goal 5 rule.

In 2023, Columbia County made the policy choice to protect significant riparian corridors based on state-prescribed riparian corridor boundaries. The County's riparian corridor protection program is different than the adopted (2003) riparian corridor standards in four respects:

- (1) all fish-bearing streams identified in the 2023 ODFW inventory (which includes all fish-bearing streams identified on the ODF inventory plus a few small reaches) are protected;
- (2) "associated wetlands" are no longer protected outside of the riparian setback area; and
- (3) the uses allowed in Section (8) of the rule are allowed within the entire riparian corridor (including water areas, wetlands, and riparian areas) – rather than limiting these uses to the "riparian area" adjacent to the stream or lake.
- (4) expansion of existing development may be permitted through a discretionary process if wetland impacts are avoided or minimized, and there is no net loss of habitat value.

The County's decision to make these program changes is supported by the 2023 ESEE Analysis in Part XVI, Article X(C) of the Columbia County Comprehensive Plan.

Portions of the remaining sections of Article X Water Resources are retained (but modified) because they continue to have some relevance and because they provide historical context.

WETLANDS

1. DEFINITION—f: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Wetlands are primarily lowlands covered by shallow and sometimes temporary or intermittent waters. Often, they are referred to as marshes, bogs, swamps, wet meadows, sloughs, and overflow lands. Plant and animal communities in wetlands are dependent on at least periodic saturation by water.

A ~~significant~~ wetland is ~~typically~~ formally defined as an area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

2. INVENTORY AND SIGNIFICANCE: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Columbia County has chosen to remove SWI wetlands from its inventory of significant wetlands. However, the County will consult the SWI for DSL notification purposes, will apply the “safe harbor” provisions of Goal 5 to significant wetlands. The adopted inventory of wetlands for Columbia County is the State Wetlands Inventory (SWI), as amended. A current copy of the SWI is contained in the Technical Appendix Part XVI, Article X(A), for reference. All wetlands inventoried on the SWI or any more detailed inventories such as the Significant wetlands identified on Local Wetlands Inventories (LWI) produced by individual cities and approved by DSL are considered significant for the purposes of Goal 5. The State Wetlands Inventory incorporates wetlands identified on the National Wetlands Inventory (NWI). The Wetland Overlay Zone shall be applied to locations of wetlands as shown on the SWI or LWIs. However, a wetlands not listed in an inventory may still be are protected by relevant Oregon Administrative Rules (OAR) and policies set forth by the Oregon Division Department of State Lands. It shall be the responsibility of the County to notify DSL of proposed development applications that could affect SWI wetlands, and for individual landowners to verify the existence or nonexistence of wetlands on any property prior to any development activity or other impact.

3. QUALITY—f: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Significant wetlands identified in city LWIs are significant for Goal 5 purposes. Wetlands in the Identified Wetland inventories have historically been found to be of good or excellent wetland quality by the Oregon Department of Fish and Wildlife. The quality of wetlands adjacent to or found in conjunction with rivers and lakes is addressed in the analysis of riparian vegetation, below.

4. QUANTITY—f: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

All significant wetlands identified in ~~the SWI and/or~~ LWIs are significant for the purposes of Goal

5.

5. POTENTIAL CONFLICTING USES *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Many ~~significant~~ SWI wetlands in Columbia County are surrounded by lands zoned for forest, industrial, rural residential, surface mining, and primarily agricultural use. They serve as habitat for recreationally important waterfowl and wildlife, act as sites for groundwater aquifer recharge, provide flood control, and filter out pollutants. Generally, conflicts arise when wetlands are filled, drained, or otherwise altered in a manner that reduces their biological value. In Columbia County, potential conflicting uses for wetlands are the expansion of agricultural, industrial, surface mining, and residential activities into sensitive wetland areas.

~~Significant wetlands adjacent to or found in conjunction with rivers, streams and lakes are protected using the "safe harbor" provisions of Goal 5 for riparian areas and wetlands. A more detailed analysis of these protection provisions can be found in Comprehensive Plan Part XVI, Article X(B) – Riparian Areas.~~

6. BACKGROUND ~~f~~ *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

~~Please see the 2023 ESEE Analysis for a more detailed and comprehensive analysis of economic, social, environmental and energy consequences of (a) removing SWI wetlands from the County's inventory of significant wetlands, and (b) alternative water resource protection programs.~~

As recreational resources, wetlands contribute to the economy of Columbia County. They provide habitat for the waterfowl, fish, and wildlife populations which attract numerous recreational users to the area each year. Because of the County's proximity to the Portland Metropolitan area and Longview, the recreational value of these sites will likely increase in the future. Already some wetlands in the County have been leased to private hunting clubs for significant sums of money and have become a secondary source of income for landowners. The value of such wetlands may increase and help diversify the economy in Columbia County's future. By regulating activities within ~~locally-defined riparian corridors, wetland areas,~~ the County can protect ~~some of~~ these resources for future use. ~~As documented in the 2023 ESEE Analysis, wetlands outside of defined riparian corridors will not receive local protection but are provided a reasonable level of protection by state and federal agencies.~~

Measures protecting wetlands could have a negative impact on the County if they stopped the development of income-generating land use activities. Not only could measures hinder property owners from reaping the benefits of their land, but potential tax revenue and employment opportunities could be lost to the community. However, ~~most of the some~~ wetlands located in the path of industrial, residential, or agricultural expansion have been filled, drained, and developed in years past. ~~Remaining w~~Wetlands characteristics in these areas are located along within the riparian corridors of fish-bearing sloughs, rivers, and their associated riparian areas and will be protected under the ~~Riparian~~ Riparian Corridor Water Resources Overlay Zone. Landowners in Columbia County ~~should not~~ could suffer severe economic hardship because of adopted regulations which protect wetland areas. Remaining wetlands are generally located in rural areas where ~~little~~ pressure ~~often~~ exists for development.

Regulations imposed around wetland resources ~~will-could~~ be recreationally beneficial to the County. They ~~would will~~ protect a population of wildlife enjoyed by County residents and visitors. However, regulations imposed to wetlands could ~~cause-have~~ negative consequences for County residents if they prohibit the development of personal property for personal benefit.

Protecting the quality of ~~SWI significant~~-wetlands in Columbia County through regulation ~~will/would~~ have positive environmental consequences. Not only will such regulation ensure the availability of quality ~~wildlife~~ habitat, but it will protect other functions of the wetland ecosystem ~~as-well~~. These sites act as areas for aquifer recharge and provide natural flood control by storing waters during winter months and releasing them in the summer when they are needed.

Loss of wetlands, through industrial or other land use expansion, would have negative environmental consequences. Their activities would destroy vegetation and water quality now supporting waterfowl, fish, and many small animals. ~~However, state and federal regulations substantially mitigate most of these concerns.~~

The regulation of development within and around wetlands ~~will-could~~ save energy resources in the County. Energy resources, which may have been used to fill, drain, transport materials, or otherwise develop wetlands, can be used more cost-effectively in other areas of the County. ~~On the other hand, rural industrial and commercial sites with wetlands provide local job opportunities for rural residents, which could reduce vehicle miles traveled and related energy costs.~~

7. FINDINGS AND PROTECTION PROGRAM:

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Columbia County contains abundant wetlands within its boundaries. Many of these wetlands lie along the Columbia River within the old flood plain area and are now surrounded by lands in agricultural use. It is often possible to protect these wetlands and to resolve potential conflicts with other land use activities. To protect these wetlands, the County ~~historically~~ has ~~relied primarily on DSL and the US Army Corps developed an overlay zone~~ to protect the ~~significant wetlands identified-Wetland Areas~~ from filling, draining, or other alterations which would degrade their biological value. The majority of ~~these areas-containing-wetlands~~ are zoned for agricultural ~~and forest~~ use. ~~Activities-allowed in this zone will be restricted so as to protect wetland values. As discussed below, the Riparian Corridor Water-Resources Overlay Zone will provide limited protection for wetlands and related fish and wildlife habitat within locally-defined riparian corridors.~~

RIPARIAN AREAS.

