

COLUMBIA COUNTY

COMPREHENSIVE PLAN

AUGUST 1, 1984

Ordinance 84-4

Updated to March, 2001

AMENDED:

<u>Ordinance</u>	<u>Date (description)</u>
85-1	March, 1985 (multiple changes - 44 pages)
85-8	July, 1985 (Agriculture, Forest, Rural Centers, Greenway)
Res. 53-85	July, 1985 (correct clerical errors: Ordinances 85-1 and 85-8)
89-7	July, 1989 (Citizen Involvement: Policy 8)
93-7	July, 1993 (Economy: Policy 13, Airport Industrial zone)
98-1	April, 1998 (Surface Mining, Aggregate Inventories) [partly on appeal, LUBA]
98-4	November, 1998 (Rural Communities, Rural Residential: text and policies)
98-5	July, 1998 (Economy, Urbanization: update population projections)
99-5	November, 1999 (Rural Residential: Policies 1, 3, 4, 8)
00-01	September, 2000 (Surface Mining, Reichhold site) [on appeal, LUBA]
00-04	November, 2000 (Surface Mining, Scappoose Airpark) [on appeal, LUBA]
00-05	November, 2000 (Rural Residential: Policy 4)
01-02	March, 2001 (Economy, Population: update population projections)

TABLE OF CONTENTS

PART I INTRODUCTION TO THE PLAN	<u>Page</u>
Introduction to the Plan	1
Purpose	1
Objectives	1
Background for Comprehensive Planning	2
General Background Information	3
History	3
Geography	3
Administrative Procedures: Goals and Policies	4
PART II CITIZEN INVOLVEMENT	
Purpose	7
History	7
Citizen Involvement Today	9
Citizen Involvement: Goals and Policies	11
PART III PLANNING COORDINATION	
Purpose	13
Comprehensive Plan Development	13
PART IV FOREST LANDS	
Definition	15
Background	15
Economic Benefits	15
General Information	15
Current Trends	16
Other Considerations	16
Forest Lands: Goals and Policies	20
Map 1: Forest Site Classes - Scappoose - Spitzenberg	23
Map 2: Forest Site Classes - St. Helens - Columbia City	24
Map 3: Forest Site Classes - Tide Creek	25
Map 4: Forest Site Classes - Rainier - Fern Hill	26
Map 5: Forest Site Classes - Clatskanie - Quincy	27
Map 6: Forest Site Classes - Birkenfeld - Mist	28
Map 7: Forest Site Classes - Upper Nehalem Valley	29

PART V AGRICULTURE	
Background	30
Suitability for Agriculture	30
Map 8: Land in USDA Capability Classes I - IV	31
Current Trends	32
Table 1: Extensive Grazing Operations	36
Table 2: Trends in Farm Numbers & Acreages	36
Table 3: Trends...>2500 gross sales	37
Table 4: Farms by Size (1964-78)	37
Table 5: Other Lands in Ag.	38
Table 6: Lands Rented from Others, by Acreage	38
Table 7: Principal Farm Types	39
Table 8: Census of Farm Operators, 1978 & 1974	40
Table 9: 1978 Farm Sales	41
Table 10: 1978 Farm Sales by Acreage Class	41
Agriculture: Goals and Policies	42
PART VI HOUSING	
General Background Information	45
Table 11: Average People per household	45
Housing Needs	46
Table 12: Household Incomes vs. Housing Prices	47
Table 13: Housing by Type, 1970 & 1980	48
Table 14: Estimated Demand for New Housing	49
Housing Programs	50
Table 15: Housing Conditions	50
Table 16: Housing Assistance Needs	50
Housing: Goals and Policies	52
PART VII RURAL RESIDENTIAL	
Background	53
Conflicts	53
Rural Residential Exceptions	53
Densities of Rural Lands v. Urbanizable Lands	54
Table: Average Lot Sizes - RR-2 Zoning	55
Rural Residential: Goals and Policies	56
PART VIII RURAL COMMUNITIES	
Background	58
Today's Rural Communities	58
Plan and Zoning Criteria	59

Rural Communities: Goals and Policies	60
Map 9: Goble Rural Community	62
Map 10: Deer Island Rural Community	63
Map 11: Alston Corner Rural Community	64
Map 12: Birkenfeld Rural Community	65
Map 13: Mist Rural Community	66
Map 13A: Quincy Rural Community	67

PART IX URBANIZATION

Purpose	68
Background	68
Table 17: Population and Growth Rates 1970-78	72
Table 18: Decennial Census of Population 1920-1990	73
Table 19: Population Forecast for 2015: Low, Intermediate, High	73
Table 20: Population Projection, City/County Allocation, 2015	74
Table 21: New Dwelling Units by Building Permit Activity 1990-97	75
Table 22: Population Projections based on Average Units/Yr. in 1990-97, 1998 to 2015	76
Tables 23 and 24 deleted 3-2001	
Urbanization: Goals and Policies	77

PART X ECONOMY

Preface	79
Problems	79
Opportunities or Economic Advantages	80
Economic Growth	81
Population	82
Labor Force	82
Inventory of Economic Activity	83
Forest Production	83
Agricultural Production	84
Mineral and Aggregate Resources	84
Manufacturing	85
Non-manufacturing	85
Economy: Goals and Policies	86

PART XI COMMERCIAL

Background	88
Table 25: Commercial Parcels Committed and Areas	88
Land Use Designations	89
Existing Commercial	89

Goal Compliance	89
Maps 14 - 34: Commercially zoned lands:	
Map 14: South Scappoose	91
Map 15: North Scappoose	92
Map 16: Warren	93
Map 17: Lindberg (north)	94
Map 18: Lindberg (south)	95
Map 19: South Vernonia (Treharne)	96
Map 20: Canaan	97
Map 21: Heath Road	98
Map 22: Woodson	99
Map 23: Quincy	100
Map 24: Mist	101
Map 25: Pittsburg	102
Map 26: Yankton	103
Map 27: Old Columbia Highway (Alston Corner)	104
Map 28: Blehm Road	105
Map 29: Mayger	106
Map 30: Dike Road (Brown's Landing)	107
Map 31: Coon Island (E. Honeyman Rd.)	108
Map 32: Goble	109
Map 33: Anunde Island	110
Map 34: Willow Bar Island (east Sauvie Island)	111

PART XII INDUSTRIAL SITING

Industrial Economic Analysis	112
Introduction	112
Summary of Economic Data	113
Probable Growth	115
Conclusions	116
Industrial Lands Exceptions	117
Scappoose Industrial Airpark (SIA)	117
Prescott	117
Reichhold Chemicals, Inc. (RCI)	118
Port Westward (PW)	118
Bernet Site (BS)	118
Alternatives Within Urban Growth Boundaries	119
Table of buildable lands inside cities and UGBs	120
Map 35: Industrial Sites	122
Bernet Site Exception Statement	123
Proposal	123
Description of Site and Vicinity	123
Goal 2 Exception Criteria	124

Conclusion	130
Map 36: Bernet site Proposed Industrial	131
Port Westward Exception Statement	132
Proposal	132
Physical Characteristics	132
Background	133
Existing Facilities and Development	133
Proposed Use of the Property	136
LCDC Requirements	136
LCDC Evaluation	136
Findings and Conclusions	147
Map 37: Port Westward Committed Land	149
Prescott Industrial Site Statement	150
Overview	150
Description	150
Potential Uses	150
Conclusions	151
Reichhold Chemicals, Inc. Exception Statement	152
Proposal	152
Site Description	152
Existing Facilities	153
West of Highway 30	153
Map 38: Reichhold Chemicals - Existing Site Plan	154
East of Highway 30	155
Circulation	155
Utilities	156
Proposed Site Development Plans	156
Maritime Facilities	156
LCDC Evaluation	157
Map 39: Land Use Plan Map	159
Findings and Conclusions	166
Scappoose Industrial Airpark Exception Statement	168
Proposal	168
Site Description	168
Regulatory Agencies	170
Goal Exception	171
Conclusion	173
Exception Inventory	175
Map 40: Scappoose Industrial Airpark (Master Plan)	176
Trojan Exception Statement	177
Proposal	177
Site Description	177
Regulatory Agencies	177
Conclusion	178

Map 41: Trojan: Site Exclusion Area	179
Map 42: Trojan: Facilities map	180
Type I Exceptions	181
Crown Zellerbach Log Dump	181
Dike Road Industrial Area	181
Farwest Auto Wrecking	181
Olympic Forest Products	182
Mist Mill Site	182
Industrial Development: Goals and Policies	183
Resource Industrial Development: Goals and Policies	185

PART XIII TRANSPORTATION

Waterborne	186
Aviation	187
Pipelines	187
Railroads	188
Bus	188
Transportation Disadvantaged	189
Taxi Cabs	189
Bicycle and Pedestrian Transportation	189
Automobile and Truck Transportation	190
Existing Road System	191
Table: Average Daily Traffic on U.S. 30	191
County Road System	192
Access to Major Roads	192
Unconstructed County Roads	193
Transportation: Goals, Objectives and Policies	194

PART XIV PUBLIC FACILITIES AND SERVICES

Background	196
Current Services	196
Water	196
Table 27: Major Domestic Water Supply Systems	197
Law Enforcement	198
Fire Protection	198
Health Care Facilities	198
Communications Facilities	199
Schools	199
Table: Pupil Projections, 1998 - 2000	199
Social Services	200
Energy Facilities	200
Solid Waste Disposal	201

Public Facilities and Services: Goals and Policies	203
--	-----

PART XV ENERGY CONSERVATION

Background	206
Energy Conservation: Goals and Policies	209

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

Purpose of Report	210
Goal Five Requirements	210
The Goal Five Process	211
Overall Goal 5 Policy Statement	211
Open Space	213
Definition	213
Inventory	213
Potential Conflicting Uses	213
Economic, Social, Environmental, and Energy Consequences	214
Findings	214
Open Space: Goals and Policies	215
Surface Mining	216
Location	216
Quality	216
Quantity	216
Table: Active Aggregate Sites	217
Table: Inactive Aggregate Sites	218
Potential Conflicting Uses	219
Economic, Social, Environmental, and Energy Consequences	219
Findings	221
Surface Mining: Goals and Policies	222
Energy Sources	224
Inventory	224
Potential Conflicting Uses	224
Economic, Social, Environmental, and Energy Consequences	224
Findings	225
Energy Sources: Goals and Policies	226
Map 43: Mineral, Aggregate and Energy Resources	227
Big Game Habitat	228
Location	228
Quality	228

Quantity	228
Potential Conflicting Uses	229
Economic, Social, Environmental, and Energy Consequences	229
Findings	230
Columbia White-Tailed Deer Habitat	231
Location	231
Quality	231
Quantity	231
Potential Conflicting Uses	231
Economic, Social, Environmental, and Energy Consequences	232
Findings	233
Map 44: Big Game Range	234
Fish Habitat	235
Definition	235
Location	235
Quality	235
Quantity	235
Potential Conflicting Uses	235
Summary	236
Furbearer Habitat	237
Location	237
Quality	237
Quantity	237
Potential Conflicting Uses	237
Summary	237
Waterfowl Habitat	238
Location	238
Quality	238
Quantity	238
Potential Conflicting Uses	238
Summary	238
Non-Game Wildlife Habitat	240
Location	234
Quality	240
Potential Conflicting Uses	241
Economic, Social, Environmental, and Energy Consequences	241
Findings	241
Upland Game Habitat	243
Location	243
Potential Conflicting Uses	243
Economic, Social, Environmental, and Energy	

Consequences	244
Findings	244
Map 45: Wetland Areas and Special Bird Habitat Sites	245
Fish and Wildlife Habitat: Goals and Policies	246
Natural Areas	249
Definition	249
Inventory of Natural Areas	249
Potential Conflicting Uses	251
Economic, Social, Environmental, and Energy	
Consequences	251
Findings	252
Natural Areas: Goals and Policies	253
Map 46: Natural and Historical Areas	254
Wetlands	255
Definition	255
Location	255
Quality	255
Potential Conflicting Uses	256
Economic, Social, Environmental, and Energy	
Consequences	256
Findings	257
Wetland Area Site Maps:	258
Site 1 - North End Sauvie Island	258
Site 2 - Round Lake	259
Site 3 - Rest Lake	260
Site 4 - Santosh Slough	261
Site 5 - Deer Island	262
Site 6 - Prescott	263
Site 7 - Port Westward	264
Site 8 - Deer Island Pond	265
Site 9 - Clatskanie Flats	266
Site 10 - Columbia City Pond	267
Riparian Areas	268
Definition	268
Location	268
Quality	268
Quantity	269
Potential Conflicting Uses	269
Economic, Social, Environmental, and Energy	
Consequences	269
Findings	270
Map 47: Class I Rivers and Streams and Lakes	272
Lakes	273
Location, Quality and Quantity	273

Potential Conflicting Uses	273
ESEE Consequences	273
Findings	273
Reservoirs	274
Water Resources: Goals and Policies	275
Historic Areas	277
Definition	277
Location	277
Potential Conflicting Uses	279
Economic, Social, Environmental, and Energy Consequences	279
Findings	280
Cultural Areas	281
Definition	281
Location	281
Potential Conflicting Uses	281
Findings	281
Historic and Cultural Areas: Goals and Policies	283
Oregon Recreation Trails: Policies	284
Scenic Resources	285
Definition	285
Location	285
County Scenic Resources	285
Scenic Sites	285
State Designated Scenic Highways	286
Scenic Views	286
Potential Conflicting Uses	286
Economic, Social, Environmental, and Energy Consequences	287
Findings	287
Scenic Sites, Views and Highways: Goals and Policies	289
Scenic Waterways: Policies	289

PART XVII RECREATION NEEDS

Background	290
County Parks	290
Oregon Recreation Trails	291
Map 48: Recreation Areas	292
Table 28: Trojan Nuclear Facility visitor groups, 1978	293
Recreation: Goals and Policies	297

PART XVIII AIR, LAND, AND WATER QUALITY

Air	298
Open Burning Rules	299
Indirect Source Permit Rules	299
340-20-195(3) Table of Significance Levels	300
Noise	300
Background	300
Specific Noise Sources	300
Table: Permanent Lumber Mills	301
Map 49: 1980 Ldn and Current Land Use - Scappoose Airpark	303
Noise: Goals and Policies	304
Land	305
Septic Tank Disposal	305
Solid Waste	306
Water	307
Introduction	307
Water Quality	307
Physical Setting	307
Stream Flows	308
Waste Sources	308
Municipal Wastes	309
Septic Tanks	310
Industrial and Related Waste Sources	310
Non-point Source Waste	311
Oil Spill Prevention	311
Water	312
Air, Land and Water Resources: Goals and Policies	314

PART XIX NATURAL DISASTERS AND HAZARDS

Slopes	315
Flood Plain	315
Landslide Hazard Areas	317
Earthquake Hazards	317
Map 50: Landslide Hazard Areas	319
Map 51: Potential Earthquake Hazard Areas	320
Map 52: General Soils Map	321
Table: Slope Hazard Areas (Slopes Greater Than 30%)	322
Map 53: Slope Hazard Areas	323
Table: Soils With Low Shear Strength	324
Map 54: Soils With Low Shear Strength	325
Table: Soils Related to Mass Movement	326
Map 55: Soils Related to Mass Movement	327
Table: Soils With High Water Tables	328

Map 56: Soils With High Water Tables	329
Flood Plain: Goals and Policies	330
Hazardous Areas: Goals and Policies	331

PART XX WILLAMETTE RIVER GREENWAY

Background	332
Willamette River Greenway: Goals and Policies	335

PART XXI COMPREHENSIVE PLAN MAPS

Map 57: Scappoose - Spitzenberg CPAC	336
Map 58: St. Helens - Columbia City CPAC	337
Map 59: Tide Creek CPAC	338
Map 60: Rainier - Fern Hill CPAC	339
Map 61: Clatskanie - Quincy CPAC	340
Map 62: Birkenfeld - Mist CPAC	341
Map 63: Upper Nehalem Valley CPAC	342

APPENDICES

Ordinance No. 84-4: Adopting Comprehensive Plan and Zoning Ordinance, and Accompanying Maps, pp. 1-4. Effective August 1, 1984.	
Exhibit "D-1": Attachment "1": Hillcrest Proposed Amendments (7/7/84), pp. 1-2	
Exhibit "D-2": Hillcrest, Proposed Zoning Ordinance Amendment No. 1 (7/8/84), pp. 1-6	
Exhibit "D-3": Proposed Comprehensive Plan Amendment No. 1 (Hillcrest Exception Statement), pp. 1-36	
Exhibit "A": Hillcrest (See Comprehensive Plan Map No. 57...)	
Exhibit "B": Hillcrest map	
Exhibit "D-4": Proposed Columbia Acres Subdivision Parts 2 and 3, pp. 1-13	

INTRODUCTION TO THE PLAN

PURPOSE

This Comprehensive Plan is the public's conclusion about development and conservation of the County's resources, public facilities and services until the year 2000. This plan, adopted by the Board of Commissioners, is intended as an all-inclusive plan for Columbia County.

Comprehensive means all-inclusive in terms of activities in the County such as:

- The natural resources of land, air and water that are to be preserved, conserved, managed or utilized.
- Constraints on development, such as physical limitations of the public and private sectors in providing necessary services, or resource limitations such as inadequate groundwater supply.
- The locations for various types of land and water uses and activities in an area, such as agricultural, forestry, residential, and industrial.
- The utilities, services and facilities needed to support current and contemplated uses and activities.
- Considerations deriving from special values and needs of the area, such as housing, energy supplies, recreational facilities and scenic areas.

The purpose of planning is to guide the public decisions that impact facility construction or the use of resources. The plan is a document upon which public agencies, private firms and individuals must be able to rely so that their decisions can be made with confidence.

The plan is the basis for other public implementation actions, such as zoning and subdivision regulation, which must be consistent with the overall need and concerns reflected in the plan.

OBJECTIVES

The primary objectives of this plan are:

- To prevent or minimize conflicts between incompatible land use activities.
- To provide a source of information describing the condition and characteristics of the County.
- To provide an objective basis for public and private land use decisions.

- To provide a better understanding of specific actions, programs and regulations which may affect the public.