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

~~The Goal 5 administrative rule requires use of the Oregon Department of Forestry's Stream Classification maps and information from the Oregon Department of Water Resources to determine average annual stream flows and use of the Oregon Department of Fish and Wildlife Oregon Fish Habitat Distribution Data (published January 13, 2023) to determine. The inventory of Columbia County streams contained in the Oregon Department of Forestry Stream Classification Maps specifies which streams and lakes are fish-bearing. Fish-bearing lakes are identified on the map entitled, "Lakes of Columbia County." A copy of the most current Stream Classification Maps is attached to the Comprehensive Plan, Technical Appendix Part XVI, Article D(B), for reference. The map, "Lakes of Columbia County" is~~

attached to the Comprehensive Plan, Technical Appendix Part XVI, Article X(B), and is incorporated herein by this reference. Based upon the stream and lake classifications, ~~the county~~the County ~~shall implement~~ has determined the location of significant riparian corridor boundaries based on the Goal 5 riparian corridor inventory as follows ~~substantially similar to~~ the following:

1. BOUNDARIES: ~~f~~ [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

~~a.~~ Lakes. Along all fish-bearing lakes, the riparian corridor boundary shall be 50- feet upland from the ~~top~~s-of-bank, ~~except as provided in subsection (e),~~ below.

~~a.~~

~~b.~~

~~c.~~ Fish-Bearing Streams and Rivers. Along all fish-bearing streams and rivers with an average annual stream flow of less than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 50-feet upland from the ~~top~~s-of-bank, ~~except as identified in subsection (e) below.~~ Average annual stream flow information shall be provided by the Oregon Water Resources Department.

~~d.~~ b.

~~e.~~ c. Fish-Bearing and Non-Fish Bearing Streams (Greater than 1,000 cfs). Along the Columbia River (i.e., all streams and rivers with an average annual stream flow greater than 1,000 cubic feet per second (cfs)), the riparian corridor boundary shall be 75-feet upland from the top-of-bank, ~~except as identified in subsection (e) below.~~ Average annual stream flow information shall be provided by the Oregon Water Resources Department.

~~d.~~ Other Rivers, Lakes, Streams and Sloughs with No Fish. No local protection is provided to ~~Along all~~ other non-fish-bearing rivers, streams, sloughs, intermittent creeks, irrigation or drainage ditches, or other waterways, other than DSL notification if such water areas may be affected by development.

~~the riparian corridor shall be 25-feet upland from the top-of-bank, except as identified in subsection (e) below.~~

~~Wetlands. Where the riparian corridor includes all or portions of a significant wetland, as identified in the State Wetlands Inventory and Local Wetlands Inventories, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland.~~

In 2023, Winterbrook Planning prepared GIS maps comparing the existing and proposed water resource protection programs. Using GIS technology, Winterbrook then prepared tables showing the land use impacts of these two program alternatives. The results of this GIS analysis are summarized in the 2023 ESEE Analysis.

These GIS maps also enable County staff to identify wetlands that could be affected by individual development requests, and are a useful tool for DSL notification when wetlands are present on a property.

2. LOCATION: ~~f~~ [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Riparian areas define an edge along rivers, streams, sloughs, lakes, wetlands, and other water bodies. Vegetation within this edge is water-dependent; requiring more soil moisture than usual. Riparian vegetation can consist of any of the following plant communities - trees and shrubs growing on an upland adjacent to a stream; trees and shrubs growing in a wetland; and an emergent marsh or low shrub wetland, except when this is managed for agricultural use. Riparian vegetation does not include agricultural crops, land managed for pasture, horticultural or landscaped areas, or un-vegetated areas.

3. **Inventory and Significance** ~~-f~~. [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

For purposes of this inventory, the location and scope of all riparian boundary corridors are established in B(1) above. All riparian corridors within boundaries identified in section B(1), above, are significant. Fish-bearing and non-fish-bearing streams are identified [within ODFW Oregon Fish Habitat Distribution Data \(published January 13, 2023\) on the Oregon Department of Forestry Stream Classification Maps, as amended](#). Copies of such maps are attached to the Comprehensive Plan in Technical Appendix Part XVI, Article X(B), for reference. Fish-bearing lakes in Columbia County are shown on the map entitled "Lakes of Columbia County" prepared by the U.S. Department of the Interior, Geological Survey, 1973. The map is attached to the Comprehensive Plan in Technical Appendix Part XVI, Article X(B), and is incorporated herein by this reference. Average annual stream flow is not shown in on either ~~ODF~~ stream classification maps, or the "Lakes of Columbia County". Therefore, average annual stream flow information shall be calculated by and shall be provided by the Oregon Water Resources Department. [In Columbia County, only the Columbia River has an average annual flow of greater than 1000 cfs. All other rivers and streams have annual flows of less than 1000 cfs.](#)

4. **QUALITY** ~~-f~~. [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

The riparian boundary corridors along the water bodies of Columbia County provide habitat for the breeding, feeding, and nesting of fish and wildlife; stabilize streambanks and reduces streambank erosion; filter out pollutants from land use practices on adjacent land which degrade water quality; shade water, reducing water temperature, and -store waters during high flows which might result in downstream flooding.

Sixty-five miles of river and stream banks in the County have moderate erosion problems. These include the Columbia, Nehalem and East Fork of the Nehalem River, Deep Creek, Deer Creek, Milton Creek, Clear Creek, North and South Scappoose Creek, and the Multnomah Channel.

5. **QUANTITY** ~~-f~~. [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Columbia County contains an abundance of water bodies and their accompanying riparian corridors. All riparian areas identified in Part XVI, Article X (B)(1) above are significant. [The 2023 ESEE Analysis provides more detailed information regarding the location and quantity of significant riparian corridors in Columbia County.](#)

6. **BACKGROUND AND INFORMATION**: [Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

- a. Three major land use activities which take place within and adjacent to riparian areas are potential conflicting uses. These activities are forest

practices, agricultural practices, and the development of residential, commercial or industrial sites.

- i. Forest practices may impact the riparian area if vegetation is removed during the harvest of timber, or if toxic chemicals are introduced or road constructed.
 - ii. Agricultural practices within this area may cause damage if riparian areas are converted to crop production, or damaged by improper chemical application and/or livestock grazing techniques.
 - iii. Residential, commercial, and industrial development may affect the riparian area in a number of ways, if: riparian vegetation is removed; soils either within the riparian area or on adjacent slopes are disturbed; adjacent lowlands are filled; resources from the area are removed; or if structural improvements are introduced which alter the channel structure.
- b. Conflicting uses that reduce or degrade riparian vegetation may have important economic consequences. Many individuals and businesses in the County profit from commercial and sport fishing and sport hunting. If habitat is reduced or degraded, fish and game populations will decline, and less income will be produced.

b.c. A more detailed description of base zones that allow conflicting uses and activities is found in the 2023 ESEE Analysis.

The 2023 ESEE Analysis provides a more detailed accounting of ESEE consequences related to full, limited, and no local protection alternatives that supplements the summary of ESEE consequences (adopted in 2003) below.

- Activities which cause streambank erosion and subsequent flooding also have economic consequences. These events destroy valuable resource lands and can also destroy bridges, roads, and other areas lying along their path. The cleanup and restoration needed because of this destruction may be expensive.
- When conflicting uses are restricted within riparian areas, important social consequences may result. Often land in such areas is valued highly, due to river frontage and view, and sought after for residential, commercial, and industrial development. A property owner who is unable to build on such lands may experience financial and personal hardship because of the loss. This financial hardship is particularly possible in areas where surrounding development has previously occurred within the riparian area. However, the riparian area is valued partially because of its recreational and aesthetic qualities. By limiting development within the area and conserving its vegetation, a community can reduce the potential hazards associated with development and protect the riparian area's recreational and social value.
- Limiting conflicting uses in the riparian area will have positive environmental consequences. Stream structure will improve, become more stable, and produce better habitat for fish and wildlife. In addition, erosion will be reduced

and water quality will improve.

- Limiting conflicting uses in the riparian area will also be beneficial for energy purposes. Less energy will be spent trying to rectify erosion and flooding damage caused by development within the riparian area.

7. FINDINGS—~~f.~~ *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

- a. Areas along fish-bearing rivers, streams, sloughs, lakes, and other water bodies in Columbia County serve a number of purposes which include providing fish and wildlife habitat, flood control, and bank stabilization. These areas are also desired sites for residential, commercial, and industrial development and are affected by agricultural and forest practices.
- b. High amounts of sedimentation, debris accumulation, poor water quality, elevated water temperatures, and nuisance algae growth are problems which are often directly related to the degradation of riparian areas. The problems are often caused by streambank erosion and the removal of riparian vegetation, and are compounded by each other. These problems, as shown in the Air, Land, and Water Quality section of the Plan, can affect a wide array of uses, including water supplies, irrigation, fish and aquatic species habitats, recreation, and aesthetics.
- c. The majority of the potentially conflicting land use activities are regulated by state and federal agencies. For instance:
 - i. Reduced water quality related to non-point source pollution from agricultural practices is controlled by the State Soil and Water Conservation Commission.
 - ii. Maintenance of streamflow levels for fish productivity is the responsibility of the State Water Resources Department which appropriates water rights. The Oregon Department of Fish and Wildlife has identified minimum levels of streamflow necessary for production of fish habitat.
 - iii. Forest practices which impact the riparian area are regulated under the Forest Practices Act by the Department of Forestry.
 - iv. Effluents from residential septic systems and industrial development are controlled by the State Department of Environmental Quality.
 - v. Gravel removal, stream channelization, and such other activities are regulated by the Army Corps of Engineers and the Division of State Lands.
- d. Development activities also contribute significantly to riparian area degradation. To limit the consequences of conflicting uses and protect the riparian area the County will revise and implement the Riparian Corridor ~~adopt the Water Resources Overlay Zone "safe harbor" provisions of Goal~~

~~5, creating a Riparian Corridor Overlay Zone and a Wetland Overlay Zone. This e-Water Resources Overlay Zone Riparian Corridor Overlay Zone will be applied to fish-bearing all rivers, streams, creeks, lakes, and associated wetlands identified in Part XVI, Article X(B)(1) – Definitions, above.~~ The County will also apply storm drainage measures to minimize erosion along and within significant riparian corridors and their associated wetlands. In addition, the County will rely on state and federal programs to help prevent riparian area degradation.

~~e. In addition, the Riparian Corridor Overlay Zone provides protects the riparian corridors of fish-bearing rivers, streams, and lakes by restricting most types of development within its boundaries, while allowing water-dependent uses, public facilities where no reasonable alternative exists, and passive recreational uses such as pathways. The locally determined riparian corridors (ranging from 50 to 75 feet from the top-of-bank) will provide a lower level of protection than the safe harbor protection program adopted by the county in 2003 because the riparian corridor does not include "associated wetlands" outside of locally-determined riparian setback areas and it does not include a buffer for non-fish bearing streams.~~

~~d.f. As demonstrated in the 2023 ESEE Analysis, the locally determined riparian corridor widths will have positive economic and social consequences that balance the recognized adverse impacts on environmental values associated with reduced riparian corridor widths for fish-bearing streams, rivers, and lakes.~~

LAKES

1. LOCATION, SIGNIFICANCE, QUALITY, AND QUANTITY: *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

The approximate location of lakes in Columbia County is depicted in a map entitled "Lakes of Columbia County", which is attached to the Comprehensive Plan in Technical Appendix Part XVI, Article X(B), which is incorporated herein by reference. This inventory is taken from the publication "Lakes of Oregon, Volume One, Clatsop, Columbia, and Tillamook Counties," prepared by the U.S. Department of the Interior, Geological Survey of 1973. The publication includes twenty-two (22) lakes in Columbia County ranging from Lindsey Lake, with a surface area of .5 acres and depth of up to 15 feet, to Sturgeon Lake, with a surface area of 3200 acres and an average depth of 2 feet. The publication contains a description of each lake's location, size, and general characteristics, including water quality data and temperature.

For purposes of the lake inventory, all lakes depicted on the map, "Lakes of Columbia County" publication are fish-bearing and significant. The riparian area setbacks established in Part XVI, Article X(B) - Riparian ~~a~~Areas shall be applied through the Water Resources Riparian Corridor Overlay Zone and the Wetland Overlay Zone.

2. BACKGROUND CONFLICTING USES – f. *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

In Columbia County, lakes are located in areas zoned for forest, agriculture, and community service recreation. Generally, the potential conflicting uses for lakes are the same as those

for riparian habitat. Conflicts often occur from forest practices that remove riparian vegetation, disturb soils on adjacent uplands, and increase sedimentation. Agricultural practices cause conflicts when they convert riparian vegetation for crop production or employ improper live-stock grazing techniques. The lakes located in community service recreation areas are County or State Parks.

Conflicts in these areas arise from the construction of docks and floats, filling or dredging, removal of riparian vegetation, and chemical or biological water pollution. Conflicts also arise when houses are sited in the riparian area and/or disturb riparian vegetation.

3. **FINDINGS** ~~of~~ *[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].*

Many of the identified conflicting uses are regulated by State agencies: The Army Corps of Engineers and Division of State Lands oversee filling, dredging, and construction activities; the Forest Practices Act regulates forest practices which pose potential conflicting uses for lakes; effluent from residential development and other point sources of pollution are managed by the Department of Environmental Quality. The DEQ also implements the Federal Water Pollution Control Act and is responsible for minimizing non-point source pollution. Columbia County will rely on these state agencies to limit conflicting uses and protect the quality of lakes in the County. In addition, the County will apply the Water Resources Riparian Corridor Overlay Zone and the Wetland Overlay Zone to provide additional protection to the riparian vegetation surrounding these lakes.

RESERVOIRS

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

Twenty-two (22) potential reservoir sites have been identified in Columbia County. These sites appear based on preliminary investigations as discussed in a USDA report on "Water and Related Land Resources for North Coast Drainage Basin and Lower Willamette River Basin", dated 1966 and 1963, and the State Water Resources Board's "Freshwater Resources of the Oregon Coastal Zone", 1975. While there is adequate precipitation in Columbia County, only a portion of this rainwater is currently being utilized for domestic, irrigation, and recreational purposes. It is believed that the only feasible means by which the County's long-range water needs can be met is through development of surface storage reservoirs.

Of the numerous sites investigated, only three appear initially to be economically feasible for development as surface storage reservoirs. The three suitable sites are located on Rock Creek, the Clatskanie River, and Deep Creek II. However, information is presently unavailable to determine the actual suitability and related impacts of developing these sites. Therefore, for the purposes of Goal 5, these reservoir sites are not currently protected.

The County will rely primarily on State and Federal recommended procedures to address the economic, social, environmental, and energy consequences of developing these surface storage reservoirs.

WATER RESOURCES GOALS AND POLICIES

[Amended by Ordinance No. 2003 - 5, eff. December 15, 2003].

GOAL:

To protect and maintain the quality of water resources in Columbia County.