BACKGROUND FOR COMPREHENSIVE PLANNING

Comprehensive plans have been utilized in the major metropolitan areas of the United States for more than fifty years and have been officially sanctioned by the United States Supreme Court. Comprehensive planning in the State of Oregon became legally mandated to the thirty-six counties to develop comprehensive plans. However, there was little funding to accomplish this and no specific criteria for what must be contained in a comprehensive plan. In 1973, the Oregon State Legislature, through Senate Bill 100, created the Land Conservation and Development Commission and charged the Commission with developing statewide planning goals and guidelines as basic standards for what must be contained in a comprehensive plan. The legislature further provided for funding to assist local jurisdictions in their planning efforts. The Land Conservation and Development Commission, after numerous meetings throughout the state, established nineteen statewide planning goals, fifteen of which are applicable to Columbia County.

A comprehensive plan, once adopted by the county governing body, must be sent to the Land Conservation and Development Commission (LCDC) for review and approval. This process is called "acknowledgment of compliance" with statewide planning goals.

The comprehensive plan, once adopted, will govern future land use decisions by both public and private individuals. Zoning and subdivision ordinances will now be controlled by the comprehensive plan. The zoning and subdivision ordinances are considered the implementing tools of the plan.

A comprehensive plan is designed and written to meet the needs of the communities it serves. It should be publicly reviewed on a biannual basis to determine whether it is meeting these needs. Frequent plan review will insure that adjustments or modifications are accommodated, and do not destroy the overall integrity or reliability of the plan. The review process and amendment procedures are outlined in the administration provisions of the plan.

GENERAL BACKGROUND INFORMATION

HISTORY

Lewis and Clark passed through the area in 1805 on their way to the Pacific Ocean. During the next three decades many sailing ships entered the Columbia River to trade with Northwest Indians. A lumber mill was established in the St. Helens area in 1844 and the first townsite was started in 1847 and grew rapidly with a heavy influx of settlers in the early fifties. As a port for the Pacific Mail Lines, St. Helens flourished - rivaling nearby Portland.

Columbia County was created on January 16, 1854, from a section of Washington County. St. Helens became the County Seat permanently after an election in 1903.

Columbia County, located in northwestern Oregon, has a total land area of 676 square miles, of which about 30 square miles are water-covered.

GEOGRAPHY

Geographic characteristics of the County include the low mountainous Coast Range in the southern and western regions, which diminishes eastward into a series of rolling hills interspersed with shallow valleys. The lower stretches of the Columbia River serve as the northern and eastern borders of the County. The plain adjacent to the Columbia River varies in width up to five miles and contains a number of large, generally low-lying islands and diked lands. Elevations range from a few feet above sea level to approximately 2,000 feet on some of the mountain ridges.

The political boundaries are contiguous with Clatsop County to the west and Washington and Multnomah Counties to the south and southeast. The City of St. Helens, serving as the County Seat, is approximately 30 miles north/northwest of Portland, Oregon.

ADMINISTRATIVE PROCEDURES

It is essential the citizens of Columbia County be provided with a comprehensive plan that will accommodate the changing needs of the communities in which they live, work and play. While this plan is the result of considerable public input, study and analysis of existing physical, economic, environmental, and social conditions, and a projection of what future conditions are likely to be, it recognizes the importance of providing a framework for changing the plan periodically or as the need arises.

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:

1. Establish procedures to monitor changes in population, vacant lands, public facilities and environmental and economic changes.
2. Maintain the Citizen Planning Advisory Committee (CPAC) program as a means for the public and interest groups to express their views on County or Community needs, changes and improvements.
3. Insure the goals, objectives, policies, and implementing strategies of the Plan are reviewed as needed or inventory data changes. The review shall be formally done every two (2) years. For the purpose of this Plan, the following terms are defined:

Goal: The ultimate end toward which an activity or effort is directed.

Objective: A position toward which an activity or effort is directed, which leads to the ultimate goal.

Policy: A course of action designed to give constant guidance to present and future development decisions and thereby meet the goals and/or objectives.

Implementing Strategies: Approaches or techniques for implementing the policies. They describe the necessary programs and regulations and give direction to County agencies and

departments for plan-related activities.

Goals, objectives, policies, and implementing strategies are to be considered mandatory.

4. Formally update the Comprehensive Plan every five (5) years.
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.
6. The Planning Directory shall make the initial decision on any questions of interpretation or applicability of the plan. Such decisions may be appealed to the Board of Commissioners. All appeals shall be filed pursuant to section 1700 of the Columbia County Zoning Ordinances.
7. Existing ordinances and regulations will be amended and new ordinances and regulations shall be adopted to implement this plan as appropriate.
8. All land use approvals shall be consistent with this plan.
9. Revisions or amendments proposed within an urban growth boundary shall be in accordance with the Urban Growth Area Management Agreement adoption for that area.
10. The County will continue coordination with affected governmental agencies in

future reviews and revisions of the comprehensive plan and its implementing ordinances.

CITIZEN INVOLVEMENT

PURPOSE

As government gets larger, it becomes increasingly important that citizens become aware of and involved with the decision-making processes that affect their daily lives. In today's society there are few decisions made by government that directly impact citizens as much as those relating to land use planning. This fact was formally recognized in December of 1974, when the Oregon Land Conservation and Development Commission adopted CITIZEN INVOLVEMENT as Goal #1 of the 14 original Statewide Planning Goals. The intent of Goal 1 is to "...develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process".

HISTORY

In November 1975, the Columbia County Planning Commission formally adopted guidelines implementing a Citizen Involvement Program. These guidelines and related maps set the groundwork for the Citizen Involvement Program by geographically dividing the County into seven functional planning areas and by establishing a Citizen Planning Advisory Committee (CPAC) for each area. In addition, the Planning Commission established a Committee for Citizen Involvement (CCI) comprised of the chairman of each CPAC responsible for observing and reporting to the Planning Commission on the strengths and weaknesses of the program.

The seven original CPACs represented the following planning areas:

1. Scappoose - Spitzenberg
2. St. Helens - Columbia City
3. Rainier - Fern Hill
4. Goble - Prescott
5. Clatskanie - Quincy
6. Birkenfeld - Mist
7. Vernonia - Pittsburg

These names were intended to indicate general boundaries of the planning areas, with the actual boundaries shown on the Planning Area Maps adopted by the Planning Commission and Board of Commissioners.

The seven CPACs actually were first formed in January 1976, when the representatives for each CPAC were elected by property owners of their communities in public, well-publicized

elections held in each area.

The CPACs were to function according to guidelines set out by the Board of Commissioners in December 1975. Time lines were established to accomplish the following goals:

PHASE 1. Inventory, Data Collection/Identification of Needs and Issues.

PHASE 2. Plan Formulation/Choice and Decision-Making.

PHASE 3. Public Hearings/Alternatives and Alterations/Plan Adoption.

Under Phase 1, noted above, each CPAC was to:

1. Conduct a land use survey.
2. Inventory housing quality and quantity.
3. Survey recreation resources and needs.
4. Survey cultural and historic sites and areas.
5. Survey, identify and assess local community values and needs.
6. Assess and understand LCDC Goals and Guidelines and County land use criteria.
7. Assess and understand all factual data relating to the area, either collected by themselves or provided by the staff.

It was felt by the Planning Commission and Board of Commissioners that the second phase, noted above, should include:

1. Identification.
2. Recognition of available resources.
3. Preliminary designations for:
 - A. Broad land use area maps.
 - B. Comprehensive Plan maps.
 - C. Zoning maps.

The Commission and Board felt that such designations should occur only after consideration of all available information and after tailoring methods of land use regulation (such as zoning) to be suited to local needs.

Phases 1 and 2 were to be accomplished at the local CPAC level, while Phase 3 was to bring the CPACs' plans and zoning proposals to the country-wide level. It was envisioned that by

Phase 3 each CPAC would have produced a proposal suited to and accepted by the majority of citizens in their area, and also suited to State Goals and Guidelines.

Under Phase 3, the CPACs were to:

1. Clarify the plan and zoning proposals at the local level.
2. Make a final assessment of the plan and zoning proposals according to State Goals.
3. Document bases for plan and zoning decisions.
4. Amend plan and zoning documents as necessary.
5. Present final plan and zoning proposals to the Planning Commission.
6. Remain available, in an advisory capacity, to the Board of Commissioner.

In May 1978, the Board of Commissioner adopted Resolution 54-78, which slightly modified the CPAC resolution adopted in December 1975. Two of the CPACs, Goble-Prescott and Vernonia-Pittsburg, were renamed the Tide Creek and Upper Nehalem Valley CPAC, respectively. In 1978 the Planning Commission replaced the C.P.A.C. chair people as the Committee for Citizen Involvement (CCI). This was done because of a reluctance by many of the members to attend needed meetings. It was felt that the Planning Commission, who had a long history of being actively involved in the overall planning process, could provide a forum to adequately carry out the functions of the C.C.I.

It was not until the County's first plan review, in 1983 that it was discovered the State Citizen Involvement Advisory Committee was not supportive of the Planning Commission assuming the role of the C.C.I. Because of this, the County will re-structure the C.C.I. to be comprised of three members of the Planning Commission, two members of the Citizen Planning Advisory Committees (CPACs), and two interested citizens. A policy to reflect this change is included in the Plan.

CITIZEN INVOLVEMENT TODAY

The citizen involvement program has functioned, and continues to function, much as it was designed in 1975. CPACs hold regularly scheduled, well-publicized meetings, where they discuss current and long-range planning issues. CPACs have reviewed drafts of the comprehensive plan and have forwarded comments to the Planning Commission for its consideration.

In addition to the CPACs, Columbia County has numerous other formal and informal vehicles that provide the citizens of the County an opportunity to participate in the activities of County government, including: 1) Board of Commissioners, 2) Planning Commission, 3) advisory committees appointed by the Board of Commissioners, 4) technical advisory committees, and

5) public hearings.

Through these organizations and programs, citizens are able to participate and be informed on all phases of County government. Further, through participation in these organizations, the views of the citizens can be expressed to decision-makers who must establish policies for future development of the County.

CITIZEN INVOLVEMENT

It is Columbia County's policy to MAINTAIN A CITIZEN PLANNING ADVISORY COMMITTEE SYSTEM to offer opportunities for citizens to be involved in all phases of the land use planning process, and in addition, to provide:

1. Assistance through the distribution of planning information.
2. Coordination of public involvement.
3. A framework for public involvement in the development of land use plans and policies.

GOALS:

1. To assure broad-based, county-wide citizen involvement in the planning process to include formulation of plans and ordinances, development of goals and objectives and input into everyday planning functions.
2. To increase the citizens' awareness of planning programs at both the county and state level.
3. To provide methods by which county citizens, organizations and interest groups have opportunities to be informed and participate in all phases of the planning process.
4. To provide a means for broad-based dissemination and availability to the public of technical information and other relevant planning documents, ordinances, plans, maps and correspondence.
5. To assure county support for the Citizen Involvement Programs (CPACs) in the form of human, financial, informational and technical assistance.
6. To insure continued citizen participation in the planning process and periodic re-evaluation of the Citizen Involvement Program.

POLICIES:

1. To stimulate citizen involvement in the County by providing broad exposure to all phases of the planning process through radio and newspaper notices, general mailings and public meetings.
2. To encourage broad representation on citizen committees by assuring equal opportunities exist for all citizens and interest groups to be involved in the

development and composition of these committees.

3. To encourage the citizens of the County, through the Citizen Involvement Program, to become involved in inventorying, recording, mapping, describing, analyzing, and evaluating the elements necessary for development of a comprehensive planning program.
4. To assure the citizens of the County, through the Citizen Involvement Program, the opportunity to review and recommend changes to all plans and /or ordinances prior to the public hearing process.
5. To assure that County Citizens, through the Citizen Involvement Program, are involved in developing, adopting and applying the guidelines to be followed in carrying out the Comprehensive Plan and related ordinances.
6. To establish a committee, or committees, comprised of County citizens, to both periodically review and recommend changes, and make recommendations to proposed changes in the Comprehensive Plan, its elements and its related ordinances.
7. To fund and support the Citizen Involvement Program at a level sufficient to assure citizen involvement remains an integral part of both the current and long-range planning process.
8. To establish, and actively support with whatever resources necessary, a Committee for Citizen Involvement (CCI) comprised of nine (9) county residents broadly representative of geographic areas and interests. *[Amended 7-89]*

PLANNING COORDINATION

PURPOSE

Successful integration of all parts of the plan is one of the most important features of a comprehensive plan. Primary coordination occurs by involving all affected people and agencies during the development of the plan. Plan coordination activities include:

1. The county and the seven incorporated cities in the county are each responsible for the preparation of the plan for their own jurisdiction. The cities and the county work together in the preparation of urban growth boundaries.
2. The county, under ORS Chapter 197, is given the responsibility of coordinating the plans of cities and special districts.
3. Each special district is also responsible for working with the cities and the county to achieve mutual plan consistency.
4. Each state and federal agency has the responsibility of working with the county and each city to coordinate their planning.

COMPREHENSIVE PLAN DEVELOPMENT

As early as 1957, the communities of Scappoose and St. Helens began experiencing the effects of growth from local pressures and the Portland metropolitan area. In order to meet this demand, the two communities prepared preliminary general plans for land use, streets, schools, parks and public buildings. As these plans were nearing completion, the county also commenced a series of inquiries into problems of land and road development within the South County area. Preliminary plans were prepared for the St. Helens and Scappoose areas. The cities worked together on drafting zoning and subdivision ordinances to guide development along the lines set forth in the planning studies.

The Columbia County Planning Commission was established on August 29, 1960. Beginning in 1963 other communities entered into planning programs: Vernonia in 1963, Clatskanie in 1967, and Rainier in 1968. Preliminary comprehensive plans were prepared in each instance setting forth patterns of land use, a network of local and regional roads, as well as related data on population projections and public facilities.

Independent planning by separate agencies does not assure the desired patterns of development. To more effectively carry out city and county plans, the Columbia County Organization of Governments was formed in 1969. This was a voluntary association formed to generate consistent policies and a coordinated approach to planning and development programs. This organization dissolved itself in 1974.

The first county-wide comprehensive plan was adopted by the County Planning Commission

on July 6, 1970. The Planning Commission amended the plan on April 2, 1973. The plan was recorded by the County Clerk on June 22, 1974.

The County established a Planning Department in 1972, with the employment of the first full-time county employee in the position of Planning Administrator.

The objectives of the County in 1972 were to: (1) prepare a comprehensive plan; (2) establish an effective planning function in the county government; and (3) develop implementing ordinances to carry out plan objectives.

To comply with state law, existing plans must be revised. The planning process can be described as a four-step process. To begin, information concerning all applicable goal topics is gathered and organized. This information is used to determine current county characteristics. Once the information is gathered on a given goal topic (for example, recreation), it serves as a basis for analyzing and projecting current opportunities and future needs for desired development in the County. These opportunities and needs are outlined and alternatives considered for future development.

The next step is to develop goals and objectives for the County to apply over a given period of time. The third step is to set specific policies regarding land use for each applicable topic. The final step is one of review to insure that plan goals, objectives, and policies are updated as needs or inventory data changes. This is called monitoring and shall be formally conducted at least every two years.

FOREST LANDS

DEFINITION

Forest lands in Columbia County are defined as:

1. Those lands composed of existing and potential forest lands which are suitable for commercial production;
2. Other forest lands needed for watershed protection, wildlife and fisheries habitat, and recreation;
3. Lands where extreme conditions of climate, soil, and topography require the maintenance of vegetative cover irrespective of use; and
4. Other forested lands in urban and agricultural areas which provide urban buffers, wind breaks, wildlife and fisheries habitat, livestock habitat, scenic corridors and recreational use.

BACKGROUND

Since the first settlements in the area, the primary industry of the county has been the harvesting and processing of forest products. The mills were originally supplied from old growth timber stands but as these stands were depleted, logs were rafted into the county from other areas. At the same time, the industry was diversifying into pulp, paper insulation products, veneer and plywood. Today, raw lumber is only a small part of the total production picture.

ECONOMIC BENEFITS

Forest lands contribute in a variety of ways to the quality of life in Columbia County. The production of timber and its by-products is vital to the County's economy. Although the number of employees in the forest products industry has decreased by about 30% since 1981, 55% of the county work force is still dependent upon the lumber and wood products industries for their livelihood. Forest lands also contribute to the economy by providing recreational opportunities for residents and non-residents, hunters and hikers. Forest lands also yield non-economic benefits to residents in the form of clean water, fish and wildlife habitats, outdoor recreational opportunities and scenic beauty.

GENERAL INFORMATION

Forest lands cover over 84% of the county's land area. This 84% represents a total of 350,032 acres and is comprised of about 190,433 in commercial timber land in industrial ownership,

about 25,702 in public ownership, and about 133,897 in private non-industrial ownership. These lands are designated as Forest-Conservation in the County's Comprehensive Plan. The county's forest lands are capable of a high degree of productivity as evidenced by their high cubic-foot site class rating. About 95% of the forest land is comprised of cubic-foot site Class II and III soils. These soils have the potential of producing from 120 to 224 cubic feet of timber per acre per year.

(See Map #'s 1 - 7)

CURRENT TRENDS

Private non-industrial forest lands represent an important aspect of timber management due to their potential for augmenting existing lumber supplies. When the forest industries shift their harvesting operations from county to county, the result can be a decrease in local mill activity. During these periods the small wood lots supplement these local mills and often carry them through what could otherwise be very slow times. However, for the individual land owner the costs of clearing, scarifying, planting and protecting the seedlings during the first seven to ten years are high. And, little return is realized until the stand has matured and is harvested. Either by design or by chance, these small wood lots have typically located along the numerous valley floors found throughout the County. Although these valley floors offer less than ideal agricultural conditions, many of the small wood lot owners have successfully integrated these two resource activities. Consequently, among these small wood lots are often found isolated agricultural uses which together with the small wood lots provide a significant source of income and sustenance for the families residing on the land.

OTHER CONSIDERATIONS

The effects of forest management practices such as spraying, road construction and harvesting on fish and wildlife habitat, watersheds, recreational areas and rural residences have come under increased scrutiny during the past few years by both the timber industry and private citizens. While many believe the Oregon Forest Practices Act adequately protects these forest resources, others advocate additional controls over forest management practices. It is Columbia County's position to provide a framework whereby those uses which are most beneficial to the county will be allowed to exist with as few restrictions as is practicable, while allowing conflicting uses where they can be mitigated.