POLICIES: It shall be the policy of Columbia County to:

1. Cooperate and coordinate with State and Federal agencies in assuring the maximum beneficial use of all water areas in the County.
2. Coordinate its actions with water quality planning and implementation activities carried out by State agencies including the Department of Environmental Quality, the Soil and Water Conservation Commission, the Department of Forestry, and the Department of Water Resources.
3. Rely on State and Federal programs to pProtect areas significant for the recharge of groundwater resources such as wetlands and riparian areas.
4. Cooperate with appropriate State and Federal agencies to inventory and assess groundwater resources and their uses and establish standards to protect and maintain these natural resources.
5. Protect groundwater supplies in rural, agricultural, and forest areas through large minimum lot densities.
6. Cooperate with appropriate State and Federal agencies to monitor the quality and levels of groundwater resources in the County.
7. Work with appropriate State and Federal agencies to address the economic, social, environmental, and energy consequences of developing potential surface storage reservoirs in the County, including those sites that are not presently protected. When information is available, the County shall apply Statewide Goal 5 to potential sites and update zoning and other ordinances to address them when appropriate.
8. Encourage strict enforcement of the Forest Practices Act to protect riparian vegetation from potential adverse effects of forest practices.
9. Protect significant riparian vegetation along fish-bearing rivers, streams and lakes by requiring appropriate setbacks for non-water-dependent uses, transportation and drainage facilities, and utilities subject to ~~and standards for riparian vegetation removal of riparian vegetation.~~
10. Maintain rivers and streams in their natural state to the maximum extent practicable through sound land and water management practices. Consideration shall be given to natural, scenic, historic, economic, cultural, and recreational qualities of the rivers and adjacent lands.
11. Require that all development be planned, designed, constructed, and maintained so as to avoid the probability of accelerated erosion; pollution, contamination, or siltation of lakes, rivers, and streams; damage to vegetation; or injury to fish and wildlife habitats.

12. Consistent with the Forest Practices Act, minimize the removal of trees and other native vegetation that stabilize hillsides, retain moisture, reduce erosion, siltation and runoff, and preserve their natural scenic character.
13. Apply erosion and sediment reduction practices along riparian areas to assist in maintaining water quality.
14. Coordinate with the Department of State Lands to protect marshes, swamps, and other wetlands from filling, draining, or other alterations which would destroy or reduce their biological value.
15. Support appropriate State, Federal and local agencies in their efforts to inventory wetland resources in the County. ~~The County shall apply the Wetland Overlay Zone to such inventories as they may be amended.~~
 - a. Protect municipal water supplies and the quality of water resources in general, by zoning undeveloped resource lands for resource use.
 - b. Protect water quality by applying a Riparian Corridor~~Water Resources Overlay Zone Riparian Corridor and Wetland Overlay Zones~~ which discourages development in sensitive areas that affect the water resource.
 - c. Apply the standards and requirements of the Columbia County Stormwater and Erosion Control Ordinance to new development when applicable.
 - d. Notify the Oregon ~~Division~~ Department of State Lands whenever there is an application for permits or other land use decisions affecting wetlands on the inventory.
16. Provide limited protection for fish and wildlife habitat within state-prescribed riparian corridor boundaries while relying on state and federal agencies to protect fish and wildlife habitat associated with wetlands outside of riparian corridors.

Section 1170 RIPARIAN CORRIDORS, WETLANDS, WATER QUALITY, AND FISH AND WILDLIFE HABITAT PROTECTION OVERLAY ZONE RP [Amended by Ordinance No. 2003 - 5, effective December 15, 2003].

1171 Purpose.

A. The purpose of this Section is to protect and restore water bodies and their associated riparian corridors, thereby protecting and restoring the hydrological, ecological and land conservation function these areas provide. Specifically, this Section is intended to protect habitat for fish and other aquatic life, protect habitat for wildlife, protect water quality for human uses and for aquatic life, control erosion and limit sedimentation, prevent property damage during floods and storms, protect native plant species, and conserve the scenic and recreational values of riparian areas.

B. This Section meets the above purpose by prohibiting structures and other development from riparian areas around fish-bearing lakes, rivers, streams and associated wetlands, and by prohibiting vegetation removal and/or other vegetative alterations in riparian corridors. In cases of hardship, the Section provides a procedure to reduce the riparian corridor boundary. Alteration of the riparian corridor boundary in such cases shall be offset by appropriate restoration or mitigation, as stipulated in this Section.

C. For the purposes of this Section, "development" includes buildings and/or structures which require a building permit under the Oregon State of Oregon Uniform Building Code, as amended, or any alteration in the riparian corridor by grading, placement of fill material, construction of an impervious surface, including paved or gravel parking areas or paths, and any land clearing activity such as removal of trees or other vegetation.

D. This Section does not apply to land legally used for commercial forestry operations or standard farm practices, both of which are exempt from these riparian corridor protection standards. The use of land for commercial forestry is regulated by the Oregon Department of Forestry. The use of land for standard farm practices are regulated by the Oregon Department of Agriculture, with riparian area and water quality issues governed specifically by ORS 568.210 to ORS 568.805.

E. The provisions of this riparian protection overlay zone do not exempt persons or property from state or federal laws that regulate protected lands, water, wetland or habitat areas. In addition to the restrictions and requirements of this Section, all proposed development activities within any wetland area may be subject to applicable state and federal agency standards, permits and approval. The applicant shall be responsible for contacting the appropriate state or federal agencies to determine whether all applicable development requirements have been met. ~~RP ~ 232 ~~~

1172 Riparian Corridor Standards:

A. The inventory of Columbia County streams contained in the Oregon Department of Fish and Wildlife Fish Habitat Distribution Data, (published January 13, 2023), specifies which streams are fish-bearing. Fish-bearing lakes are identified on the map entitled, "Lakes of Columbia County." A copy of the most current Stream Classification Maps is attached to the Comprehensive Plan, Technical Appendix Part XVI, Article X(B) for reference. The map, "Lakes of Columbia County" is attached to the Comprehensive Plan, Technical Appendix Part XVI, Article X(B), and is incorporated therein. Based upon the stream and lake inventories, the following riparian corridor boundaries shall be established:

1. Lakes. Along all fish-bearing lakes, the riparian corridor boundary shall be 50-feet from the top-of-bank, except as provided in CCZO Section 1172(A)(5), below.

2. Fish-Bearing Streams, Rivers and Sloughs (Less than 1,000 cfs). Along all fish-bearing streams, rivers, and sloughs with an average annual stream flow of less than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 50-feet from the top-of-bank, ~~except as provided in CCZO Section 1172(A)(5), below.~~ Average annual stream flow information shall be provided by the Oregon Water Resources Department.

3. Fish-Bearing and Non-Fish-Bearing Streams, Rivers and Sloughs (Greater than 1,000 cfs). Along all streams, rivers, and sloughs with an average annual stream flow greater than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 75-feet upland from the top-of-bank, ~~except as provided in CCZO Section 1172(A)(5), below.~~ Average annual stream flow information shall be provided by the Oregon Water Resources Department.

~~4. Other rivers, lakes, streams, and sloughs. Along all other rivers, streams, and sloughs, the riparian corridor boundary shall be 25 feet upland from the top-of-bank, except as provided in CCZO Section 1172(A)(5), below.~~

~~5. Wetlands. Where the riparian corridor includes all or portions of a significant wetland, as identified in the State Wetlands Inventory and Local Wetlands Inventories, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland. Significant wetlands are also regulated under provisions in the Wetland Overlay Zone, Columbia County Zoning Ordinance, Section 1180.~~

B. Distance Measurement.

1. ~~Except as provided in Subsection 1172(5) above,~~ The measurement of distance to the riparian corridor boundary shall be from the top-of-bank. In areas where the top-of-bank is not clearly delineated, the riparian corridor boundary shall be measured from the ordinary high water level, or the line of non-aquatic vegetation, whichever is most landward. ~~RP ~ 233 ~~~

2. The measurement shall be a slope distance. In areas where the predominant terrain consists of steep cliffs, the distances to the corridor boundary shall be measured as a horizontal distance until the top of the cliff is reached, and as a slope distance on from that point.

1173 Activities Prohibited within the Riparian Corridor Boundary

In addition to the prohibitions in the underlying zone, the following activities are prohibited within a riparian corridor boundary, except as provided for in Sub-sections 1175 and 1176 of this Section:

A. The alteration of a riparian corridor by grading, placement of fill material, and/or impervious surfaces, including paved or gravel parking areas, or paths, and/or the construction of buildings or other structures which require a building permit under the ~~State of Oregon State Uniform~~ Building Code, as amended.

B. The removal of riparian trees or vegetation.

1174 Exempted Activities.

This Overlay Zone does not apply to land legally used and allowed for commercial forestry operations or standard farm practices, both of which are exempt from the riparian corridor protection standards of this Section. The use of land for commercial forestry is regulated by the Oregon Department of Forestry. The use of land for standard farm practices are regulated by the Oregon Department of Agriculture, with riparian area and water quality issues governed specifically by ORS 568.210 to ORS 568.805.

1175 Permitted Uses and Activities Subject to Optional Discretionary Review.

Notwithstanding the prohibitions set forth in Subsection 1173 above, the following activities are allowed within the riparian corridor boundary **if approved by the planning director through an optional discretionary review process:**

A. The following riparian vegetation may be removed within the riparian corridor boundary:

1. Non-native vegetation, invasive species, and noxious weeds if replaced with native plant species. The replacement vegetation shall cover, at a minimum, the area from which vegetation was removed, and shall provide for maximum soil retention and shade cover. Replacement vegetation shall, upon maturity, maintain 75%-100% canopy and ground cover.
2. Vegetation which is necessarily removed for the development of approved water-related or water dependent uses. Vegetation removal shall be kept to the minimum necessary to allow the water-dependent and water-related use.
3. Trees and vegetation in danger of falling and/or posing a hazard to life or property. If no hazard will be created, such trees or other vegetation, once felled, shall be left in place in the riparian area. ~~RP ~ 234 ~~~

B. The following development **may be** is-allowed within the riparian corridor boundary.

1. Streets, roads, and driveways, if: a. If it is not possible to locate the street, road or driveway outside of the riparian corridor boundary; and b. The street, road or driveway is designed to minimize intrusion into the riparian corridor boundary.
2. Pedestrian walkways, paths and trails.
3. Fencing and signs, not including billboards.
4. Drainage facilities, utilities and irrigation pumps.
5. Water-related and water-dependent uses.
6. New or expanded shoreline stabilization and flood control grading and structures.
7. Portable furniture, and other portable outdoor equipment for the private use of the property owner/resident. For purposes of this subsection, "portable" shall mean that the item is not affixed to the ground, other than with a chain or other lock which is capable of being removed at any time.

C. Wetland fill and removal within riparian corridors shall be avoided unless there is no reasonable alternative to allow the permitted use. DSL shall be notified of any potential impact from development proposed on wetlands identified in the State Wetlands Inventory pursuant to ORS 215.418.

1176 Legal non-conforming uses are allowed to continue within the riparian corridor boundary subject to the requirements in Columbia County Zoning Ordinance, Section 1506, ORS 215.130, and the following additional requirements:

A. For replacement of legal non-conforming structures with new structures, any new structure shall be located in the same location and in the same footprint as the existing structure, and shall not disturb additional riparian surface area within the riparian corridor boundary.

B. For expansion or alteration of legal non-conforming structures existing fully or partially within the riparian corridor, the expansion or alteration shall not occur within the riparian corridor boundary, **unless the applicant chooses to be subject to the following discretionary review process and criteria.** #

~~the pre-existing structure is completely within the riparian corridor, expansion is allowed only on the side opposite the water resource.~~

1. Expanded development shall not extend closer to the top-of-bank than existing development and shall not occupy more than 50 percent of the width of the riparian area measured from the upland edge of the corridor.
2. The applicant shall submit a habitat conservation plan that demonstrates that no net loss of native riparian vegetation and related fish and wildlife habitat will result from the proposed expansion.
3. Wetlands within the applicable riparian setback area shall be determined in consultation with DSL.
 - a. If DSL requires a wetland delineation, evidence of DSL concurrence in this delineation shall be provided prior the planning director's completeness determination.
 - b. Wetlands shall be avoided wherever feasible and wetland impacts shall be mitigated as required by DSL.
4. The habitat conservation plan involves a combination of (a) extension of vegetated riparian corridors to compensate for the requested reduction in vegetated riparian corridor width to accommodate proposed development, and/or (b) restoration and enhancement of disturbed areas within the applicable riparian corridor setback area.
5. The habitat conservation plan shall: (a) be provided to the Oregon Department of Fish and Wildlife for review and comment prior to submission to the County, and (b) be submitted prior to the county planning director's determination of completeness.

C. Legal non-conforming lawn within the riparian corridor boundary may be maintained. However, such lawn shall not be expanded within the riparian corridor boundary.

D. Legal non-conforming shoreline stabilization and flood control structures may be maintained. ~~RP ~ 235 ~~~

1177 Requirements for new activities and development identified in Sub-section 1175 and 1176, above, shall be allowed in the riparian corridor boundary subject to the following requirements:

A. All applicable permits from state and federal agencies, such as the Oregon ~~Division~~ Department of State Lands (DSL) and Oregon Department of Fish and Wildlife (ODFW) must be obtained by the landowner prior to commencing the use or activity.

B. For activities and development for which land use permits, building permits, grading permits, variances or stormwater/erosion control permits are required, the County shall provide notification to ODFW of the proposed development activity. The County shall consider the recommendations of ODFW, including any mitigation recommendations, prior to issuance of permits and may condition permit approval on recommended measures to mitigate loss of fish and wildlife habitat pursuant to applicable provisions of OAR Chapter 635, ~~Division 415, Division.~~

1178 Variance Provisions

A. In cases where encroachment into the riparian corridor boundary by activities and development not otherwise allowed by Sub-section 1175, ~~or 1176, or 1177~~ cannot be avoided, a property owner may request a Variance to the riparian corridor boundary prohibition. In addition to ~~the criteria found in Section 1504, and~~ the requirements in Sub-section 1177, a variance to the riparian corridor boundary prohibitions shall not be granted unless all of the following criteria are met:

1. The proposed development requires deviation from the riparian corridor standards;

2. Strict adherence to the riparian setback and other applicable standards would effectively preclude a use of the parcel that could be reasonably expected to occur in the zone;
3. Removal of vegetation within the original riparian setback is the minimum necessary to allow the use. Any vegetation removed shall be replaced with native plant species;
4. The encroachment shall not occupy more than 50% of the width of the riparian corridor measured from the upland edge of the corridor;
5. The proposed use shall provide equal or better protection of riparian resources than the current condition.
- ~~6. The riparian setback must exceed any other setback on the parcel, and the riparian setback, when combined with other required setbacks, shall result in a building area depth of 30 feet or less, or a building envelop of 800 square feet or less. RP ~ 236 ~~~

B. The applicant shall provide sufficient information regarding the proposed development and its impact on riparian resources to allow staff, in consultation with ODFW, to determine whether the proposal will provide equal or better protection of riparian resources than the current condition. The applicant shall submit, at a minimum, the following information:

1. A plot plan showing top-of-bank, existing streams and wetlands and other significant site features.
2. The extent of development within the riparian setback.
3. Uses that will occur within the riparian setback.
4. Potential impacts of proposed uses.
5. The extent of proposed vegetation removal.
6. Characteristics of the existing vegetation (types, density, and location).
7. Any proposed alterations of topography or drainage patterns.
8. Existing uses on the property.
9. Impact of existing uses on riparian resources based on a habitat conservation plan that meets Sub-section 1176.B standards.
10. An Erosion Control Plan.