In addition, there are some limited circumstances where land situated between primary resource lands and rural residential and/or urban lands is not suitable for uses allowed by Goal 4 because [of] parcel sizes, ownership patterns, existing adjacent uses, the level of existing development, and other factors which make the application of Goal 4 impracticable on such land; but such land beneficially separates resource lands from potential conflicting uses on nearby land. In these circumstances, maximizing the production of wood fiber is the County's primary objective. A woodlot designation contingent upon taking an exception to Goal 4 will be applied sparingly based in part on the following concept (partly excerpted from the Jackson County Comprehensive Plan, acknowledged by LCDC, pp. 256-258):

1. Non-industrial private owners have different reasons for owning or managing land subject to the factors listed in OAR 660-04-028, but many of these objectives do not include the production of wood fibre nor other typical forest uses. The inducement of individuals to manage their lands for wood fibre production requires their offsetting satisfaction of other objectives. Given the right set of circumstances, owners might change from non-production activities to a program of managed wood fibre production. Favorable circumstances include knowledge and assurance of forest values, management opportunities and no major economic constraints. (Source: Oregon State Department of Forestry, Forestry Program for Oregon, 1977)
2. Corporate timber operations may be dissuaded from acquiring woodlands affected by these owners due to the extent of ownership patterns, parcel sizes, and other factors. On the other hand, private non-industrial woodlands managed on a small scale basis may be more productive in smaller units because owners are not readily able to avail themselves of economies of scale in intensive timber management, as are the Bureau of Land Management, United States Forest Service, and the large corporations.
3. Woodlands can provide an effective buffer between rural development and the forest resource. For example, "an owner of a 20 acre tree farm can afford to clear brush and remove dead and down wood to sell or use himself for firewood. He can also fence his property, which will in turn put a stop to the damage, such as erosion, fire and mutilation of trees caused by misuse of off-road vehicles" (memo from John Henderson, Double Dee Lumber, February 12, 1980, as quoted in Jackson County Comprehensive Plan, acknowledged by LCDC).
4. Currently, only about 20% of the non-industrial private forest lands in Oregon are managed for wood fibre production. (Source: Oregon State Department of Forestry, Forestry Program for Oregon, 1977; see also the "Bueter Report", School of Forestry, Oregon State University, 1976). In the case of certain woodlands in Columbia County, this low percentage appears to be attributable to the intervening factors mentioned above. A woodland designation should encourage more intensive management of parcels not smaller than ten acres at lower elevations through offering single family occupancy of the property in exchange for firm commitments to place such small parcels under wood fibre production management programs.
5. In those areas where ownership patterns and parcel sizes indicate that the average size of contiguous ownerships (as that term is used in OAR 660-04-028(ii)(c) is less than 10 acres, the woodlot zoning district is designed to induce aggregation of small parcels and ownerships into units of land suitable for wood fibre production under an approved management plan, by allowing a single family residence on such aggregated property upon a demonstration that:
 - A. They have aggregated noncontiguous small parcels into units of at least twelve (12) acres;

- B. At least ten (10) acres are subject to a management plan;
- C. The owner acknowledges a waiver of remonstrance against reasonable forest practices in the area;
- D. The owner acknowledges penalties due upon failure to maintain the management plan.

For timber industry and publicly owned forest lands, the woodlot designation reduces the conflicts between forest and non-forest uses by maintaining low density and by requiring that residential activity be subject to review, waivers, and other demonstrations to assure that such activity does not adversely affect forest productivity on nearby resource lands.

- 6. The woodlot designation identifies and protects certain lands which are capable of producing wood fibre except for factors listed in OAR 660-04-028. By inducing aggregation of parcels and ownerships into managed woodlots, statewide planning Goal 4 will have been achieved to the maximum extent possible under the circumstances.

The County has also considered the following facts in developing its forest policies:

- 1. Commercial forest production, both in the form of traditional raw lumber products and the less traditional woodlot activities, are necessary for the continued economic viability of the County.
- 2. The existing commercial forest use patterns and management practices in Columbia County of large landowners, both commercial timber companies and private individuals, have predominantly involved the use of 38 to 40 acre tracts as management units for silvicultural and commercial production reasons. These reasons include but are not limited to the economics of surveying, planting, thinning, brush removal, harvesting practices and fire, insect and disease protection. The County recognizes the importance of encouraging these economic efforts in promoting the commercial forest products enterprise of the County.
- 3. The County also recognizes that the forest use pattern in the Northwest in general and Columbia County in particular is changing as a consequences of actions beyond the County's control (i.e., sales of Southern United States timber products and Canadian imports). To keep the forest production economically viable, the county must encourage innovation in growing, harvesting, and processing of forest products and allow some flexibility from the traditional use patterns that have made Northwest products such a relatively high priced commodity.
- 4. This flexibility will be achieved in part by allowing the continued use of the existing 38-acre management unit in Primary Forest zones (definition follows).
- 5. The existing commercial forest use patterns in the County, however, are not limited to large ownership tracts that use the 38-acre management units. There is a second forest use pattern in the County consisting of individual private parcel

ownerships in lot sizes of predominantly the 19-38 acres size. These smaller sized units contribute substantially to the existing forest products economy of the County and will in the future, with encouragement from the County of high intensity woodlot production procedures, provide even greater economic benefits.

6. The County recognizes that including a mixed Forest-Agriculture zone of 19 acres will encourage forest production on these small acreages and provide for management flexibility of the forest products in these county-wide clusters of smaller single ownership mixed-use lot patterns.
7. The County also recognizes that urbanization and parcelization of valuable forest production land can potentially have detrimental effects on the price of available forest production land and the cost of planting, maintaining, and harvesting forest products. In order to promote forest production, therefore, the County recognizes that it must limit the urbanization (including dwelling siting) and parcelization activities in forest zones by providing adequate review procedures that will assure existing commercial activities and future innovative forest practices will be protected.
8. Though a 38 acre minimum lot size in the primary forest zone provides an appropriate management unit for forest purposes, the 76 acre minimum lot size is necessary to prevent the encroachment of residential users in the primary forest zone. The larger lot size will make the parcels less attractive for residential uses and discourage speculation for residential purposes.

FOREST LANDS

GOAL: To conserve forest lands for forest uses.

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

1. Conserve forest lands for forest uses, including:
 - A. The production of trees and the processing of forest products;
 - B. Open space;
 - C. Buffers from noise;
 - D. Visual separation from conflicting uses;
 - E. Watershed protection;
 - F. Wildlife and fisheries habitat;
 - G. Soils protection from wind and water;
 - H. Maintenance of clean air and water;
 - I. Compatible recreational activities; and
 - J. Grazing land for livestock.

2. Designate Forest Lands as Forest-Conservation in the Comprehensive Plan and implement this plan designation through the use of two (2) forest zones and one (1) overlay zone which will maintain or enhance the existing commercial forest products enterprise of the County. They are:
 - A. Primary Forest - PF-76
 - B. Forest-Agriculture - FA-19
 - C. Buffer Woodlot Overlay - BW

3. Designate as Primary Forest those lands that:
 - A. Are in industrial, private non-industrial and public ownerships.
 - B. Protect sensitive areas such as watersheds and wildlife and fisheries habitat.
 - C. Are in areas where parcels average 38 acres or more.
 - D. Are geographically or topographically separated from those lands used for agriculture and non-forestry uses.
 - E. Have a predominant cubic-foot site class of 2 and 3.
 - F. Have climate, soil and topographic conditions that require the maintenance of vegetative cover regardless of use.
 - G. Do not generally require an on-site caretaker to effectively manage the resource.
 - H. Are isolated pockets within forest areas which do not meet the above criteria but for other reasons are precluded from any other use.

4. Designate as Forest-Agriculture those lands that:

- A. Are in private non-industrial ownerships where the existing ownership pattern consists predominantly of single small parcel owners.
 - B. Provide only minimal benefit to watershed and wildlife and fisheries habitat areas.
 - C. Are in areas where contiguously owned parcels average less than 38 acres and where the predominant parcel size is less than 38 acres. Contiguously owned parcels are considered as one unit.
 - D. Have direct access to a public right-of-way.
 - E. Have a predominant cubic-foot site class of 3 or 4.
 - F. Have soil and topographic characteristics that do not preclude a limited non-resource use of the land, and where such activity can be buffered from adjacent resource uses.
 - G. Are small isolated pockets of lands surrounded by land which meets the preceding criteria.
5. Limit the creation of parcels or lots for non-forest uses.
6. Allow residential uses when it can be shown that such uses are necessary for and accessory to the resource activity occurring on the same lot or parcel, and where it can be shown that siting standards exist which insure compatibility of the proposed residence with adjacent resource uses. Meeting the standards for establishing the buffer wood lot overlay district is one means of showing both necessity and compatibility.
7. Limit non-forest dwellings to individual lots or parcels where it can be shown that:
- A. The proposed site is on land generally unsuitable for forest uses;
 - B. The proposed use will not significantly impact forest uses on adjacent and nearby forest lands;
 - C. The proposed use will not significantly increase the costs of forest management on adjacent and nearby forest lands;
 - D. The site is limited in size to that area suitable and appropriate only for the needs of the proposed use;
 - E. Where necessary, measures are taken to minimize potential negative impacts on adjacent and nearby forest lands; and,
 - F. The proposed use is consistent with the forest policies contained in the Comprehensive Plan.
8. Allow resource related dwellings to exist in Primary Forest zones or on Forest-Agriculture zones when it can be shown that such uses are necessary for and accessory to the forest use or forest-agriculture use of the respective zones.
9. Encourage maximum production of wood fiber on certain of the Forest-Conservation lands in the Comprehensive Plan by implementation of a Buffer Woodlot Overlay District. Designate as Buffer Woodlot overlay those lands that:
- A. Have parcel sizes and ownership patterns such that contiguously owned

- parcel sizes are less than ten (10) acres in the area.
- B. Separate resource areas from adjacent or nearby rural residential or urban uses.
 - C. Require aggregation of parcels and ownerships in order to achieve parcel sizes suitable for managed wood fiber production.
 - D. Are designated BW only after an exception to Goal 4 has been taken on them and are isolated pockets of land subject to one or more of the factors listed in OAR 660-04-028 which make the application of state-wide planning Goal 4 impracticable.
10. Require a plan amendment when considering a zone change from Primary Forest (PF-76) to Forest-Agriculture (FA-19) in accordance with Forest Lands Policies 3 and 4.

If the County considers any changes in the minimum lot sizes for forest lands, any changes will be reviewed against the requirements of statewide land use planning Goal 4.

AGRICULTURE

BACKGROUND

Next to the wood products industry, Columbia County's second most important economic activity has been, and continues to be, Agriculture. However, according to 1975 statistics, agricultural employment contributed only 6% of the County's income and employed only 2% of the County's work force. There is no indication that these percentages have increased.

Although the efforts of the early settlers were primarily directed toward lumbering, the development of the Northwest and the growth of Portland brought a demand for farm produce and stimulated the clearing of land for agriculture. In the late 1800's livestock industries were developing, along with increased specialization and more intensive farming. By the turn of the century the major agriculture industries were dairying, market gardening, small fruits production, and poultry raising. Prior to World War I, the development of agriculture was gradual, but with the higher prices caused by war, the number of farms in the County increased 100%.

In keeping with the nationwide trend during recent years, the number of acres of farmland in the County had been steadily decreasing. Statistics compiled in 1978 and 1982 show a reversal in that trend with both the total acreage in the "all farms" category and those farms with over \$2500 in gross sales showing slight increases in acreage. Both categories still fall below the 1964 figures. (Tables 2 and 3) It should be noted that in 1974 the U.S.D.A. re-defined a farm to include any establishment from which \$1000 or more of agricultural products are sold, or would normally be sold, during a year. This change may have affected the acreage statistics for "all farms" but would not have impacted those farms showing over \$2500 per year incomes.

While total acreage statistics increased slightly in 1978 and 1982, there is an important distinction between the trends of large acreage farms and small acreage farms. Farms in excess of 50 acres have shown no increase and constitute less than half of the farms in the County. Also, farms in excess of 40 acres have the lower gross sales per acre. On the other hand, smaller acreage farms have increased. Small farms constitute the majority of the farms in the County and have the highest gross sales per acre. Columbia County's agricultural profile is and will continue to be that of small acreage, high intensity farming.

SUITABILITY FOR AGRICULTURE

Agricultural lands must include, by definition, those lands:

1. With predominantly Class I through IV soils (see Map #8);

Map 8 - Land by USDA Capability - Classes 1 - IV

2. Other lands suitable for farm use considering:
 - A. Soil fertility;
 - B. Suitability for grazing;
 - C. Climate conditions;
 - D. Present and future water availability for farm irrigation;
 - E. Existing land use patterns;
 - F. Technological and energy input required; and,
 - G. Accepted farming practices.

3. Lands in other soil classifications necessary to permit farm practices to be undertaken on adjacent or nearby lands.

According to the Soil and Land Conservation Service, Columbia County has a total of 57,649 acres of Class I through IV soils. The breakdown by acreage for each class is as follows:

Class I -	387 acres
Class II -	28,638 acres
Class III -	25,890 acres
Class IV-	2,734 acres

Currently less than half (44%) of the County's Class I-IV soils are being used for agriculture. The remainder of these non-farmed, agriculture soils either support acknowledged Type I "Built and Committed" exceptions or have been designated as Forest-Agriculture.

All of the County's agriculture activities take place on Class I-IV soils, with the majority occurring on the Class II and III soils located in the diked areas along the Columbia River.

Farming activity in the County is, for the most part, surrounded by land which is built and committed to non-resource uses. Based upon the contiguity of these large blocks of built and committed lands, the County has determined that other than those lands designated as agricultural there are no other lands in any soil classification which are necessary to permit farm practices to be undertaken on adjacent or nearby lands, or which are suitable for farm use considering the seven (7) factors noted on [this] page 28 of the Plan.

A significant amount of agriculture takes place along the many valley floors located throughout the interior of the County. These agricultural uses are typically smaller in size and are interspersed with the predominant forest uses. These agriculture uses are addressed under Forest-Agriculture in the Forestry Element of this Plan.

CURRENT TRENDS

(Drawn from information found in Tables I through 10 and evidence and testimony from public hearings.)

NATURE OF COLUMBIA COUNTY'S COMMERCIAL AGRICULTURAL ENTERPRISE

1. Columbia County's commercial agricultural enterprise is and has always been based on extensive animal grazing (both by acreage and number of farms).
 - A. Grazing occupies 75% of acreage and 69% of the farms. It produces 35.3% of Ag. income.
 - B. The other high-income category (dairy) is operated on 6% of the land by 3% of the farmers. It produces 33.4% of income.
 - C. Grain, seed crops, berries, and miscellaneous crops produce the remaining income on about 4% of the acreage and [by] 11% of the farmers.
 - D. The remainder of the land is either ungrazed woodland or idle.
 - E. Average size of extensive animal grazing farms is 137 acres and the median size is 60-70 acres. However, smaller grazing farms contribute significantly to the County's agricultural enterprise.
2. The predominant characteristic of the Columbia County farm is that it is operated as a part-time venture.
 - A. 54% of all farms and 47% of farms with sales greater than \$2500 worked more than 200 days off the farm. Another 13% worked 100-200 days. Only 35% showed 100 days or less. A fair number of these are retired, although no definitive statistics exist.
 - B. Approximately 70% of all farmers get their principal income outside the farm.
 - C. Table 1 indicates that even in [the] 160-319 acres class, more than 50% of the operators earn more than 50% of their incomes off-farm.
 - D. In terms of total stockmen earning more than \$2500/year, 36% showed farming as their principal occupation, while 64% listed other non-farm income as their major source of earning.
3. The total cash value of farm sales for the County (greater than \$2500 income) is in excess of \$6,000,000.
 - A. Sales by farms of less than 40 acres (greater than \$2500 income) are in excess of \$800,000.
 - B. There are also farms of less than 40 acres with annual incomes between

\$500 and \$2,500. Those smaller farms also contribute significantly to the overall agricultural enterprise of the County, but the County does not have precise data on the dollar amount of the contribution.

- C. The 1982 Census of Agriculture identifies 781 farms in Columbia County. Of these farms, 513 are less than 50 acres in size; of the 513 farms, 492 grossed under \$10,000, averaging \$2,030. These farms, while small, are very important to Columbia County's existing agricultural economy.

The 38-acre minimum lot size reflects the parcelization which has occurred on a significant portion of Columbia County's agricultural land. The 38-acre minimum lot size is approved to protect these lands under the Supreme Court's decision in Meeker v. Clatsop County, 287 Oregon 665; 601 P2d 804 (1979).

The 1982 Census of Agriculture identifies 103 farms grossing over \$10,000 in 1982. The average size of those farms is 318 acres, and the average income \$79,362. These farms are clearly commercial agriculture enterprises which maintain and contribute in volume to Columbia County's agriculture economy.

The 76-acre minimum lot size is adequate to protect commercial farms and to prevent residential encroachment into areas currently utilized for commercial farms or capable of utilization for commercial farms. The 76-acre minimum lot size is appropriate for those areas of predominantly larger lots (76 acres or larger in size). Land divisions below 76 acres in these areas will be permitted upon showing that the resulting parcels will be appropriate to the continuation of the existing commercial agricultural economy in the area.

- 4. Commercial agriculture in Columbia County is limited by many factors.
 - A. Distance from processing. Small fruits and vegetables represent the high value crops in the Willamette Valley. Columbia County growers, to some degree, are isolated both geographically and "psychologically" from these markets.
 - B. Some potentially good soils along the Columbia in Clatskanie have severe limitations for drainage. The same area also experiences a 60" rainfall and low heat unit accumulations. This limits crops that will prosper and complicates disease control.
- 5. Smaller Columbia County farms are predominantly higher intensity operations.
 - A. Farms of 40 acres or less have the higher gross sales per acre than larger farms.
 - B. Farms of less than 50 acres constitute more than half of the County's farms.
 - C. Table 1 reveals that for grazing operations, the major agricultural activity in

the County, farms of 20 acres or less produce twice the amount of gross sales per acre than any other grazing farms.

- D. Median lot size of all Columbia County farms is approximately 40 acres based on tax records. The median size of farms with income in excess of \$2500 is 70 acres. A 38-acre minimum lot size will mean that any farm which is smaller than 78 [76] acres will not be eligible for partitioning. Thus, over half of the County's farms producing more than \$2500 per year will not be eligible for partitioning.
 - E. Farm acreages and sizes have been holding constant from 1969-1978. 1982 figures show an increase in farm numbers and decreases in average size and median size of those farms.
 - F. Table 1 shows that as the grazing farms acreage increases, the gross sales per acre decrease substantially.
 - G. These findings lead the County to establish its PA-38 zone in order to recognize that smaller scale farms contribute to the County's existing agricultural enterprise. The 38-acre minimum lot size will prevent further parcelization and will assure that productive agricultural land will not be divided into parcels that are too small for farm use.
 - H. The agricultural activity carried on in the County is not necessarily dependent upon lot size. There are grazing operations on 38-acre farms, as well as on much larger ones. Dairies also vary in size, as do virtually all other farms.
- 6. The average farm had 30% of the acreage in woodland. This is consistent with the dissected nature of the terrain common to most of the County.
 - 7. Approximately 30% of the farmers rent land. Approximately 25% of their farm operations were rented land. Median size rented was 67 acres.

TABLE 1

DETAILED SUMMARY OF EXTENSIVE GRAZING OPERATIONS (>\$2500 gross sales)

<u>Acres Class</u>	<u>1-19</u>	<u>20-39</u>	<u>40-79</u>	<u>80-159</u>	<u>160-319</u>	<u>320+</u>
Principal Occupation = farm (%)	36	22	31	39	49	60
Principal Occupation = other (%)	64	78	79	61	51	40
Principal Occupation = farmer (gross sales)	\$22,000	\$42,000	\$118,000	\$184,000	\$254,000	\$223,000
Principal Occupation = other (gross sales)	<u>\$40,000</u>	<u>\$151,000</u>	<u>\$262,000</u>	<u>\$287,000</u>	<u>\$265,000</u>	<u>\$148,000</u>
Total \$	\$62,000	\$193,000	\$380,000	\$471,000	\$519,000	\$371,000
\$/Acre (either occupation)	\$344	\$164	\$107	\$111	\$66	\$34

TABLE 2

TRENDS IN FARM NUMBERS & ACREAGES

<u>Year</u>	<u>Acres</u>	<u>% Total Land Area</u>	<u>Total # Farms</u>	<u>Avg. Size</u>	<u>Median Size</u>
1964	94,988	23.2	1,149	82	approx. 40
1969	74,496	18.2	547	136	approx. 60
1974	69,912	17.1	503	139	approx. 50
1978	75,699	18.5	575	132	approx. 40
1982	77,182	18.9	781	99	approx. 38

TABLE 3

TRENDS IN FARM NUMBER & ACREAGES (>\$2500 gross sales)

<u>Year</u>	<u>Acres</u>	<u>%Total Land</u>	<u>% Ag Land</u>	<u>% Ag Sales</u>	<u>Total # Farms</u>	<u>% Farmers</u>	<u>Ave. Size</u>	<u>Med. Size</u>	<u>Median* Size Harvested</u>
1964	49,658	12.1	52.2	89.3	267	23.2	186	N/A	N/A
1969	53,712	13.1	72.1	93.6	236	43.1	228	N/A	approx. 40
1974	43,509	10.6	62.2	94.2	211	41.9	206	N/A	approx. 29
1978	48,290	11.8	63.7	95.0	292	50.7	165	69	approx. 22

*The census only breaks out farms with harvested cropland (which is broadly interpreted). This normally includes >80% of farms with >\$2500 sales, and about 30% of the >\$2500 farm land. The bulk (70%) of the harvested crop was hay - this is a form of pasturing.

TABLE 4

FARMS BY SIZE (1964-78)

<u>Size (Acres)</u>	<u>1978</u>	<u>1974</u>	<u>1969</u>	<u>1964</u>
<10	40-(07%)	33-(07%)	37-(07%)	93-(08%)
10-49	261-(45%)	213-(42%)	217-(40%)	569-(50%)
50-179	201-(35%)	195-(39%)	207-(38%)	392-(34%)
180-499	54-(09%)	48-(09%)	73-(13%)	72-(06%)
500-999	11-(02%)	6-(02%)	7-(01%)	15-(01%)
1,000-1,999	4-(<1%)	3-(<1%)	4-(<1%)	6-(<1%)
2,000+	4-(<1%)	5-(<1%)	4-(<1%)	2-(<1%)
TOTALS	575 (100%)	503(100%)	549(100%)	1,149(100%)

TABLE 5

OTHER LANDS IN AG. - 1978 and 1974

	<u>1978</u>	<u>% Total Ag Land</u>	<u>1978 (>2500)</u>	<u>% Total (>2500) Ag Land</u>
Woodland	22,927	30.3	11,445	23.7
Land in Houses, Roads, etc.	<u>3,624</u>	<u>4.8</u>	<u>2,193</u>	<u>4.5</u>
TOTALS	26,551	35.1	13,638	28.24
	<u>1974</u>	<u>% Total Ag Land</u>	<u>1974 (>2500)</u>	<u>% Total (>2500) Ag Land</u>
Woodland	20,755	29.7	10,935	25.1
Land in Houses, Roads, etc.	N/A	-	<u>1,930</u>	<u>4.4</u>
TOTALS	-	-	12,865	29.5

TABLE 6

LANDS RENTED FROM OTHERS BY ACREAGE CLASS (1978 & >2500 ACRES)

	<u># Farms</u>	<u>% Farms in Ac. Class</u>	<u>% Ac. Rented from others</u>	<u>Acres Rented</u>	<u>Ave. Size Rented</u>
1-19	5/33	15%	9.5%	33	6.60 ac.
20-39	7/54	12%	7.8%	121	17.28 ac.
40-79	20/79	25%	9.7%	440	22.00 ac.
80-159	15/52	29%	16.9%	1,008	67.20 ac.
160-319	25/45	56%	29.8%	3,041	121.64 ac.
320+	<u>16/29</u>	55%	32.0%	<u>8,426</u>	526.62 ac.
TOTALS	88/292	30.1%	27.1%	13,069	148.00 ac. Median = 67

TABLE 7

BREAKDOWN OF PRINCIPAL FARM TYPES

<u>Type</u>	<u>% Total Farms</u>	<u>% Ag. Acreage</u>	<u>Contribution to total Ag. income (%)</u>
Extensive Animal Grazing	69.0	64	35.3
Intensive Animal Husbandry	8.8	*	4.1
Dairying	3.3	5.8	33.4
Horticultural Specialists	2.1	<1	4.1
Grains	7.3	3.0	9.3
Berries	2.4	0.6	9.8
Other Land (woodland, house lots, idle, etc.)		24.5	

*Land devoted to intensive animal husbandry (hogs, chickens, horses, etc.) is very small and hard to define from census data. The part of the acreage devoted to crops on those farms is reported in the appropriate category.

TABLE 8

CENSUS OF FARM OPERATORS

<u>Days Reported Working off Farm</u>	1978		1974	
	<u>All Farms</u>	<u>Farms(>2500)</u>	<u>All Farms</u>	<u>Farms(>2500)</u>
None	145 (26%)	89 (32%)	114 (25%)	62 (36%)
1-99	39 (07%)	24 (08%)	23 (05%)	15 (09%)
100-200	71 (13%)	36 (13%)	50 (11%)	23 (13%)
200 +	303 (54%)	131 (47%)	265 (59%)	74 (43%)
 <u>Principal Occupation</u>				
Farming	182 (32%)	122 (42%)	157 (32%)	112 (54%)
Other	393 (68%)	170 (58%)	340 (68%)	94 (46%)
 <u>Median Age</u>	 51.7	 51.7	 52.1	 52.4
 <u>Farms by Tenure</u>				
Full Owners	436 (76%)	202 (69%)	392 (78%)	147 (70%)
Part Owners	120 (21%)	78 (27%)	84 (17%)	55 (26%)
Tenants	19 (03%)	12 (04%)	27 (05%)	9 (04%)

TABLE 9

1978 DISTRIBUTION OF FARM SALES (>2500 income)

<u>Value of Products Sold/farm</u>	<u># Farms</u>	<u>% Farms</u>	<u>Sales \$</u>	<u>% Total Farm Sales</u>
2,500-4,999	98	33.6	353,000	5.8
5,000-9,999	87	29.8	593,000	9.8
10,000-19,999	55	18.8	755,000	12.5
20,000-39,999	25	8.6	701,000	11.6
40,000-99,000	16	5.4	960,000	15.9
100,000 +	11	3.7	2,670,000	44.3

TABLE 10

1978 DISTRIBUTION OF FARMS SALES BY ACREAGE CLASS (>2500 sales)

<u>Acres</u>	<u># Farms</u>	<u>% Farms</u>	<u>Acres</u>	<u>% Acreage</u>	<u>\$ Sales</u>	<u>% Total Sales</u>	<u>Gross Sales/Ac.</u>
1-19	33	11.3	347	<1	385,000	6.4	1,109
20-39	54	18.5	1,549	3.2	447,000	7.4	288
40-79	76	26.0	4,507	9.3	758,000	12.5	168
80-159	52	17.8	5,963	12.3	924,000	15.3	155
160-319	45	15.4	10,215	21.1	866,000	14.3	85
320 +	29	9.9	25,709	53.2	2,652,000	43.9	103

AGRICULTURE

GOAL: To preserve agricultural land for agricultural uses.

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

1. Designate as Agricultural lands those lands:

- A. With predominantly Class I through IV soils;
- B. Other land which is suitable for farm use considering:

- 1. soil fertility;
- 2. suitability for grazing;
- 3. climatic conditions;
- 4. present and future water availability for farm irrigation;
- 5. existing land use patterns;
- 6. technological and energy inputs required;
- 7. accepted farming practices.

C. Lands in other soil classifications necessary to permit farm practices to be undertaken on adjacent or nearby lands.

2. If the County proposes to convert agricultural lands (as defined by Statewide Land Use Goal 3) to urbanizable land, the County shall follow the procedures and requirements for exceptions to the Agricultural Lands goal, pursuant to Goal 2. Those uses which are permitted by ORS 215.283(1) or (2) shall not require an exception to the Agricultural Lands goal. *[amended 4-98]*

3. Designate Agricultural lands as Agricultural Resource in the Comprehensive Plan and implement this plan designation through the use of one (1) exclusive farm use zone:

Primary Agriculture - PA-38

Minimum lot size of 38 acres in that zone is appropriate for the continuation of the existing commercial agricultural enterprise in the area.

4. Protect agricultural lands from non-farm encroachments.

5. Encourage agricultural activities on designated agricultural lands.

6. Encourage the use of lands with the best agricultural soils, particularly those lands within the flood plains, for agricultural uses.

7. Support land division criteria appropriate for the continuation of the existing commercial agricultural enterprise in an area.

8. Establish minimum lot sizes to assure that productive agricultural land will not be divided into parcels that are too small for commercial farm use.
9. Avoid extension of urban facilities and services into agricultural areas whenever possible. No water or sewer facility shall be designed to provide domestic service to agricultural areas.
10. Encourage roads through agricultural areas to locate where they will have minimum impacts on agricultural management and the existing lotting pattern.
11. Prevent land uses that interfere with or impair agricultural management from occurring on designated agricultural lands, excepting those specified in ORS 215.213 (2) (3).
12. Require conversion of rural land to urbanizable land be based on the criteria set out in Goals 3 and 14.
13. Allow the division of lands placed in the Primary Agriculture District in accordance with the following:
 - A. The lot area is consistent with the agriculture land use policy for the State of Oregon as expressed in ORS 215;
 - B. The lot area is of a similar size to existing commercial agricultural operations in the surrounding area;
 - C. In those instances where it is proposed to locate a farm-related dwelling, the proposed lot area is of sufficient size to support commercial production of food or fiber using accepted farm practices as defined in ORS 215.203 (2) (c);
 - D. Approval of the partitioning will not seriously interfere with the preservation of wildlife or fish habitat areas as identified in the Columbia County Comprehensive Plan, or interference will be mitigated; and,
 - E. Any additional criteria as set forth in the County Primary Agriculture District.
14. Limit residential uses within the Exclusive Farm Use District to those dwellings in connection with farm or forest use as defined in ORS 215.203(2)(C) and to non-farm dwellings as provided in ORS 215.283.
15. Permit non-farm/non-forest uses only when not in conflict with agricultural or forestry activities.
16. Require that an applicant for non-farm use record a waiver of the right to remonstrate against accepted farm or forest practices including spraying.

17. Allow non-farm uses in accordance with ORS 215.283.

18. In order to provide additional protection to the existing commercial agricultural economy of the County, the division of land in the primary agriculture zone into lots smaller than 76 acres will be allowed only if the resulting parcel will be appropriate to the continuation of existing commercial agricultural economy in the area and the resulting parcel will be capable of contributing in a substantial way to the existing agricultural economy and capable of helping to maintain agricultural processors and established farm markets.

HOUSING

GENERAL BACKGROUND INFORMATION

Residential land use in Columbia County is characterized by single family dwellings on individual parcels. Columbia County has significantly fewer multi-family dwellings than the statewide average. People moving into the unincorporated areas prefer a rural lifestyle on a small acreage. A review of the building permit records for the first half of 1978 shows a median lot size of 4.7 acres.

Between 1960 and 1970, Columbia County had one of the highest rates of rural housing development in the State. During this decade, the number of rural housing units increase 23%, compared to the statewide average of 2%. The County also had twice as many mobile homes, per capita, as the State. The majority of the housing units (71%) were owner occupied, and the vacancy rate was a low 4%.

From 1970 to 1975, the housing stock in the County increased 18% and the proportion of mobile homes continued to be double the statewide figure. During this time, the average cost of a new single family dwelling increased by 33%, and the number of owner-occupied units declined slightly (3%) as more families rented homes instead of buying them. However, vacancy rates throughout the County continued to be lower than the statewide average. These low rates demonstrate a high demand for housing, caused in large part by the population growth of recent years.

Since 1970, Oregon's population has been increasing at a rate that is twice the national average, and Columbia County's growth rate has been even higher than that of the State. The number of people migrating into the County varies from year to year, but since 1974 it has accounted for approximately 70% of the net annual increase in population.

Also contributing to the housing demand and low vacancy rates is the change in household size. In the past, grandparents lived with their children, young adults lived at home until marriage, and the number of children per family was larger. Now all three of these factors are changing. The number of persons per household is decreasing, and the number of one and two member households is increasing.

TABLE 11

Average Number of People per Household in Columbia County

1970	3.15	1990	2.57*
1975	2.96	1995	2.53*
1980	2.78*	2000	2.49*
1985	2.64*		

*Bonneville Power Administration projections for future household sizes in Columbia County.

HOUSING NEEDS

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. The State Housing Goal states ". . . plans shall encourage the availability of adequate numbers of housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households . . .".

The primary indicator used to project the County's future housing needs is a comparison of the distribution of income groups and available housing units, shown on Table 12. The information on income was provided by the State Housing Division. The data on housing units was obtained from the Columbia County Assessor's Office. The Housing Division broke the County population into groups, with 10% of the families in each, and gave a median income for each group. Limits were then set around ten medians to provide ranges of income. The price range affordable for each group is based on the generally accepted guideline that a family can afford a house costing twice their annual income. A sample of 225 home sales between September 1, 1977 and March 1, 1978 were broken down by price into ten groups corresponding to the ten population income groups. If there are houses for sale that are commensurate with Columbia County's income levels, then each of the groups should have 10% of the units sold.

The increase in interest rates, combined with the escalation in housing costs, have made it even more difficult for families earning less than middle income to purchase a home. The median family income for Columbia County in 1978 was \$17,624 and the median for families renting their homes was \$14,804. Assuming the guideline cited above, neither of these figures was sufficient for a family to purchase an average priced (\$36,694) existing home County during that same year. This means that a sizable percentage of the families now living in the County cannot afford to purchase a home.

TABLE 12

COMPARISON OF HOUSEHOLD INCOME AND HOUSING SALES PRICES

	<u>Household Income</u>	<u>Price Range Affordable</u>	<u>Housing Units in Price Range</u>		
			<u>#</u>	<u>%</u>	<u>Should Be*</u>
1.	\$ 0 - 7,348	\$0 - 14,696	15	6.7	10%
2.	7,349 - 10,913	14,697 - 21,826	20	8.9	10
3.	10,914 - 13,824	21,827 - 27,648	25	11.2	10
4.	13,825 - 16,044	27,649 - 32,088	34	15.2	10
5.	16,045 - 18,187	32,089 - 36,374	32	14.3	10
6.	18,188 - 20,464	36,375 - 40,928	21	9.4	10
7.	20,465 - 23,977	40,929 - 47,954	27	12.0	10
8.	23,978 - 30,397	47,955 - 60,794	39	17.4	10
9.	30,398 - 38,649	60,795 - 77,298	10	4.5	10
10.	38,650 +	77,299 +	1	0.4	10
			224	100.0%	10

* If housing was available commensurate with Columbia County's income levels, then each group should have 10% of the total.

SOURCES: Oregon State Housing Division; Department of Commerce Estimated Median Incomes.
Columbia County's Assessor's Office - Sales Study (September 1, 1977 to March 1, 1978)

Clearly the housing needs of many of Columbia County's current and future residents will include both lower cost owner occupied homes and rental housing. Since 1970, the number of mobile homes and multi-family units in the County has increased faster than single family dwelling, as indicated in the following table.

TABLE 13

	<u>Single Family</u>		<u>Multi-Family</u>		<u>Mobile Homes</u>	
1970	7,841	82.2%	761	8.0%	935	9.8%
1980	10,620	78.0%	1,539	11.0%	1,431	11.0%

This trend must be accelerated if housing is to be available for all residents in the County, commensurate with their financial capabilities.

TABLE 14
ESTIMATED ANNUAL DEMAND FOR NEW NONSUBSIDIZED HOUSING

A. SINGLE FAMILY HOUSES

<u>Price Class</u>	<u>Number of Houses</u>	<u>Percent of Total</u>
Under \$50,000	45	23.8
\$50,000 - 54,999	45	23.8
55,000 - 59,999	10	5.3
60,000 - 64,999	10	5.3
65,000 - 69,999	10	5.3
70,000 - 74,999	10	5.3
75,000 - 79,999	10	5.3
80,000 And Over	<u>49</u>	<u>26.0</u>
TOTAL	189	100.0

B. MULTIFAMILY UNITS

<u>Gross Monthly Rent</u>	<u>Efficiencies</u>	<u>One Bedroom</u>	<u>Two Bedrooms</u>	<u>Three or More Bedrooms</u>
Under \$205	10	0	0	0
\$205 - 214	0	0	0	0
215 - 224	0	0	0	0
225 - 234	0	0	0	0
235 - 244	0	0	0	0
245 - 254	0	25	0	0
255 - 264	0	10	0	0
265 - 274	0	5	0	0
275 - 284	0	5	0	0
285 - 294	0	5	20	0
295 - 304	0	0	10	0
305 - 314	0	0	10	0
315 - 324	0	0	5	0
325 - 334	0	0	5	15
335 - 344	0	0	5	0
345 - 354	0	0	0	0
355 - 364	0	0	0	0
365 - 374	0	0	0	0
375 - 384	0	0	0	0
385 - 394	0	0	0	0
395 And Over	0	0	0	0
TOTAL	10	50	55	15

SOURCE: HUD Portland Area Office 3/1/79
1980 Census of Population & Housing

HOUSING PROGRAMS

Various programs exist to aid those who cannot afford to purchase adequate housing. Subsidy programs and housing benefits are available through the State Housing Division, Farmers Home Administration, and the Department of Veterans' Affairs. However, as Betty Niven, State Housing Council Chairperson has said, even the largest public housing subsidies "have never, and never will help more than 5% of the population to find affordable housing opportunities".