C. Variance Limitations.

- ~~1. The setback reduction shall be the minimum necessary to create a building area depth of 30 feet or a building envelop of 800 square feet (whichever requires less reduction of the setback).~~
- ~~2. The yard setback opposite the riparian area ("non-riparian yard") must **not** be reduced by more than up to ½ of the standard setback prior to encroachment into the riparian corridor. WA ~ 237 ~~~

Section 1180 WETLAND AREA OVERLAY WA [Amended by Ordinance No. 2003-5, effective December 15, 2003].

1181 Purpose:

The purpose of this zone is to protect significant wetlands within the identified Wetland Areas as shown on the State Wetland Inventory and Local Wetland Inventories, from filling, drainage, or other alteration which would destroy or reduce their biological value. The Wetland Area Overlay does not apply to land legally used for commercial forestry operations or standard farm practices, both of which are exempt from these wetland area corridor standards. The use of land for commercial forestry is regulated by the Oregon Department of Forestry. The use of land for standard farm practices is regulated by the Oregon Department of Agriculture, with riparian area and water quality issues governed by ORS 568.210 to ORS 568.805.

1182 Definition:

A significant wetland is an area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. In case of dispute over whether an area is of biological value and should be considered a significant wetland, the County shall obtain the recommendation of the Oregon Department of Fish and Wildlife, the Columbia County Soil and Water Conservation District, and the Division of State Lands.

1183 Permitted Uses:

Uses and development activities permitted outright or conditionally in the underlying zone shall be permitted in the Wetland Area Overlay Zone if they will not result in filling, drainage, removal of vegetation, or other alteration which would destroy or degrade a significant wetland as defined in Section 1182. Minor drainage improvements necessary to ensure effective drainage on surrounding agricultural lands under Oregon Department of Agriculture wetland rules shall be allowed where such an action has been fully coordinated with the Oregon Department of Fish and Wildlife, the Columbia County Soil and Water Conservation District, and the Division of State Lands. Existing drainage ditches may be cleared to original specifications without County review.

1184 Development Standards:

A. Riparian Corridor Standards for Wetlands. For the purposes of this Section, "fish-bearing streams" shall mean all streams identified as being fish-bearing, by the Oregon Department Forestry in the Stream Classification Maps, as amended, and "fish-bearing lakes" shall mean those streams identified in "Lakes of Columbia County". The current Oregon Department of Forestry Stream Classification Map is attached to the Comprehensive Plan, Technical Appendix, Part XVI, Article X(B), for reference. The Map, "Lakes of Columbia County" is also attached to the Comprehensive Plan, Technical Appendix, Part XVI, Article X(B), and is incorporated therein. Significant Wetlands are identified on the State Wetlands Inventory (SWI), and Local Wetlands Inventories (LWI's)-WA ~ 238 ~ The SWI is attached to the Comprehensive Plan, Part XVI, Article X(A), for reference.

1. Fish Bearing Lakes. Along all wetlands associated with fish-bearing lakes, the riparian corridor boundary shall be 50 feet from the upland edge of the wetland.

2. Streams, Rivers, and Sloughs (Greater than 1,000 cfs). Along all wetlands associated with all fish-bearing rivers, streams and sloughs, with an average annual stream flow greater than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 75 feet from the upland edge of the wetland. Average annual stream flow information shall be provided by the Oregon Water Resources Department.

3. Fish-Bearing Streams, Rivers and Sloughs (Less than 1,000 cfs). Along all wetlands associated with fish bearing streams, rivers, and sloughs, with an average annual stream flow less than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 50 feet from the upland edge of the wetland. Average annual stream flow information shall be provided by the Oregon Water Resources Department.

4. Other Rivers and Streams, or Sloughs. For all other wetlands associated with streams, rivers, or sloughs, the riparian corridor boundary shall be 25 feet from the upland edge of the wetland.

5. Wetlands not associated with Streams, Rivers, Sloughs, or Fish-Bearing Lakes. Along all wetlands not associated with a stream, river, slough, or non fish-bearing lake, there shall not be a protective riparian corridor boundary. However, development is prohibited from encroaching within a delineated wetland boundary.

B. Corridor Boundary Measurement:

The riparian corridor boundary begins at the upland edge of the wetland and is measured outward, further upland, the required riparian corridor boundary distance.

C. Activities Prohibited within the Wetland Riparian Corridor Boundary.

In addition to the prohibitions of the underlying zone, the following development activities are prohibited in wetland riparian corridor boundaries, except as provided for in Sub-sections 1184(E) and (F) of this Sub-section:

1. The alteration of the wetland riparian corridor by grading, the placement of fill material, and/or impervious surfaces, including paved or gravel parking areas or paths, and/or the construction of buildings or other structures which require a building permit under the State of Oregon Uniform Building Code, as amended, or other land use permit.
2. The removal of riparian trees or vegetation. WA ~ 239 ~

D. Exempted Activities.

This Overlay Zone does not apply to land legally used for commercial forestry operations or standard farm practices, both of which are exempt from the riparian corridor protection standards of this Section. The use of land for commercial forestry is regulated by the Oregon Department of Forestry. The use of land for standard farm practices is regulated by the Oregon Department of Agriculture, with riparian area and water quality issues governed specifically by ORS 568.210 to ORS 568.805.

E. Exceptions to prohibited activities.

Notwithstanding the prohibitions set forth in sub-section (C), above, the following development activities are allowed within the wetland riparian corridor boundary:

1. The following wetland riparian vegetation may be removed:
 - a. Non-native vegetation, invasive species, and noxious weeds, if replaced with native plant species. The replacement vegetation shall cover, at a minimum, the area from which vegetation was removed, and shall provide for maximum soil retention and shade cover. Replacement vegetation shall, upon maturity, maintain 75% -100% canopy and ground cover.
 - b. Vegetation which is necessarily removed for the development of water related and water dependent uses. Vegetation removal shall be kept to the minimum necessary to allow the water dependent and/or water related use.
 - c. Trees and vegetation in danger of falling and/or posing a hazard to life or property. If no hazard will be created, the trees, once felled, shall be left in place in the riparian area.

2. The following development is allowed within the riparian corridor boundary:

- a. Streets, roads, and driveways, if: i. It is not possible to locate the street, road or driveway outside of the riparian corridor boundary; and ii. The street, road or driveway is designed to minimize intrusion into the riparian corridor boundary;
- b. Pedestrian walkways, paths and trails;
- c. Fencing and signs, not including billboards;
- d. Drainage facilities, utilities and irrigation pumps;
- e. Water related and water dependent uses; f. New or expanded shoreline stabilization and flood control grading and structures; WA ~ 240 ~
- g. Portable furniture, and other portable outdoor equipment for the private use of the property owner/resident. For purposes of this subsection, "portable" shall mean that the item is not affixed to the ground, other than with a chain or other lock which is capable of being removed at any time.

F. Legal non-conforming uses are allowed to continue within the wetland riparian corridor boundary subject to the requirements in Section 1506, ORS 215.130, applicable state laws, and the following additional requirements:

- 1. For replacement of legal non-conforming structures with new structures, any new structure shall be located in the same location and in the same footprint as the existing structure, and shall not disturb additional riparian surface area within the wetland riparian corridor boundary.
- 2. For expansion or alteration of legal non-conforming structures existing fully or partially within the riparian corridor, the expansion or alteration shall not occur within the wetland riparian corridor boundary. If the pre-existing structure is completely within the riparian corridor, expansion is allowed only on the side opposite the water resource.
- 3. Legal non-conforming lawn within the riparian corridor boundary may be maintained. However, such lawn shall not be expanded within the riparian corridor boundary.
- 4. Legal non-conforming shoreline stabilization and flood control structures may be maintained.