In addition, there is the problem of older structures which are deteriorating. In 1970, nearly half of the County's housing stock (44%) was over 40 years old. This figure was twice the percentage of the State as a whole. The houses were also more deficient in structure and quality than statewide average[s]; for example, 21% lacked plumbing or central heating compared to 15% for the State. Columbia County's Housing Assistance Plan describes the condition of available housing, vacancy rates, needs of lower income households, and expected housing demand. Information from the plan is displayed in the following tables.

TABLE 15

HOUSING CONDITIONS

	<u>Owner</u>	<u>Renter</u>	<u>Total</u>
Total Number of Housing Units	12,742	3,156	15,898
Standard	7,228	2,169	9,398
Vacancy Rate	1.14%	4.32%	1.47%
Substandard	1,922	1,029	2,951
Suitable for Rehabilitation	1,510	885	2,395

TABLE 16

HOUSING ASSISTANCE NEEDS OF LOWER INCOME HOUSEHOLDS

	<u>Owner</u>	<u>Renter</u>	<u>Expected to Reside</u>	<u>Total</u>
Elderly & Handicapped	393	183	67	643
Small Family (4 or less)	145	354	101	600
Large Family (5 or more)	104	118	34	256
TOTAL	642	655	202	1,499

SOURCE: Prepared by the Community Action Team's Housing Director for the period 11/78 to 11/79, see appendix for copy.

The County has contracted with the Community Action Team, Inc. to administer a Community Development Block Grant Program designed to provide zero interest, deferred payment loans to low and moderate income homeowners for housing rehabilitation. The program, which is a revolving loan fund available for three to five years, will provide \$150,000 in loans for repairs intended to create safe and sanitary housing and prolong the life of existing housing stock. Depending on the average loan amount, it is anticipated that forty to fifty dwellings could be rehabilitated the first year. Farmers Home Administration also provides two programs (FmHA 502 and 504) to repair single-family and multi-family units.

The Housing and Urban Development (HUD 221) Multi-family Rent Supplement Program is used in the county to assist the elderly, disabled, and low-income families. In addition, Columbia County has strongly supported the Assisted Housing Programs (Section 8, existing) administered by the Northwest Oregon Housing Authority (NOHA) in cooperation with the Columbia County Housing Authority, which currently provides assistance to more than 100 households.

HOUSING

GOAL: To provide for the housing needs of the citizens of the County by allowing adequate flexibility in housing location, type, and density.

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.
3. Provide adequate land inside the urban growth boundaries to meet housing needs and to provide for a wide range of urban housing choices.
4. Encourage development which will provide a range of choices in housing type, densities, price, and rent ranges throughout the County.
5. Encourage the development of Planned Developments which provide a range of housing types.
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.
7. Encourage the full utilization of urban lands by providing for development of undersized lots and increasing allowable densities in urban service areas which have excess public facility capacity or potential for cost efficient expansion.
8. Encourage, through the provision of bonus density, increases in the use of planned unit development to cluster structures and protect areas with open space or wildlife habitat values having County or area-wide significance.
9. Allow the siting of mobile homes anywhere a single-family dwelling is allowed.
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.
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.
12. Encourage the in-filling of urban growth boundary areas.

RURAL RESIDENTIAL

BACKGROUND

Columbia County is one of only a few Oregon counties having a greater number of people residing in the unincorporated areas than within the city boundaries. Such things as recreational opportunities, moderate climate, low taxes and utility rates, and the rural atmosphere all play a part in attracting people to the county. While 1982 and 1983 showed a decrease in County population, the largest decreases occurred in the incorporated areas.

The pattern for residential development in the County is typical of other rural counties in that most of the rural homesites are located along or close to public roads or clustered near intersections. The density of these rural areas varies somewhat, with averages of one unit per five acres or less being common. The County's unique topographic features separate and tend to isolate these various areas, giving each an atmosphere of individuality and seclusion.

This inconsistent growth pattern results in a type of "sprawl" which is inefficient and costly. This type of sprawl requires the extension and maintenance of public utilities and services, discourages in-filling, and negatively impacts valuable resource land. Many of these problems can be lessened through increased in-filling of vacant lands and by allowing more concentrated development.

CONFLICTS

As noted above, Columbia County has attracted increased numbers of people over the past few years who desire a rural residential lifestyle and who would rather locate a residence on resource land than within one of the County's incorporated communities. This expansion of rural residential uses onto resource lands should be a matter of concern because of the potential for conflicts with agricultural and forestry uses, increased costs of providing community services, and the loss of open space, water sheds, and habitat areas.

Speculation for rural development on resource lands inevitably causes assessments to rise, which creates additional costs to agriculture and forestry operations. While special tax assessments and deferrals can help to reduce the farm or forest operator's tax burden, the impact of increased speculation can be significant. These are some of the factors which often make it necessary to include lands for resource use that may not be ideally suited for resource production, so that agricultural and forestry activities on adjacent or nearby lands can be protected.

RURAL RESIDENTIAL EXCEPTIONS

The statewide planning goals require that resource lands be protected unless the land is "Built and Committed" to non-resource uses (a Type I Exception), or "needed" to support a non-resource use (a Type II Exception).

As part of its ongoing planning process, Columbia County has compiled detailed information to support a valid Type I Exception for over 23,000 acres of resource land. These "Built and Committed" are located throughout the County and have an average density of one dwelling per ten acres or less. (See the "Built and Committed" exception maps attached to the Plan.) The County has not attempted to justify any resource land for residential use under Type II (Needs) Exception criteria.

DENSITIES OF RURAL LANDS -V- URBANIZABLE LANDS [added 11-98]
(1000 Friends of Oregon v. LCDC/Curry County)

Urbanizable lands are those lands within a City's recognized Urban Growth Boundary where public facilities are planned and sewer systems to accommodate urban densities are inevitable in the near future. Those lands outside of a City's Urban Growth Boundary (UGB) are Rural Lands. Rural lands are either resource lands (farming or forestry) or lands for which an exception to a resource goal has been taken. As stated above, as part of the initial Comprehensive Plan in 1984, Columbia County took "built and committed" exceptions to Goal 3 and 4 for all lands designated Rural Residential. That is, those lands designated Rural Residential are intended to recognize and allow continuation of existing types of development. [added 11-98]

As defined by Statewide Planning Goals: RURAL LANDS are those which are outside the urban growth boundary and are:

- a) Non-urban agriculture, forest or open space or,
- b) Other lands suitable for sparse settlement, small farms or acreage homesites with no or hardly any public services, and which are not suitable, necessary or intended for urban use. [added 11-98]

Rural lands in Columbia County do not need an exception to the Urbanization Goal 14. Exceptions taken by Columbia County to Goals 3 and 4, farm and forest, can not generally suffice as exceptions to Goal 14 (Urbanization) because exceptions to Goal 3 and 4 necessitate only a determination that the narrow category of uses, the particular resource uses, are impractical; while [an] exception to Goal 14 necessitates a finding that not merely resource uses, but all other rural uses, are impractical. Columbia County will not take an exception to Goal 14 for any lands designated Rural Residential in the Comprehensive Plan as they are rural in nature not suited for urbanizable or urban use. [added 11-98]

The intensity of development in our rural settlement patterns can be characterized by a couple of distinct but separate groupings. For the majority of the County's Rural Residential designation, a 5 acre minimum parcel size is appropriate. This level of density is compatible with nearby resource lands, historical sparse development patterns, small farms or acreage homesites with few public services. [added 11-98]

Another rural development pattern in the County consists of areas within water districts where, historically, a lot size pattern exists at or near 2 acre densities. This second rural

development pattern in the exception areas (rural residential) consists of places where historical lot patterns and density of development are somewhat closer together than the wide open 5 acres. Many years ago people who lived in and divided these lands into smaller parcels may have believed that an urban settlement would be forthcoming; or they wanted to sell just home sites with little farm potential; however because of many factors cities thrived elsewhere and they remain rural. These areas have predominate lot size patterns of approximately 2 acres. *[added 11-98]*

This second 2 acre settlement pattern has existed for many years and has become more pronounced in some areas over the last decade when the 2 acre parcel sizes were allowed in the RR-5 zone. This type of settlement pattern is not intended for urban use, is generally quite some distance from urban areas, and has no public sewer available. Instead, these areas are made up of acreage homesites, some small hobby type farms, with limited public services to accommodate their slightly higher density. These predominately 2 acre areas have an appropriate rural intensity of development. They are outside urban growth boundaries, and fulfill a need for some people's open, free and abundant heritage, mixed with old agricultural values and rural life styles. *[added 11-98]*

In 1998, when the new Rural Residential - 2 (RR-2) zone was created, the average lot size of existing parcels in areas to be zoned RR-2 was:

AVERAGE LOT SIZES

ALL LOTS

Warren Area	2.12 acres	
Quincy Area	2.16 acres	
McNulty Area	2.06 acres	
Laurelwood Area	0.74 acres	
Marshland Area	0.37 acres	
Columbia City Area	1.84 acres	
Fishhawk Lake Area	<u>0.36 acres</u>	
Total Lots:	<u>1.86 acres</u>	<i>[added 11-98]</i>

RURAL RESIDENTIAL

GOAL: It is the goal of the County to provide for the continuation and needed expansion of Rural Residential uses on those resource lands where a valid exception can be, or has been shown to be, justified.

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

1. Designate as Rural Residential in the Plan those lands for which a valid exception has been, or can be shown to be, justified, and implement this plan designation through the use of Rural Residential zones. *[amended 11-98]*
2. Designate as Rural Residential in the implementing ordinances those lands which:
 - A. Meet the criteria for a valid exception as set out in OAR 660-04-025 or OAR 660-04-028.
 - B. Do not meet the criteria for being included in the Rural Center Designation.
3. Establish a Rural Residential Zone with a 5-acre minimum lot or parcel size where such lands: *[amended 11-98]*
 - A. Must rely on a private water system to serve the property.
 - B. Must rely on a private sewage disposal system to serve the property.
 - C. Have access onto a public or private right-of-way meeting applicable County Road Standards. *[amended 11-98]*
 - D. May or may not be within a rural fire protection district. *[amended 11-98]*
4. Establish a Rural Residential Zone with a 2-acre minimum lot or parcel size, where such lands will not create "spot zoning" (a relatively small area with different zoning than its surroundings) and, as determined by the County: *[amended 11-98]*
 - A. Are within an existing public or community water district providing adequate domestic and fire flow water. *[amended 11-98]*
 - B. Have soils capable of accommodating a subsurface septic system. *[amended 11-98]*
 - C. Have access onto a public right-of-way meeting applicable County Road Standards. *[amended 11-98]*

- D. Are within, and can be served by a rural fire protection district. *[amended 11-98]*
 - E. A 2-acre minimum parcel size is appropriate to maintain the rural character of the area. *[added 11-98]*
 - F. The conversion complies with the Oregon Administrative Rule requirements for an exception to Goal 14. *[added 11-98, amended 11-2000]*
5. Encourage the in-filling of existing built and committed lands for new residential development.
 6. Encourage rural growth in exception areas where facilities and services such as adequate transportation networks, school facilities, fire districts, water and police services, etc. already exist so as to minimize costs of providing such services to these areas.
 7. Require a buffer between Rural Residential development and adjacent resource lands.
 8. Evaluate capacities of community water sources providing water to residential areas on a periodic basis to determine source stability in comparison to anticipated growth. *[added 11-98][previous #8 deleted]*

RURAL COMMUNITIES
[amended 11-98]

BACKGROUND

During the development of Columbia County, numerous small communities were established. Although primarily residential in nature, these communities also provided a wide range of commercial, industrial, and public services to the surrounding rural areas. While improvements in the transportation system have decreased the significance of many of these rural communities, a number still exist which continue to provide valuable and needed services to the surrounding areas. *[amended 11-98]*

TODAY'S RURAL COMMUNITIES

Alston Corner, Goble, Deer Island, Mist, Birkenfeld and Quincy still function as active rural communities. All contain a mixture of residential, commercial and, in some cases, industrial development. All of these rural communities fall within acknowledged Type I exception areas and serve a fairly defined population. *[amended 11-98]*

1. Alston Corner Rural Community: *[amended 11-98]*

- Location - North of the Columbia River Highway at the intersection of Alston-Mayger and Wonderly Roads
- Services - 2 churches, general store, service station, tavern, gift shop, and meat packing plant
- Parcel Sizes - From about 1/4 acre to 2 acres
- Center Size - About 12 acres

2. Goble Rural Community: *[amended 11-98]*

- Location - At the intersection of Highway 30 and Nicolai Road
- Services - Tavern, marina and water system
- Parcel Sizes - From about 0.11 acres to 2.67 acres
- Center Size - About 25 acres

3. Deer Island Rural Community: *[amended 11-98]*

- Location - West of Highway 30 at its intersection with Canaan Road
- Services - Church, school, general store with gas pumps, 3 water systems, and 3 mobile home parks with over 70 residences
- Parcel Sizes - From about 0.05 acres to 6.88 acres
- Center Size - About 25 acres

4. Mist Rural Community: *[amended 11-98]*

- Location - On the Nehalem Highway (Oregon 47) north of its intersection with the Mist Birkenfeld Highway (Oregon 202)
- Services - School, church, general store with gas pump, service station, and cemetery
- Parcel Sizes - From 0.11 acres to 3.51 acres
- Center Size - About 10 acres

5. Birkenfeld Rural Community: *[amended 11-98]*

- Location - On Highway 202 at its intersection with Foster Road
- Services - School, church, general store with gas pumps, and tavern
- Parcel Sizes - From 0.11 acres to 18 acres
- Center Size - About 30 acres

6. Quincy Rural Community: *[added 11-98]*

- Location - On Quincy-Mayger Road, four miles northeast of the City of Clatskanie
- Services - General Store, plant nursery, marine sales
- Parcel Sizes - From 0.19 to 3.3 acres
- Center Size - About 55 acres

PLANNING AND ZONING CRITERIA

Criteria for establishing rural community boundaries are similar to those for rural residential areas - existing lotting patterns, level of services, natural hazards and barriers, density, and, in the case of rural communities, location of commercial, industrial, and public facilities. Since these communities are already well established within the County, the primary function of applying plan and zoning designations will be to protect and enhance the existing characteristics of each area, and provide for orderly development as needed. Boundary expansions outside of a built and committed area will require an exception to the appropriate resource goal. *[amended 11-98]*

The 40,000 square foot minimum lot size for parcels using individual water and sewage systems, and 20,000 square foot lot size for parcels using a public or community water system and individual septic systems or a public or community sewage system, provides for the continuation of the existing lotting pattern while assuring that the communities will not be developed to urban densities. *[amended 11-98]*

The Rural Community zoning designation will provide for single family residences as a matter of right. Limited commercial, industrial, and public uses associated with the community and its environs will be allowed as conditional uses within this zone upon a showing that the need and siting criteria outlined in the Zoning Ordinance can be met. *[amended 11-98]*

RURAL COMMUNITIES
[amended 11-98]

GOAL: To provide for the continuation and expansion of recognized Rural Communities at a level commensurate with their rural character and need. *[amended 11-98]*

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

1. Acknowledge the communities of Alston Corner, Goble, Deer Island, Mist, Birkenfeld, and Quincy as Rural Communities. *[amended 11-98]*
2. Establish a boundary for each of the designated Rural Communities based upon:
 - A. Estimated growth patterns for the Rural Communities and their surroundings. *[amended 11-98]*
 - B. Existing public facilities such as community water and/or sewer.
 - C. Land use patterns and parcel sizes.
 - D. Natural barriers and features.
 - E. Suitability for septic systems.
 - F. Other pertinent considerations.
3. Allow the establishment of single family dwellings as a matter of right.
4. Allow the establishment of commercial and industrial uses where it can be shown that:
 - A. The proposed use is appropriate to the continuation of the Rural Community and its surroundings. *[amended 11-98]*
 - B. The siting requirements of the Zoning Ordinance can be met. *[amended 11-98]*
5. Allow the construction or expansion of public facilities to a level which is consistent with the character of the Rural Community, up to but not exceeding the provision of: *[amended 11-98]*
 - A. Public or community water systems.
 - B. Public or community sewage systems.
 - C. Arterial access.

D. Rural fire district emergency services. *[amended 11-98]*

6. Encourage the siting of appropriate public uses, consistent with the character of each area, within Rural Communities. *[amended 11-98]*

7. Encourage the in-filling of Rural Communities to a level consistent with the development limitations of each area. *[amended 11-98]*

8. Establish a 40,000 square foot lot size in the Rural Community zone. *[amended 11-98]*

9. *[deleted 11-98]*

URBANIZATION
[amended 7-98 and 3-00]

PURPOSE

The goal of the Columbia County Comprehensive Plan is to provide for an orderly and efficient transition from rural to urban land use. In addition, it is the goal of the county to provide for an efficient method of managing urban growth so that the needs of all citizens of the County are met. A major consideration in the management of urban growth is the reduction of the costs associated with uncontrolled and scattered development. These costs are measured both in terms of wasted resources and in the expense of providing services to far-flung residences. The purpose is not to prevent growth from occurring, but to minimize the conflicts between land uses. When growth is directed into identifiable and desirable communities, people are able to enjoy a pleasant environment at a reasonable cost, while still conserving the County's resource base.

BACKGROUND

There are two types of residential lands in Columbia County. These are rural lands and urban lands.

Rural Lands, as defined by the Statewide Planning Goals, "are those (lands) which are outside the Urban Growth Boundary and are: a) non-urban agriculture, forest, or open space lands, or b) other lands suitable for sparse settlement, small farms, or acreage homesites with no, or hardly any, public services and which are not suitable, necessary, or intended for urban use."

Urban Lands, as defined by the Statewide Planning Goals, "are those places which must have an incorporated city. Such areas may include lands adjacent to and outside the incorporated city and may also: a) have concentrations of persons who generally reside and work in the area, and b) have supporting public facilities and services."

Urban lands in this plan are those lands which are contained within a mutually adopted Urban Growth Boundary. These boundaries have been developed as a result of the combined efforts of Columbia County and its incorporated communities.

The boundaries themselves were developed using the seven (7) criteria listed in Goal 14. The same criteria will be used in judging any expansion of these boundaries. These criteria are:

1. Demonstrated need to accommodate long-range urban population growth requirements consistent with LCDC goals
2. Need for housing, employment opportunities, and livability;
3. Orderly and economic provision for needed public facilities and services;

4. Maximum efficiency of land uses within and on the fringe of the existing urban area;
5. Environmental, energy, economic, and social consequences;
6. Retention of agricultural land as defined with Class I being the highest priority for retention and Class VI the lowest priority; and
7. Compatibility of the proposed urban uses with nearby agricultural activities.

The seven (7) incorporated cities have been asked to address Goal 14 by identifying sufficient amounts of land to accommodate their future expansion, taking into account: the growth policy of the area; the projected population needs by the year 2015; the carrying capacity of the planning area; and open space and recreational needs. For some cities, there may be sufficient land to meet their needs already within their city limits while other cities may require additional land. In either case, an Urban Growth Boundary must be defined which focuses on the areas that will become urban - the future part of these communities. The establishment of this boundary, and any later changes, are to be made after consideration of the following factors which are outlined in the Goals and Guidelines: *[amended 7-98]*

1. Orderly, economic provisions for public facilities and services;
2. Availability of sufficient land for various uses to insure choices in the market place;
3. LCDC goals; and
4. Encouragement of urban development within urban areas before conversion of urbanizable areas.

Specific provisions relating to the process of changing an Urban Growth Boundary are outlined under the administrative provision of this plan.

Until annexed, the lands between the boundary and the city limits remain the responsibility of the County. To assure that the urbanizable lands will be managed in a coordinated manner, a joint Management Agreement between each city and the County has been adopted. The urban growth area joint management agreements are included in the appendix. In addition, Oregon law requires that special districts enter into a cooperative agreement with the city or County within whose boundaries the district operates.

Throughout most of its history, Columbia County has increased in population by "natural" means (that is, by the difference between births and deaths). However, during the last several years, there has been a consistent rise in the population by migration into the County. *[amended 7-98]*

One of the primary factors in this growth has been the pressure of suburbanization from Portland. In the southeastern section of the County, many residents who live in St. Helens or Scappoose commute to Portland or Washington County to work. Many of Vernonia residents and those who live in the Nehalem River Valley in the southwestern portion of the County are

also commuting to the Tualatin Valley to work. In the northern section of the County, many of those who work in Longview, Washington prefer to commute from the Oregon side of the river, and have strongly affected the residential development of Rainier and other nearby communities. *[amended 7-98]*

In the 1990s, there was a general tendency for the seven (7) incorporated cities to attract most of the population increase. Columbia County has been averaging 30 to 50 new dwelling units per year in forest lands, as well as many new units in rural residential exception areas. Although there will continue to be growth in the rural communities, such as Alston-Delena, Mist, Birkenfeld, and Quincy, movement into the cities should be encouraged to protect the County from random subdivisions and a deterioration of the resource base. Growth should be directed onto urban lands, defined as: "Those places which must have an incorporated city." *[amended 7-98]*

The development of population projections for the urban and rural areas of the County is a complex task involving changing multiple state mandates implemented at the county and local levels across a changing range of time. Columbia County has conducted a series of population projection coordination meetings with local jurisdictions to allocate population. This allocation will be updated every time the State Office of Economic Analysis updates their Long-Term Population and Employment Forecasts for Oregon. The next update is scheduled for the year 2000. Considering these factors, projections were developed and assumptions made with a low, intermediate, and high range of growth as follows: *[amended 7-98]*

Projection #1 (Low): The State Office of Economic Analysis (OEA) in their Long-Term Population and Employment Forecasts for Oregon determined a County total population number of 47,954 persons in the year 2015. Population was then allocated to each city based on that city's percentage or ratio of county total population established in the 1990 census. The County assumes that each city's ratio of total county population as derived from the 1990 census of population will be applied to the 2015 number for allocation purposes. The State mandated that Projection #1, Low, total number for the County be used to provide a benchmark for indicating consistency with state population allocated at the County level. *[amended 7-98]*

Projection #2 (Intermediate): This projection utilizes a total number 5% above Projection #1, the low number in this projection series, which is the Office of Economic Analysis number. The incorporated cities population number is the arithmetic mean half way between the low, Projection #1 number and the high, Projection #3 number. The remainder of the population in the unincorporated areas of the County is reduced so the projection total will remain within 5% of the Low Projection #1 OEA number and because growth will be directed towards cities due to recent restrictions on rural residential lands. Projection #2, Intermediate, will be used for land use planning purposes. *[amended 7-98]*

Projection #3 (High):

The County Transportation System Plan (TSP) assumes that the year 2016 population of the County will exceed 55,600 persons if the comprehensive plan for each city and the county are implemented. The TSP 2016 population total county population number is assumed to be the 2015 number for purposes of this projection. Population was then allocated to each city based upon that city's percentage or ratio of county total population established in the 1990 census. The Transportation System Plan, Chapter 3, "Future Conditions and Alternative Scenarios" assumptions are included as an attachment. Projection #3, High, will be used to implement the current Transportation Systems Plan. Future studies or projects may use lower numbers if necessary. *[amended 7-98]*

TABLE 17

ANNUAL POPULATION FOR COLUMBIA COUNTY AND INCORPORATED CITIES, WITH GROWTH RATES IN PERCENTAGES, 1970-1978

	1970	%	1971	%	1972	%	1973	%	1974	%	1975	%	1976	%	1977	%	1978
St. Helens	6212	(1.9)	6330	(4.1)*	6600	(1.6)	6710	(2.1)	6855	(0.8)	6910	(1.6)	7020	(6.4)*	7500	(7.4)	8100
Scappoose	1876	(5.0)	1975	(9.2)*	2175	(11.6)	2460	(3.3)	2545	(2.5)	2610	(8.1)	2840	(7.2)	3060	(2.6)	3150
Rainier	1731	(0.8)	1745	(0.2)	1750	(3.6)	1815	(0.5)*	1825	(0.8)	1840	0**	1840	(4.7)*	1930	(3.5)*	2000
Vernonia	1643	(0.1)	1645	0	1645	0	1645	(0.3)	1650	(1.2)	1670	(1.8)	1700	(5.0)	1790	(5.3)*	1890
Clatskanie	1286	(2.2)	1315	(3.3)	1360	(4.2)	1420	(3.7)	1475	(1.6)	1500	(9.1)	1650	(1.5)	1675	(1.5)	1700
Columbia City	537	(0.6)	540	(4.4)	565	(7.4)	610	(6.2)	650	(5.1)	685	0	685	(3.5)	710	(4.1)	740
Prescott	105	(-0.5)	100	(-0.5)	95	(0.5)	100	0	100	0	100	0	100	0	100	0	100
Total City Population	13,390	(1.9)	13,650	(3.8)	14,190	(3.8)	14,760	(2.3)	15,100	(1.4)	15,315	(3.3)	15,035	(5.5)	16,765	(5.2)	17,680 Ave. 3.4%
Unincorporated County Population	15,400	(5.1)	16,220	(-2.1)	15,880	(-2.8)	15,440	(3.9)	16,060	(2.6)	16,485	(0.5)	16,565	(-0.2)	16,535	(0.4)	16,600 Ave. 0.93%
Total County Population	28,790	(3.6)	29,870	(0.7)	30,070	(0.4)	30,200	(3.1)	31,160	(2.0)	31,800	(1.9)	32,400	(2.7)	33,300	(2.9)	34,280 Ave. 2.2%

* Growth rate reflects population annexed.

** Growth rate reflects population withdrawn from city by boundary change.

Sources: Metropolitan Boundary Commission and Center for Population Research and Census, Portland State University.

TABLE 18
[amended 7-98]

DECENNIAL CENSUS OF POPULATION 1920 - 1990

<u>Decennial Census Year</u>	<u>1920</u>	<u>1930</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>
Clatskanie	1,171	739	708	901	797	1,286	1,648	1,629
Prescott				119	129	105	73	63
Rainier	1,287	1,353	1,183	1,285	1,152	1,731	1,655	1,674
Columbia City		310	327	405	423	537	678	1,003
St. Helens	2,220	3,994	4,304	4,711	5,922	6,212	7,064	7,535
Scappoose		248	336	659	923	1,859	3,213	3,529
Vernonia	142	1,625	1,412	1,521	1,095	1,643	1,785	1,808
<hr/>								
Incorporated County	4,820	8,269	8,270	9,601	10,441	13,373	16,116	17,241
Unincorporated County	9,140	11,778	12,701	13,366	11,938	15,417	19,530	20,316
<hr/>								
Total County	13,960	20,047	20,971	22,967	22,379	28,790	35,646	37,557
<hr/>								

Source: PSU Center for Population Research

TABLE 19
[amended 7-98]

POPULATION FORECAST FOR 2015

LOW	INTERMEDIATE	HIGH
Office of Economic Analysis	5% Above Low With Arithmetic Mean for Cities	Transportation System Plan
47,954	50,351	55,600

The low, intermediate, and high projection allocations follow:

TABLE 20
[amended 7-98, 3-00]

POPULATION PROJECTION CITY/COUNTY ALLOCATION FOR 2015

	% of 2015 population estimate	LOW 2015 population estimate	INTERMEDIATE 5% higher than the low estimate	HIGH Transportation System Plan (TSP) total allocated to each city as 1990 census
Clatskanie	4.16	2,028	2,095	2,315
Columbia City	5.52	2,686	2,779	3,069
Prescott (Note 2)	.012	43	60	60
Rainier	3.9	1,895	1,964	2,170
St. Helens	23.1	11,230	11,631	12,844
Scappoose	14.38	6,996	7,241	7,997
Vernonia	6.12	2,978	3,082	3,403
Incorporated County	57.19	27,856	28,852	31,858
Unincorporated County	42.80	20,098	21,500	23,742
County Total	100.00	48,641	50,352	55,600

Notes:

1. Based on the assumption of a continuing 20-year trend in population proportion.
2. 1980 proportions: Clatskanie - 4.6%; Columbia City - 1.9%; Prescott - 0.2%; Rainier - 4.6%; St. Helens - 19.8%; Scappoose - 9.0%; Vernonia - 5.0%.
1980 unincorporated population proportion - 54.8%.
3. 2000 Proportions: Clatskanie - 4.4%; Columbia City - 4.0%; Prescott - 0.1%; Rainier - 4.2%; St. Helens - 21.9%; Scappoose - 12.2%; Vernonia - 5.7%.
2000 unincorporated population proportion - 47.4%.

TABLE 21
[amended 7-98]

NEW DWELLING UNITS BY BUILDING PERMIT ACTIVITY

	1990-1997									Avg. Units Year 90-97	Persons Per Unit (1990)	Occ. rate per Unit
1990 Census	1990	1991	1992	1993	1994	1995	1996	1997				
Clatskanie	1,629	2	2	3	1	1	1	0	2	2	2.25	.926
Columbia City	1,003	18	5	8	14	30	25	44	15	20	2.43	.966
Prescott	63	0	0	7	0	0	0	1	0	1	2.42	.955
Rainier	1,674	0	4	3	0	4	9	10	2	4	2.27	.955
Scappoose	3,529	12	24	18	29	47	75	136	63	51	2.42	.972
St. Helens	7,535	42	38	37	57	64	67	44	179	66	2.19	.967
Vernonia	1,808	0	9	28	11	37	35	38	11	21	2.35	.911
Incorp. County	17,178	74	82	104	112	183	212	273	272	164		
Unincorp. County	20,379	56	79	65	83	64	81	74	63	71	2.34	
County Total	37,557	130	161	169	195	247	293	347	335	235	2.42	

In order to provide an additional empirical reference to test the recommended population series and the use of the intermediate 5% above OEA low total with incorporated cities using the arithmetic mean with the remainder assigned to the unincorporated county, the County developed the Population Projections based on Average Units/Year 1990-1997.

This empirical method's assumptions were made using the average number of dwelling units added to each city between the years 1990 to 1997. This average was then applied to the Portland State University certified estimate for each city in the county as of July 1, 1997.

Population was then projected to the year 2015 by multiplying the average number of new units in the years 1990-1997, by the 1990 census "Occupancy Rate" for each city, by the 1990 census "persons per dwelling unit" for each city, to arrive at the population projection for the year 2015.

This projection method was not utilized as the “intermediate” in the “low, intermediate, and high” projection series because the population went down from the low to the intermediate because of occupancy rate, when in a low, intermediate, and high series the population should go up through time assuming positive growth. This method yielded a total County population of 51,265 as compared to the Intermediate 5% above OEA Low number of 50,351.

TABLE 22
[amended 7-98]

POPULATION PROJECTIONS BASED ON AVERAGE UNITS/YEAR: 1990-1997

Population Projections Based on Avg. Units/Year

	PSU Pop. Est. as of 7-1-97	Avg. Pop./yr. 90-97	1998	1999	2000	2005	2010	2015
Clatskanie	1,880	4.2	1,884	1,888	1,893	1,923	1,944	1,965
Columbia City	1,550	47	1,597	1,644	1,691	1,926	2,161	2,396
Prescott	60	2.3	62	65	67	79	90	102
Rainier	1,780	3.8	1,784	1,788	1,791	1,810	1,829	1,848
St. Helens	8,555	139.7	8,695	8,834	8,974	9,673	10,372	11,070
Scappoose	4,650	120	4,770	4,890	5,010	5,610	6,210	6,810
Vernonia	<u>2,345</u>	45	<u>2,390</u>	<u>2,435</u>	<u>2,480</u>	<u>2,705</u>	<u>2,930</u>	<u>3,155</u>
Incorp. County	20,820	384.1	21,204	21,588	21,972	23,893	25,814	27,734
Unincorp. County	<u>20,680</u>	158.4	<u>20,838</u>	<u>20,997</u>	<u>21,155</u>	<u>21,947</u>	<u>22,739</u>	<u>23,531</u>
County Total	41,500	542.5	42,043	42,585	43,128	45,840	48,553	51,265

[Tables 23 and 24, and the "Population Update" section were all deleted 7-98]

URBANIZATION

GOAL:

To create and maintain the urban growth boundaries based upon the consideration of the following factors:

1. Demonstrated need to accommodate long range urban population growth requirements consistent with LCDC goals.
2. Need for housing, employment opportunities, and livability.
3. Orderly and economic provision for public facilities and services.
4. Maximum efficiency of land uses within and on the fringe of the existing urban area.
5. Environmental, energy, economic, and social consequences.
6. Retention of agricultural lands as defined, with Class I being the highest priority for retention and Class VI the lowest priority.
7. Compatibility of the proposed urban uses with nearby agricultural activities.

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

1. Provide an orderly and efficient transition from rural to urban land use.
2. Utilize the area in the urban growth boundaries with the most efficient manner of service expansion.
3. Minimize the number of new special districts inside the urban growth boundaries.
4. Accommodate the growth projected for urban areas to the year 2000.
5. Minimize the conflicts between urban and rural land uses.
6. Control development within the limitation of the public's ability to provide services.
7. Develop managing techniques with the incorporated cities.
8. Locate major public and private developments where they will not encourage residential growth outside the designated boundary.

9. Provide direction for developers to utilize land within the boundary in the most efficient manner.
10. Review the supply of buildable lands within the urban growth boundaries in cooperation with the cities, during each major review of the County's plan. The process of expanding the urban growth areas may begin when there is less than a five (5) year supply of residential land or when 75% of the industrial or commercial lands are built upon.
11. Not to form new special districts within the urban growth boundaries unless the services are compatible with the plans of the cities for the provision of services within the urban growth boundaries.
12. Have mutually agreed upon land use designations with each city.
13. Review all subdivision plats in the urban growth boundaries to insure the establishment of a safe and efficient road system.
14. Support the annexation by cities in accordance with the State statutes.
15. Support the development of Local Improvement Districts (LIDs) to develop local services.
16. Coordinate the development of facilities by existing special districts to insure coordination with city plans.
17. Adopt the urban growth boundaries, and those portions of the adopted comprehensive plans relating to the unincorporated urban growth areas, for the municipalities of Clatskanie, Columbia City, Rainier, Scappoose, St. Helens, and Vernonia.
18. Coordinate population projections at the time of the first periodic review of the County or any city plan, based upon the projections of a regionally accepted population forecast, such as the studies prepared by the Portland State University and the BPA. The County's projection will be within 10% of the regionally accepted projection and the incorporated cities' projections will be allocated on a jurisdiction by jurisdiction basis.
19. Existing population projections for the unincorporated areas will not be used as a basis for residential needs exception.
20. Limit development outside of urban growth boundaries to densities which do not require an urban level of public facilities or services.

ECONOMY

PREFACE:

The goal to diversify and improve the economy of the area has been addressed in the Overall Economic Development Program (OEDP) Plan for Columbia County. This plan was adopted in 1977. It is the policy of the OEDP Committee to review and update the plan annually. The committee is made up of fifteen (15) members, representing the seven planning areas of the County and various business and governmental agencies. The plan, based upon inventories of an area's suitability for increased economic growth, contains policies that will contribute to a stable and healthy economy. Copies of the plan are available at the County Planning office.

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 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.

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. The State Department of Economic Development and the Board of County Commissioners have approved the designation of Columbia County as an economically lagging area based upon its high unemployment rate. This designation allows tax credit for particular types of investment which would promote more balanced development opportunities.

The problems and the opportunities found in the County are summarized here. This is not necessarily a complete list of findings.