G. New activities and development identified in Sub-section 1184(E) and 1184(F), above, shall be allowed in the wetland riparian corridor boundary subject to the following requirements:

- 1. All applicable permits from state and federal agencies, such as the Oregon Division of State Lands (DSL) and Oregon Department of Fish and Wildlife (ODFW) must be obtained by the landowner prior to commencing the use or activity.
- 2. For activities and development for which land use permits, building permits, grading permits, variances or stormwater/erosion control permits are required, the County shall provide notification to ODFW of the proposed development activity. The County shall consider the recommendations of ODFW, including any mitigation recommendations, prior to issuance of permits and may condition permit approval on recommended measures to mitigate loss of fish and wildlife habitat pursuant to applicable provisions of OAR Chapter 635, Division 415. WA ~ 241 ~

H. Variance Provisions

- 1. In cases where encroachment into the riparian corridor boundary by activities and development not otherwise allowed by Sub-section 1184(E), or 1184(F) cannot be avoided, a property owner may request a Variance to the riparian corridor boundary prohibition. In addition to the criteria found in Section

~~1504, and the requirements in Sub-section 1184(G), a variance to the riparian corridor boundary prohibitions shall not be granted unless all of the following criteria are met:~~

- ~~a. The proposed development requires deviation from the riparian corridor standards;~~
- ~~b. Strict adherence to the riparian setback and other applicable standards would effectively preclude a use of the parcel that could be reasonably expected to occur in the zone;~~
- ~~c. Removal of vegetation within the original riparian setback is the minimum necessary to allow the use. Any vegetation removed shall be replaced with native plant species;~~
- ~~d. The encroachment shall not occupy more than 50% of the width of the riparian corridor measured from the upland edge of the corridor;~~
- ~~e. The proposed use shall provide equal or better protection of riparian resources than the current condition;~~
- ~~f. The riparian setback must exceed any other setback on the parcel, and the riparian setback, when combined with other required setbacks, shall result in a building area depth of 30 feet or less, or a building envelop of 800 square feet or less.~~

~~2. The applicant shall provide sufficient information regarding the proposed development and its impact on riparian resources to allow staff, in consultation with ODFW, to determine whether the proposal will provide equal or better protection of riparian resources than the current condition. The applicant shall submit, at a minimum, the following information:~~

- ~~a. A plot plan showing top of bank, existing streams and wetlands and other significant site features;~~
- ~~b. The extent of development within the riparian setback;~~
- ~~c. Uses that will occur within the riparian setback;~~
- ~~d. Potential impacts of proposed uses;~~
- ~~e. The extent of proposed vegetation removal;~~
- ~~f. Characteristics of the existing vegetation (types, density, and location); WA ~ 242 ~~~
- ~~g. Any proposed alterations of topography or drainage patterns.~~
- ~~h. Existing uses on the property; i. Impact of existing uses on riparian resources; j. An Erosion Control Plan.~~

~~3. Variance Limitations:~~

- ~~a. Setback reduction shall be the minimum necessary to create a building area depth of 30 feet or a building envelope of 800 square feet (whichever requires less reduction of the setback).~~
- ~~b. The yard setback opposite the riparian area ("non-riparian yard") must be reduced up to 1/2 of the standard setback prior to encroachment into the riparian corridor.~~

**BEFORE THE COLUMBIA COUNTY
PLANNING COMMISSION
ST. HELENS, OREGON**

In the matter of an application of Columbia County)
for Legislative Text Amendments to amend Article)
X Water Resources of the Columbia County)
Comprehensive Plan and adopt a limited local)
protection program for wetland and riparian water)
resources. To amend the Columbia County Zoning)
Ordinance, replacing Section 1170 Riparian)
Corridors, Wetlands, Water Quality, and Fish and)
Wildlife Habitat Protection Overlay Zone and)
Section 1180 Wetland Area Overlay with Section)
1170 Water Resources Overlay Zone.)

Final Order PA 22-02 & TA 22-02

This matter came before the Columbia County Planning Commission on the application of Columbia County for Legislative Text Amendments to Article X of the Columbia County Comprehensive Plan, Section 1170 Riparian Corridors, Wetlands, Water Quality, and Fish and Wildlife Habitat Protection Overlay Zone and Section 1180 Wetland Area Overlay, of the Columbia County Zoning Ordinance. Sections 1170 and 1180 will be replaced with Section 1170 Water Resources Overlay Zone.

Notification of this proposal was sent to all Columbia County CPAC members and published in the Columbia County Spotlight and the Chronicle as required in CCZO 1606.2. Notice was also provided to the Department of Land Conservation and Development on May 24, 2022. A public hearing was held on August 1, 2022 where the Planning Commission heard testimony from Planning Staff and interested parties and considered written materials including the Staff Report dated July 22, 2022. Additional written testimony was received from the Department of Land Conservation and Development, Department of State Lands, and the Oregon Department of Fish and Wildlife on August 1, 2022.

After due consideration, the Columbia County Planning Commission voted unanimously by a vote of 5-0 to recommend approval of the application. Accordingly, the Planning Commission hereby adopts the findings and conclusions included in the staff report and incorporates them herein by this reference. Pursuant to Columbia County Zoning Ordinance Section 1607.1, the Planning Commission **recommends** the Columbia County Board of Commissioners **APPROVE** these proposed Legislative Text Amendments to the Columbia County Comprehensive Plan and the Zoning Ordinance as put forth in PA 22-02 and TA 22-02.

COLUMBIA COUNTY PLANNING COMMISSION



DAN MAGNIA, VICE CHAIR

8/8/22

DATE

Exhibit B

Columbia County Board of Commissioners Supplemental Findings, PA 22-04 and TA 22-04

1. The Board received testimony that the County's ESEE analysis does not adequately assess the potential impact of the proposed changes as specifically applied to the quality and quantity of drinking water, irrigation water, shallow water sources and water from wells. However, the ESEE analysis does specifically consider water quality. *See* ESEE Analysis, Table 7 (p. 45-48): "Water Quality Cost Reduction" and associated summary. *See also* ESEE Analysis Table 8 (pp. 59-60): "Flood Mitigation, Ecosystem Services"; "Ecosystem Services, Recreation, Flood Mitigation" and the associated summaries. *See also* Table 9 (pp. 65-67): "Ecosystem Services, Habitat, Water Quality"; "Water Quality, Habitat, Ecosystem Services"; "Stormwater Management"; "Flood Mitigation, Water Quality"; "Ecosystem Services, Flood Mitigation"; "Ecosystem Services, Flood Mitigation, Habitat, Recreation, Water Quality" and the associated summaries. In addition, the ESEE Analysis concludes that the programs administered by the state and federal governments adequately protect water quality. As the ESEE Analysis explains:

The limited WR protection program would rely primarily on DSL and the Corps to review wetland fill-removal applications outside of state-prescribed riparian corridors. The limited protection program includes coordination with state and federal agencies to minimize impacts of development on SWI wetlands and water areas to facilitate state and federal agency involvement. In this respect, the proposed limited WR protection program would effectively continue the referral program that has been in effect since 2003. However, as documented below, state and federal regulations are reasonably effective in protecting wetland functions and values. ESEE Analysis, p. 67.

The ESEE Analysis goes on to cite language from DSL's webpage regarding its own program for wetlands and riparian areas ("aquatic resources") related to water quality. The language cited states:

Aquatic resources provide a wealth of ecological services to Oregonians that are important to our quality of life: clean and healthy streams, diverse and abundant fish and wildlife, and resilience to floods. The [DSL] Aquatic Resources Management Program in the Department of State Lands is directed to conserve these resources so the functions and values are not lost. ESEE Analysis, p. 67.