Problems:

- limited local market for products produced
- residential encroachment on land based economic resources
- cities with small tax base in need of public facilities

- industrial sites without public facilities
- decreasing number of forest products jobs
- economic opportunities which are not labor intensive
- few jobs for women; small service sector
- seasonal, cyclical unemployment
- high number of low skilled jobs
- high freight rates; one railroad non-competitive
- poor road conditions, increasing distance to jobs and markets
- large percent of labor force employment out of town
- poor foundation soils in many river front sites
- agricultural production expenses exceeding market value of products

Opportunities or Economic Advantages:

- timber resources to provide employment in wood processing
- aggregate resources
- barge access to close metropolitan market
- boat moorage and shore land suitable for additional moorage
- deep water access from developable shore land on Columbia Channel
- producing natural gas wells and possibility of oil resources
- large mills with wood products available for secondary processing
- railroad, highway, and airport available to industrial activity
- good hospital and cities capable of providing urban facilities
- Port Commission and OEDP Committee committed to support of economic development activity

ECONOMIC GROWTH:

In this section we will discuss those factors which have brought the area to where it is today, and to concentrate on the factors that appear to be most significant for the area's economic future.

Throughout the County's history, it has been characterized as unique in its geography, resources, and population aspects. It has the transportation, recreational, and cultural aspects associated with a large body of water, yet it is not part of the coastal area. Its proximity to the Portland and Longview metropolitan areas means much in potential economic and recreational activity, yet the barriers imposed by terrain and traditional settlement patterns have worked against large scale development. Thus, Columbia County is neither a coastal county nor a part of a metropolitan region, although aspects of both are strikingly apparent. Essentially, it is a rural area with small service-oriented communities whose people enjoy the advantages of "country living."

The economic growth experienced in Columbia County since 1960 has resulted from the combined impact of at least four separate but related factors:

1. The County growth has always been heavily tied to its timber resources. Until recently, the wood products industry had diversified the number of products it produces in Columbia County and had added increased stability to the County's economy.
2. Construction activities in the County had also been a major source of employment in recent years. Among the major facilities which have been completed are: the Shell Plant (Reichhold), Trojan Plant, Port Westward and the accompanying transmission lines.
3. The Trojan Plant is a major visitor attraction for the area. Information supplied by PGE indicates yearly attendance to exceed 125,000 persons. Information is not available to indicate the economic impact visitors have upon the County or how many people go out of their way to visit the Trojan site, but it seems fair to assume the County does derive economic benefits from the visitors.
4. The increased utilization of the aggregate resources of the County is a growing factor in the County's economy.

Wood and paper products have increased in importance to the economy of the County. This has made the County more dependent upon the cyclic forest products industry. Agriculture has historically been an important portion of the County's economy; however, in recent years it has been declining in importance.

Although development, presently unforeseen, may completely alter the economic structure of the County, it now appears that future trends in Columbia County's economy will depend in great measure upon the same basic factors that have acted to stimulate development thus far. 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.

Some diversification of the County's economy has occurred in recent years with the construction of a chemical plant and two (2) power generating plants. These industrial plants require a large capital expenditure and employ a relatively small permanent workforce.

POPULATION: *[amended 7-98 and 3-00]*

The population of Columbia County at the time of the 1990 census was 37,557. The 1997 County population estimated by the Center for Population Research at PSU is certified at 41,500. The 2000 County population estimated by the Center for Population Research at PSU is estimated at 43,200. More than one-half of the population lies in the incorporated areas (approximately 52.57%) while the remainder is found in the unincorporated areas (approximately 47.43%) of the County.

In 2000, St. Helens was the County seat and population center with an estimated population of 9,450 (2000). Columbia City, two miles to the north, had an estimated population of 1,735 (2000), and Scappoose, eight miles to the south of St. Helens, had an estimated population of 5,270 (2000). Other cities included Vernonia (2,460), Prescott (60), Rainier (1,835), and Clatskanie (1,900). The remaining residents were scattered throughout the County, largely along the major roadways, and along the Nehalem River.

LABOR FORCE:

Nearly one-third of the County's labor force was employed outside the County in 1970; the State average was 15%. Many people view Columbia County as a place to live while working in Portland or Longview. The majority of the immigrants and commuters are locating in the southeastern portion of Columbia County and in the Rainier area.

The unemployment rate for Columbia County has fluctuated from 5% in 1973 to the peak of 11.9% in 1976 and to 11.7% in 1982.

Seasonal and cyclical unemployment occurs because of insufficient economic diversity. The County has been hard hit during national recessions in the housing and wood products industries. The unemployment situation of Columbia County does not accurately reflect the income characteristics of the County.

The 1978 Socio-Economic Indicators list the County as having 3,141 low-income residents, or 10.9% of the population. Despite the high incidence of low skilled jobs and unemployed workers, the 1977 median family income was \$17,119 and ranked sixth in the State. This shows a dramatic increase since 1960 when the County ranked twenty-ninth in this category.

Columbia County is also ranked sixth in the State in the percentage of incomes in the \$15,000

to \$25,000 bracket, and fifteenth in the \$10,000 to \$15,000 bracket. Less than 15% of the County's incomes were under \$10,000, which is proportionately smaller than the State. Thus, Columbia County has proportionately few low-income people and more middle to upper incomes than the rest of the State.

Income and employment trends for the County show that workers in the forest products industries are relatively well-paid. Median family income is among the highest in the State. Union blue-collar and management personnel employed in the manufacturing and trade sectors (about 50% of total employment) account for most of these high earnings. Per capita income is ninth highest in the State. However, unemployment problems and low wages for other jobs such as farm labor contradict these income reports. Young people, seeing limited opportunities, tend to migrate out of the area.

Analysis of the resident labor force shows an increase of 387 persons per year between 1970 and 1977. During this same period, the total wage and salary employment rose at a rate of 124 jobs per year. This meant approximately half of the expanding residential labor force was commuting out of the County for work.

The County has experienced a perennial shortage of nurses, trained medical technicians, and other professional and quasi-professional personnel. There is also a need for non-agricultural mechanics, welders, journeymen plumbers and the like, and service workers, such as waitresses, cooks, motel workers, etc.

Labor needs may also be expressed in terms of pay scale. There are positions to be filled in the low-wage category and in the high-wage category.

INVENTORY OF COLUMBIA COUNTY'S ECONOMIC ACTIVITY

FOREST PRODUCTION:

Columbia County experienced rapid economic growth based upon its natural timber resources until the late 1940's. Since that time and until recently, forest products processing plants have dominated the economy. While these industries employ a large proportion of the work force and bring outside revenues into the area, they have attracted a few related industries. The revenues into the area, they have attracted few related industries. The "Location of Manufacturing Firms" table shows a breakdown of 1976 manufacturing activity located throughout the County. Approximately 85% of the employment is in the Columbia River Valley between Rainier and Scappoose.

Assuming that each job in the basic forest products industries generates slightly less than two jobs in the non-basic sector of the economy (the approximate ratio of manufacturing to non-manufacturing jobs in the County), almost 55% of Columbia County's employment is either directly or indirectly dependent upon the forest products industries.

AGRICULTURAL PRODUCTION:

The agriculture situation has changed dramatically since 1950. Economy and land use statistics demonstrates that traditional farming practices are changing.

Total farm acreage in Columbia County (U.S. Bureau of Census' definition) decreased 52% from 1954 to 1974, and undoubtedly has decreased since that time. The total number of farms is also decreasing.

In the same 20 year period, the average values of land and buildings per farm increased: 1974 values were eight times higher than in 1954. The average value of land and buildings increased for farm acreage from \$168 to \$706 per acre. The average size of farms increased from 75 to 139 acres during this period.

The market value of agricultural products has continued to increase in recent years with livestock and their products providing the largest percentages of farm income. On the other side of the ledger, however, the production expenses for all farms in the County during 1974 exceeded the total market value of products sold, resulting in a \$250,000 loss for farmers. In 1976, three-fourths of the 669 Columbia County farmers filing personal income tax on Schedule 7 showed a loss totaling over \$1.5 million.

Agricultural employment in 1975 contributed 6% to the total County income and employed approximately 2% of the total work force. Between 1970 and 1976, the average annual agricultural employment decreased. Many of the youth of the County are unwilling to continue in farming - partially because of the high capital requirements and partially because of better employment opportunities in industry.

MINERAL AND AGGREGATE RESOURCES:

Sand and gravel deposits exist mostly along alluvial plains adjacent to the Columbia River in south County and west of Clatskanie. In 1977, there were 99 surface mining operations extracting sand, gravel, and/or rock. Past production from these sites have yielded 15,800,000 cubic yards. Future potential for the sites has been commuted at 52,800,000 cubic yards. Of the 99 sites identified in the study, seven (7) are in the sand and gravel category and the remaining are identified as stone quarry sites.

Also, small unlicensed rock pits supply rock for small road building and construction needs. An inventory of available aggregate sources indicates there is a potential for expanding this resource. The availability of barge transportation makes the County a prime candidate as a source of material for the Portland Metropolitan area, as well as shipping to more distant markets.

Minerals of minor importance to the economy of Columbia County are:

1. Ferruginous Bauxite (aluminum ore) which exists in low grade quality.

2. Iron (limonite). The largest and most important deposits of this mineral are in Scappoose.
3. Coal and Shale are found in the interior of the County along the Nehalem River and Rock Creek drainage basins south of Mist. Shale is quarried for construction use.
4. Natural Gas. Test drillings between April and August of 1979 in the Nehalem sub-basin northwest of Mist have produced five (5) wells. The companies involved in the exploration said the fourth well, identified as REC - Columbia County No. 6, Redrill No. 2, had a flow rate of 6.5 million cubic feet per day. Earlier wells showed flow rates of approximately 1.6 million, 965,000 and 3.75 million cubic feet respectively. The exploration has been conducted by Northwest Natural Gas, (through a wholly owned subsidiary, Oregon Natural Gas Development Corp.), Reichhold Energy and Diamond Shamrock Corp.

MANUFACTURING:

Columbia County experienced rapid growth in its manufacturing economy in the early 1950's. Since that time, forest products processing plants have dominated the economy. The manufacture of lumber and wood products, combined with paper and allied products, accounted for almost 85% of the County's manufacturing employment and for over 60% of the manufacturing firms. A modest amount of linkage industry - those firms directly supplying or supplied by the basic industry - has developed, including chemicals and allied products and electrical machinery.

The forest products manufacturing industry is somewhat diversified, producing pulp and paper products, lumber and plywood, particle board and ceiling tiles. This diversity helps to stabilize employment, although over 60% of the work force in the forest products industry is involved in the production of components for housing. Thus, the national housing market has much to do with the economic viability of the County.

Major non-forestry resource manufacturing industries are two chemical firms (100 employees) and an electrical machinery shop (50 employees). Small scale manufacturing of food products, stone, glass, clay, concrete, and leather products take advantage of other local natural resources.

NON-MANUFACTURING:

Non-Manufacturing industry has shown a much slower growth rate in Columbia County than in the rest of the State. The non-manufacturing section of the County increased by 16% from 1972 to 1976, to an average of 4, 750 persons. The average number of persons in non-manufacturing was 5,800 in 1979. During that time, jobs in transportation, communications, and utilities increased by 45%, followed by finance (30%), trade (20%), and government services (20%). Miscellaneous services increased by 40% and contract construction decreased by 30%.

ECONOMY

GOALS:

1. To strengthen and diversify the economy of Columbia County and insure stable economic growth.
2. To utilize Columbia County's natural resources and advantages for expanding and diversifying the economic base.

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

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.
5. Encourage the activity of the community organizations which work for sound economic development.
6. Preserve prime maritime industrial sites from pre-emptive uses until needed for industrial uses.
7. Protect identified aggregate resources until they are extracted and plan for the reclamation and future productive uses of those sites.
8. Reserve valuable industrial sites for industrial uses.
9. Encourage the trade and service sectors and the recreation industry to insure greater revenue spending locally.
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

11. Coordinate with public utility companies to insure energy supplies are available to areas programmed for development and redevelopment.
12. Encourage new industrial growth within the urban areas so as to utilize existing public facilities.
13. Encourage industry which needs or can benefit from the locational advantages of an airport and its facilities, to locate adjacent to one of the airports in the County. Create an Airport Industrial district to facilitate this policy. *[added 7-93]*

COMMERCIAL

BACKGROUND:

Currently in Columbia County there are fifty-five (55) parcels outside of recognized urban growth boundaries that are committed to some type of commercial activity. The majority of these parcels were committed to commercial use prior to the initial zoning of the County in 1973. Many of these parcels support more than one commercial enterprise. Most of the parcels are currently designated as commercial.

These 55 commercial parcels have been broken down into four (4) general categories based upon the following locational characteristics:

1. Rural/Urban - These uses fall within close proximity to an incorporated area or urban growth boundary and support both a rural and urban population. These uses are typically located along a major arterial.
2. Rural Center - These uses serve a fairly well defined population and are located within recognized Rural Centers.
3. Rural - These typically autonomous uses serve a loosely defined rural population, are typically located at intersections of county roads, and provide limited services to a low density population.
4. Marine Commercial - These uses are located along the Columbia River and Multnomah Channel and provide the services necessary to support the many levels of water related activities occurring in the County.

A total of 23 sites fall within the Rural/Urban category, 10 within the Rural Center category, 11 within the Rural category, and 11 within the Marine category. The following table further breaks down these categories according to specific location.

TABLE 25

<u>Category</u>	<u>Location</u>	<u>Committed Parcels</u>	<u>Total Area (Acres)</u>
Rural/Urban	South Scappoose	11	9.39
	North Scappoose	2	4.07
	Warren	2	3.08
	Lindberg	6	6.81
	South Vernonia	2	3.83

Rural Center	Goble	2	0.46
	Deer Island	1	1.00
	Alston Corner	4	3.34
	Birkenfeld	2	0.60
	Mist	1	0.50
Rural	Canaan	1	2.52
	Heath Road	1	9.50
	Woodson	2	0.56
	Quincy	2	4.26
	Mist	1	1.60
	Pittsburg	1	0.38
	Yankton	1	0.47
	Old Columbia River Highway	1	1.63
	Blehm Road	1	0.30
Marine	Mayger	1	2.00
	Dike Road	5	29.55
	Coon Island	1	8.96
	Goble	1	2.00
	Anunde Island	2	3.98
	Willow Bar Island	1	4.68

LAND USE DESIGNATIONS

In order to provide for the continuation and limited expansion of existing commercial uses, the County is adopting an "Existing Commercial" plan designation which will be applied to all parcels currently supporting lawful commercial activities. This plan designation will be implemented through an "Existing Commercial" zoning designation. The one exception will be for those commercial activities occurring within Rural Centers. In these cases, the parcels will be designated as Rural Center on the plan and zoning maps and addressed accordingly. (See the chapter on Rural Centers)

"EXISTING COMMERCIAL"

This plan and zoning designation will assure the continuation and limited expansion of all lawful commercial activities regardless of type or location. The adoption of this plan and zoning designation for a parcel is intended to recognize the legitimacy of the existing use while not directly implying that commercial activities are appropriate for a specific area.

GOAL COMPLIANCE

All commercial uses noted above, with the exception of the Mayger, Yankton, Coon Island, and Willow Bar Island sites, fall within valid Type I exception areas.

The Mayger site contains 2.00 acres and is located along the Columbia River on non-resource land. The property contains a 350-foot fishing dock and related storage and warehouse buildings. The property is leased to a fish buyer who uses the warehouse for storage. Commercial fishermen use a portion of the warehouse for repair of fishing boats and gear used on the Columbia and in Alaska. A fire pump, boat lift, and cargo boom are also on the site.

The Coon Island site contains 8.96 acres and is located on resource land along the Multnomah Channel, across from Sauvie Island. This site has been used for over 15 years as a moorage for large numbers of commercial and pleasure boats and houseboats. The site supports over 3,000 lineal feet of dock, and a number of structures used to supplement the fishing and residential needs of those using the facility.

The Yankton site contains 0.47 acres. This parcel supports the Yankton store which has been in operation for over 20 years. The area contains prime agricultural soils but the commitment of the small parcel to commercial activity precludes any agricultural use of the site. The property is in close proximity to the Yankton School and Yankton Grange.

The Willow Bar Island site contains 4.68 acres and supports a marina facility that has existed since prior to 1975. The marina is supported by a boat sales and repair facility located on adjacent land under an existing conditional use permit. A well and septic system support the many houseboats located at the marina.

A total of 105.74 acres will be designated "Existing Commercial". This amount is justified under the criteria established for Type I Exceptions. The County is not proposing any Type II Exceptions for commercial land at this time.

The maps on the following pages show the location of all parcels which are designated "Existing Commercial".

Nearly one-third of the over 102 acres zoned rural center, and approximately 25 acres of the land zoned existing commercial, is currently vacant and capable of supporting rural commercial development. (Commercial activities area allowed in rural centers under prescribed conditions and it is estimated that one-fourth of the approximately 35 acres of available rural center land will be used commercially.)

Rural commercial land use currently exists at a ratio of about one acre per 220 rural population. (This figure was arrived at by dividing the current rural population of 19,820 by the approximately 90 acres of commercial land presently being used.) Applying this ratio to the plan's projected rural population growth of 3, 483, we find that about sixteen additional acres of land will be needed to accommodate the rural commercial needs of the year 2000 rural population.

With few, if any, commercial uses operating at their capacity, and with the large amount of land available for commercial development, it appears, given any range of regionally accepted population projections, that a sufficient amount of land exists to support needed rural commercial growth.

INDUSTRIAL SITING

INDUSTRIAL ECONOMIC ANALYSIS:

Introduction:

Decisions made in the private sector will help determine whether or not growth occurs in the county. The county and/or the state can facilitate growth or they can prevent it from occurring, but they cannot, on their own, make it happen. The following is an analysis of a scenario of what may happen in the next 20 years in Columbia County, based on decisions and trends during the past 20 years.

In the short-term, Columbia County can grow economically by increasing its economic base, which supports population and service industries, or by increasing the number of residents who gain their income from outside the county, principally in the Portland metropolitan area or in Cowlitz County. While it would be desirable to provide jobs in Columbia County for residents of the county, it is likely that some growth will occur in both ways.

The county's designation of residential opportunities will determine the increases in the number of people living in Columbia County and working elsewhere. The amount, type, and location of land designated in the Comprehensive Plan for Economic Development will determine the maximum amount of industry the county might be able to attract. The land should be appropriately located and suitable for development. It should be located to relate to the county's natural resources and natural advantages.

Based on the analysis of the economic data concerning the County, the following are some of the economic opportunities for Columbia County.