As specifically pertains to water quality protections, the same passage cited in the ESEE Analysis includes the following:

Water Quality Improvement. Wetlands and waterways help store, transfer and transform nutrients and chemicals, and help moderate water temperature. Wetlands are highly effective at removing nitrogen and phosphorus, sediment and other pollutants from the water that flows over or percolates through them. For

this reason, artificial wetlands are often constructed for cleaning stormwater runoff. Natural wetlands and riparian areas bordering streams and rivers intercept runoff from roads, urban areas and farm fields, and provide this valuable service without the typical costs of engineering and infrastructure.

The ESEE Analysis concludes that DSL has “permitting requirements [that] are both complex and effective in protecting wetland functions and values. Moreover, DSL has staff that include professional wetland scientists to evaluate wetland fill-removal applications and ensure that the fill-removal standards are met” and notes that DSL “has the authority to condition fill-removal permit applications to protect riparian vegetation beyond the ordinary high water mark.” ESEE Analysis p. 70, emphasis added, footnote omitted.

The ESEE Analysis concludes that the “potential adverse environmental impacts are mitigated effectively by habitat-specific local implementation measures, combined with state and federal programs that provide limited protection for wetlands, water areas, and related fish and wildlife habitat.” ESEE Analysis, p. 71

The ESEE Analysis goes on conclude as follows:

Although the revised Riparian Corridor Overlay provides greater flexibility for expansion of existing uses, mitigation is required to ensure that there will be no net loss in habitat value. As documented in Sections A and B above, these potential adverse environmental impacts are outweighed by the adverse social and economic impacts that would result from systematic implementation of the existing (almost) full protection Riparian Corridor and Wetland overlays. ESEE Analysis, p. 71

Accordingly, the Board finds that the ESEE Analysis adequately considers water quality, potential impacts to water quality, and potential mitigation measures.

2. The Board also received testimony that relying on state and federal programs is not an adequate Goal 5 protection strategy for local resources. However, that argument is directly contrary to applicable administrative rules adopted by LCDC for complying with Goal 5. For instance, OAR 660-023-0100(6) specifically provides that, counties “are not required to amend acknowledged plans and land use regulations in order to determine significant wetlands and complete the Goal 5 process” in rural areas.

In fact, as the ESEE Analysis notes, the only requirement that actually is imposed on counties for such rural areas comes from subsection (7) of the rule, which provides that “[a]ll local governments shall adopt land use regulations that require notification to DSL concerning applications for development permits or other land use decisions affecting wetlands on the inventory, as per ORS 227.350 and 215.418, or on the SWI as provided in section (5) of this rule.” In other words, where there is no adopted SWI, the rule requires notice to DSL specifically because coordination with (and in turn relying on) implementation of applicable non-local programs – after the required notice to the

administrators of those non-local programs is provided – is precisely the manner in which Goal 5 compliance is achieved.

Accordingly, the Board finds the contention is contrary to directly applicable law and is without merit.

3. The Board also received testimony that the County’s analysis as pertains to potential impacts to water in the Port Westward area is insufficient. However, as outlined above, the ESEE Analysis does in fact provide an analysis of the impacts of the amendments as pertains to water and water quality. The Board finds that the analysis discussed in Supplemental Finding No. 1 above applies to wetland and riparian areas in the Port Westward area equally as it does to wetland and riparian areas in other parts of the County. In fact, as specifically pertains to the Port Westward area, the Board finds the ESEE Analysis provides additional analysis. For instance, while the following passage from the ESEE Analysis discusses “Energy Consequences” the Board finds that it is germane to impacts to water and water quality at the Port Westward area:

By encouraging employment opportunities near small cities, rural communities and rural residential exception areas in Columbia County, commuting distances would be decreased and energy consumption would be correspondingly decreased. By increasing the supply of buildable land at Port Westward, the County will be able to rely on more energy-efficient modes of transportation such as cargo ships and rail. The proposed limited WR protection program also captures ecosystem energy benefits (e.g., reduced energy costs for operating constructed wastewater, flood control and stormwater treatment systems) related to local protection of riparian corridors and state and federal protection of wetlands outside these corridors, as identified in Table 10 above. ESEE Analysis, p. 74.

That analysis suggests that, by facilitating the consolidation of new rural industrial development around the existing rural industrial development at Port Westward, the County, as well as state and federal agencies, will be able to leverage economies of scale for mitigation measures and other steps taken in order to protect water in and around the Port Westward area. Based on that analysis, the analysis outlined in Supplemental Finding No. 1, above, and similar analysis provided by the ESEE Analysis, the Board rejects the argument that the County’s analysis did not adequately consider impacts to water in the Port Westward area.

4. The Board received testimony that the County’s analysis did not identify “highly significant wetlands” or provide protection for wetlands that do not trigger DSL or Army Corps of Engineers thresholds. However, as pointed out in the updated Part XVI, Article X of the Comprehensive Plan, “[T]here is no requirement for counties to [separately] protect wetlands – other than providing notice to the Department of State Lands.” *See* OAR 660-023-0100. *See also* Supplemental Finding No. 2, above. The Board finds this argument irrelevant as pertains to the validity to the adopted amendments.

5. The Board received testimony challenging the conclusion of the ESEE analysis that the amended Riparian Corridor Overlay Zone provides an appropriate level of local protection for fish and wildlife habitat, specifically because the protection is now limited just to fish-bearing streams. In its comment, ODFW “acknowledge[d] the regulatory oversight provided in state and federal wetland programs” but did not articulate why reliance by the County on those programs is not appropriate.

In reviewing ODFW’s comments, the Board notes that the comments are limited solely to environmental considerations. That is one consideration the County’s analysis must weigh. However, the County’s responsibility is not to solely make a determination based on environmental considerations, which comprise only one of the three “E”s in a complete ESEE analysis, the others being “Economic” and “Energy” considerations, as well as the requirement to weigh “S” (“Social”) considerations as part of the larger analysis. The Board finds that the County’s ESEE Analysis weighs each of the requisite considerations in determining that the limited level of riparian protection provided is “appropriate”, whereas ODFW’s comments do not consider any other than environmental considerations and make no suggestion as to how the others should be balanced differently against environmental considerations. Therefore, the Board disagrees with the assertion that the level of protection the updates provide is not “appropriate” when all four factors are considered, and therefore rejects the argument.

6. The Board also received testimony noting that the Oregon Fish Habitat Distribution Data referenced in the March 24, 2023 Staff Report relies on the dataset from January 13, 2023, and that the data was updated on April 27, 2023. The Board finds that, in putting the application materials together, staff used the then most-recent data available. Consideration of this application does not require the Board to revise the proposal midstream with the updated dataset. *See* OAR 660-023-0250, *Urquhart v. Lane Council of Governments*, 80 Or.App. 176, 179-80 (1986), *aff’d Johnson v. Jefferson County*, 221 Or.App. 156 (2008). Under applicable regulations, the inventory of riparian corridors is anticipated to be updated solely via periodic review, and not dynamic mapping updated every few months. Goal 5 protection programs need to be evaluated and mapped with a specific set of data and conditions, and updates need to pass through an ESEE process evaluating the new information and new protections, and mapping against consequences. Because staff used the latest data reasonably available at the time, the Board hereby retains the January 13, 2023 dataset as the applicable dataset.
7. Finally, the Board received testimony stating that the Columbia River is not the only river over 1,000 annual CFS. However, in reviewing the USGS webpage with water data cited in that testimony no other waterway is shown with an annual stream flow of over 1,000 CFS. Regardless, the Board finds that issue is addressed by CCZO 1172.A.3, which provides that “[a]long all streams, rivers, and sloughs with an average annual stream flow greater than 1,000 cubic feet per second (cfs), the riparian corridor boundary shall be 75-foot upland from the top of bank. Average annual stream flow information shall be provided by the Oregon Water Resources Department” (emphasis added). Accordingly, the Board finds that the issue raised is sufficiently addressed.