- As "second growth" timber replenishes the timber supply, increased output of forest products will occur during the periods of stronger demand.
- Agricultural output can increase with the expansion of irrigation and shifting to higher valued crops. Expansion in this area could also occur by increasing the processing of products done within the County.
- Natural Resources. Natural gas and petroleum activities will depend on discoveries and demand (prices). With diminishing sources of aggregate in the Portland metropolitan area, Columbia County can gain an increasing share of this market. Metallic mineral development appears to be a long way away, since most of the known ore deposits are low-grade.
- Waterfront Activities. The location of these activities are sporadic and cyclical. If Columbia County has marine/industrial sites available at the time a location opportunity occurs, it will have a chance. The availability of sites per se cannot guarantee success, but a lack of sites can guarantee that development will not occur. Types of marine manufacturing activities that seem likely are primarily metals,

fabricated metals, chemicals, and petroleum refining. Others include boat building and repair, and inland navigation terminals.

- Other manufacturing. The most likely source of growth is from companies starting up or already in Columbia County. Most labor-intensive manufacturers believe that the County's labor force is not large enough for a plant employing more than several hundred workers. This applies primarily to light manufacturing such as electronics, where wages are not high enough to attract workers to Columbia County. In the case of heavy industry, usually the wages are high enough to attract workers from outside of the county if the development requires more employees than can be provided by the local labor force.

Summary of Economic Data:

1. Population Projections for the Year 2000.

	<u>Low</u>	<u>Medium</u>	<u>High</u>
Rural	23,875	25,617	27,111
City	<u>29,364</u>	<u>35,974</u>	<u>43,985</u>
TOTAL	53,239	61,591	71,096

To ensure that the economic projections are compatible with other sections of the comprehensive plan, the medium population projection will be used in this analysis.

2. Columbia County Labor Force to Population Ratio.

<u>Year</u>	<u>Labor Force</u>	<u>Population</u>	<u>Ratio</u>
1974	14,280	32,080	0.445
1980	16,400	35,646	0.460

For the purposes of evaluating the projected job and land needs, a ratio of 0.45 will be used. By comparison, Washington and Clackamas counties' ratios are 0.42 and 0.41, respectively, while Multnomah County and Portland are 0.54 and 0.61. This ratio assumes a continuation of the existing relationship between the labor force and the population.

3. Economic Base Composition.

<u>Year</u>	<u>Manufacturing Jobs</u>	<u>Non-Manufacturing Jobs</u>	<u>Ratio of Manf. Jobs to Non-Manf. Jobs</u>
1970	2,450	3,380	1:1.3
1975	2,430	5,940	1:2.4

1980	2,520	5,820	1:2.3
1981	2,340	8,290	1:3.5
1982	1,880	7,510	1:3.99

The ratio of manufacturing to non-manufacturing jobs has varied considerably over the past 15 years. A part of this variation can be attributed to the overall state of the economy. When the economy is strong, and employment is high in the wood products industry, the ratio favors the manufacturing sector. When wood products is down, the ratio leans toward the service industry. The ratio of 1:2 is a reasonable goal.

4. Labor Force Projections

<u>Year</u>	<u>Population</u>	<u>Labor Force</u>	<u>Increase Over 1980</u>
1980	35,646	16,400	-
1990	48,618	21,878	5,478
2000	61,659	27,715	11,315

Based on these population projections and maintaining the existing ratio between the labor force and the population, Columbia County will have between 7,500 and 11,000 new workers by the year 2000. Assuming a 2:1 ratio of service to manufacturing jobs, this would require 3,733 manufacturing jobs and 7,467 service jobs by the year 2000.

5. Employment Capacity of Vacant Buildable Industrial Sites.

<u>Area</u>	<u>Vacant Buildable Acres</u>	<u>Density per Gross Acre</u>	<u>Estimated Total Employment</u>
<u>Scappoose</u>			
Inside City Limits	30	4.0	120
Outside City Limits	65	1.5	98
<u>St. Helens</u>			
Inside City Limits	120	4.0	480
Outside City Limits	160	1.5	240
<u>Columbia City</u>			
Inside City Limits	30	4.0	120
<u>Rainier</u>			
Inside City Limits			
Heavy Industry	280	1.5	420
Light Industry	8	4.0	32
Outside City Limits			
Heavy Industry	90	1.5	135
Light Industry	91	4.0	364

<u>Area</u>	<u>Vacant Buildable Acres</u>	<u>Density per Gross Acre</u>	<u>Estimated Total Employment</u>
<u>Clatskanie</u>			
Inside City Limits	2	4.0	8
Outside City Limits	31	1.5	47
<u>Vernonia</u>			
Outside City Limits	135	1.5	202
<u>Unincorporated County</u>			
Reichhold	523	1.0	523
Port Westward	780	1.0	780
Prescott	65	1.0	65
Bernet Site	49	1.0	49
Scappoose Air Park	<u>94</u>	1.0	<u>94</u>
Total	<u>2,553</u>		<u>3,777</u>

The density per gross acre figures in the above chart are 4.0 per acre for light industry and industry inside city limits, and 1.5 for heavy industry and industry outside city limits. Heavy isolated industry such as Port Westward has been commuted at 1.0 employees per acre. These figures are all higher than current Columbia County averages.

Probable Growth:

1. Columbia County Factors.
 - A. The commuter population to Portland and Longview will increase, based on the growth within those areas and the cost and ease of commuting, the price of gasoline and automobiles, and maintenance.
 - B. The majority of economic growth and jobs in Columbia County initially must be based on natural resource and transportation system availability. These types of industries are land-extensive, not labor-intensive. Columbia County's existing labor force is too small and decentralized to be able to serve a large intense employer with several hundred employees.
 - C. Some growth will occur among small home-grown manufacturing firms.
 - D. In the long-term, as the labor forces grows, small light industries will or can be attracted, based on the availability of labor as well as the other location factors.
 - E. Service and secondary industrial growth will occur in relationship to Items A and B.

2. State Perspective.

- A. Within the state and the Pacific Northwest, the use of the Columbia-Snake River system will increase. This will include greater use of up-river ports, which will require a variety of sites down-river for the transfer of good from barge or rail to ship. Some of the Columbia County sites have excellent characteristics to meet this need.
- B. There is a need within the state for large isolated sites for heavy industry. These sites must be isolated and separated from concentrations of populations. While these sites themselves need to be isolated, they also need to be relatively close to major sources of support industries, services, and be served by multi-modal transportation. There are not many areas in the state where these sites exist.
- C. The State needs to diversify its economic base, and the above types of sites located in Columbia County will contribute to that diversification.

Conclusions:

- 1. The amount of land proposed to be designated for industrial development in Columbia County will accommodate approximately 3,700 jobs, based on existing conditions.
- 2. Based on the existing and historic labor participation rates, the median-population projections, a ratio of 1:2 manufacturing to service workers, and a policy to promote jobs in Columbia County for Columbia County residents, there will be a need for approximately 3,700 new jobs in Columbia County by the year 2000.

INDUSTRIAL LANDS EXCEPTIONS:

Columbia County has a need for more vacant industrial land than is available within the UGBs (see economic analysis). In order to satisfy the need, Columbia County has designated five (5) sites outside of the UGB's as industrial. These are:

- The Prescott site, which has 65 acres of non-resource land (dredge-fill) and, consequently, does not need a Goal 2 exception;
- The Scappoose Industrial Airpark which has 233 acres under a type 1 exception and 16 acres under a type 2 exception;
- The Reichhold Chemicals site which has 269 acres of non-resource land (dredge-fill), 56 acres under a type 1 exception and 282 acres under a type 2 exception;
- The Port Westward site which has 300 acres of non-resource land (dredge-fill), 120 acres under a type 1 exception and 485 acres under a type 2 exception;
- The Bernet site which has 48.57 acres that qualify under a type 2 exception.

The above sites, except for the Prescott and Bernet sites, already have substantial commitment to industrial use. The Port Westward, Reichhold Chemicals, and Prescott sites have substantial amounts of non-resource land. These factors and others (see exception statements) make the 5 sites the most attractive for industrial use. Other areas, outside UGBs, would require type 2 exceptions and would tend to conflict more with resource land.

Scappoose Industrial Airpark (SIA):

This site is located one (1) mile north of Scappoose, OR. The site consists of 249.24 acres of which 151.11 acres is the airpark and facilities, 82 acres are needed to meet a commitment for future airpark facilities as per Federal Aviation Administration (FAA) agreement, and 16.13 acres are needed for future industrial expansion.

(See SIA exception.)

Prescott:

This approximately 65-acre site is located between the Burlington Northern Railroad and the Columbia River 40-foot shipping channel just north of the city of Prescott. Because of the placement of dredge-fill, the site no longer has any natural resource potential. The site access is from Hwy. 30 via a narrow dike road which also serves the city of Prescott. This road has limited capacity to serve the industrial traffic. Any industrial or commercial development would require buffering to protect the residents of Prescott.

(See Prescott statement)

Reichhold Chemicals, Inc. (RCI):

The site is located 3 miles north of St. Helens, OR. The site has 56 acres with an existing fertilizer plant, 269 acres is considered to be non-resource land and 282 acres needed for future industrial expansion. The site has access to Hwy. 30 and is served by Burlington Northern Railroad. The site has 4,400 feet of river frontage with deep-water potential.

(See RCI exception.)

Port Westward (PW):

The site is located 7 miles northeast of the city of Clatskanie. The site totals 905 acres, of which 120 acres contains a 535 MW electric generating plant, a 1,250 foot dock and a 1.3 million barrel tank farm, among other related facilities. Approximately 300 acres contains dredge-fill and is no longer considered resource land. The remainder of the 905 acres (485 acres) is land needed for future industrial expansion. The site has a deep-water port facilities, and access to Burlington Northern Railroad.

(See Port Westward exception.)

Bernet Site (BS)

The site is located 2 miles east of the city of Scappoose and is approximately 49 acres in size. The site is intended for use as an ultralight aircraft field and testing site, and for land extensive industrial uses to be used in conjunction with the industrial riverfront property adjacent to the site. The site is close to Hwy. 30 and the Burlington Northern Railroad.

(See Bernet exception.)

ALTERNATIVES WITHIN URBAN GROWTH BOUNDARIES:

Columbia County has seven (7) incorporated cities. They are: Clatskanie, Columbia City, Prescott, Rainier, Scappoose, St. Helens, and Vernonia.

- Prescott has no lands designated as industrial.
- Columbia City has a lumber mill within its city limits with a possible 30 acres out of a total of 80 acres that is vacant and buildable.
- Clatskanie has a total of 33 acres available for future industrial use. Labor intensive industries are preferable for these sites. These sites have some environmental constraints due to the proximity of the Clatskanie River and other areas needing fill.
- Scappoose has a total of 95 acres available for future industrial use. These sites are not large enough for land extensive industry. Labor intensive industries are preferable for these sites.
- Vernonia has a site of 135 acres. This interior site would serve the local area and is not competitive with other proposed industrial sites. Labor intensive industries are preferred for this site.
- St. Helens has a total of 280 acres for future industrial use under several ownerships. Airshed problems would be a limiting factor for some industrial uses. Labor intensive industries are the preferable industrial use for these sites.
- Rainier has a total of 469 acres for future industrial use. The sites are located adjacent to the interstate bridge between Longview and Rainier and will likely be developed as a part of the port facilities of this area. This is a good site directly competitive with Longview and should develop with labor intensive uses. Much of the site is composed of dredge-fill. Airshed problems are a factor for this area.

A summary of the amounts of vacant and buildable industrial lands within Urban Growth Boundaries and city limits is available in table form on the following page.

	<u>Inside City Limits</u>			<u>Between City Limits and UGB</u>				<u>Reference</u>
	<u>Total</u>	<u>Hazard</u>	<u>Vacant & Buildable</u>	<u>Total</u>	<u>Built &/or Committed</u>	<u>Hazard</u>	<u>Vacant & Buildable</u>	
Clatskanie	22	2	2	189	62	9	31	Clatskanie Comp. Plan pp. L-3 & L-8
Columbia City	85	0	30	0	0	0	0	Columbia City Planner
Prescott	0	0	0	0	0	0	0	Prescott Comp. Plan
Rainier	280 HI <u>8 LI</u> 288 T	0	280 HI <u>8 LI</u> 288 T	105 HI <u>104 LI</u> 209 T	0	15 HI <u>13 LI</u> 28 T	90 HI <u>91 LI</u> 181 T	Rainier Comp. Append.A, p.14
Scappoose	85	0	30	190	125	0	65	Scappoose Comp. Plan, pp.20 & 152
St. Helens	970	30	120	380	200	20	160	St.Helens Comp. Plan, pp.111A-D, Conversation with City Planner
Vernonia	7	0	0	218	34	49	135	Vernonia Comp. Plan, p. D1.19
	<u>Total 470 Ac.</u>			<u>Total 572 Ac.</u>				<u>Grand Total 1042 Ac.</u>

In summary, the Scappoose Industrial Airpark, because of its unique airpark facilities, does not compete for the same industries as other sites within or without urban growth boundaries. Port Westward, Reichhold Chemicals, and the Bernet site are compatible with industrial uses that are either land extensive, incompatible with the urban environment, marine related or a combination of the above. These types of uses do not compete with industrial areas within urban growth boundaries but are complementary to those uses.

Of the sites within urban growth boundaries only the Rainier sites have the Columbia River frontage for port facilities and the land available for land extensive industry. However, its proximity to a relatively large labor pool make it attractive to labor intensive industry plus its location next to the Longview - Rainier urban area makes it incompatible with hazardous or nuisance type industry.

**BERNET SITE
EXCEPTION STATEMENT**

I. Proposal

This exception statement is for 20 acres, owned by Fred Bernet. This site is located in Sections 17 and 18, T3N, R1, W.W.M., and is depicted in aerial photographs and survey map accompanying this statement.

Mr. Bernet proposes a rural industrial plan and zoning classification for the property. The site is intended for use as an ultralight aircraft field manufacturing area and testing site.

This statement addresses criteria set forth in LCDC Administrative Rule on Exceptions, OAR 660, Division 4. In particular, Mr. Bernet provides justification for a Type II exception based upon the need for additional industrial land outside designated urban growth boundaries.

II. Description of Site and Vicinity

The subject property is the northerly tract of Mr. Bernet's 382-acre farm. The site is underlain by predominantly Class II soils (Sauvie silt loam, protected, and Sauvie silty clay loam, protected) and approximately 10-15 acres of Class III soils (Rafton silt loam). All the soils are wet and require drainage for cultivation. Portions of the site are laden with gravel as a result of the construction of the private logging road bordering the property on the east.

The site is near Crown Zellerbach's private logging road, which has an elevation of approximately 20 feet above the majority of the site. The road is used to transport timber from forests owned by Crown Zellerbach to the barging operations located adjacent to the site. It is also used by Scappoose Sand and Gravel for hauling gravel to the barges on land leased from Crown Zellerbach.

The site is bordered on the north by East Columbia Boulevard, which becomes Honeyman Road east of the site. The southern border of the property is the continuation of Mr. Bernet's farm, while the western portions border other farming operations. The only residence in proximity to the site is a 6-acre hobby farm lying north of East Columbia Boulevard, a use established prior to the adoption of the statewide planning goals.

The Multnomah Channel is located immediately to the east of the site across the logging road and the dike. Crown Zellerbach maintains a barging facility on the channel. The property is zoned for Rural Industrial use and extends along approximately 4,000 feet of riverfront. The site is ideally suited for the situation of an

ultralight aircraft facility, for which there are no sites comparable in the County.

III. Goal 2 Exception Criteria

A. Reasons justifying exception.

(1) Overall economic needs

The County has a need for isolated industrial sites which can be used by industries which are land-extensive and which do not require urban levels of facilities and services. Such properties serve as valuable alternatives to sites inside urban growth boundaries.

Columbia County must devise an economic strategy that takes into account its comparative advantages, including historical economic development patterns, regional growth patterns, present labor force and geographic limitations and advantages. The County is heavily dependent on the wood products industry and other natural resources industries. This lack of diversity is a contributing factor in the County's chronic unemployment problems. Unemployment in the County has stayed above 11% since 1975. Nearly one-third of the labor force in Columbia County is employed outside the County. The County thus has a need to diversify its industrial base.

At the same time, Columbia County cannot reasonably attract labor-intensive industry in the immediate future due to its lack of educational facilities, the absence of such industries in the present industrial base, and the geographic dispersion of the work force. Selected sites inside urban growth boundaries and adjacent to Scappoose airpark can be designated for light industrial development and can be marketed for labor-intensive industries requiring full urban services.

According to preliminary County estimates, a reasonable ratio of manufacturing jobs to non-manufacturing employment is 2:1. Based upon population projections and using this ratio, approximately 4,000 new manufacturing jobs should be created in Columbia County. The employee per acre ratios will vary as to whether it is designated for light industrial use or whether it is designated for land-extensive uses. Countywide estimates indicate that approximately 2500 acres are necessary to generate the needed employment.

The major comparative advantage the County has for economic growth is the presence of deep-water port facilities. Barge transportation dovetails with the County's resource-oriented industrial base and will assist expansion of that base in the future. On the other hand, there are substantial geographic limitations to economic development in Columbia County. Chief among these is the relatively narrow band of buildable land in the Columbia River valley. The coast range limits the expansion of industrial sites west of Highway 30, posing barriers to transportation and the extension of facilities and services to the relatively few

sites free of development constraints.

These geographical limitations also limit the accessibility of industrial sites in the County to markets, because sites are strung along the Columbia River running north to south through the County. Industrial sites in the southern part of the County have the best access to Portland markets, a factor which is to be strongly considered in the allocation of buildable land for industrial uses in the County.

(2) Application to Bernet Tract.

The Bernet property is needed in order to contribute to the vitality and diversity of Columbia County's economy. The use contemplated is an ultralight aircraft facility comprising approximately 20 acres on the western half of a site owned by Mr. Bernet. The remainder of the property is zoned and planned for agricultural uses.

(a) Incompatibility with Uses Inside Urban Growth Boundary.

Ultralight aircraft facilities cannot be located inside urban growth boundaries. Columbia Ultralight, Inc. has entered into arrangements with Mr. Bernet for potential purchase of 15 to 20 acres for an airstrip and testing facility. The minimum site size for such an airfield is usually 20 acres.

Columbia Ultralight has received approval for construction of an airfield, subject to land use approvals, from the Federal Aviation Administration and the Oregon Aeronautics Division. Use of the site is limited to ultralight aircraft. The company has also received approval from the Department of Environmental Quality for its noise impact boundary analysis, pursuant to OAR 340-35-045. The Department commented, however, that due to the high pitch of ultralight engines in typical weekend operations in similar airfields, it is necessary to minimize operations over nearby homes.

This factor is greatly increased inside urban growth boundaries. Other ultralight facilities in the northwest utilize relatively isolated industrial sites in order to avoid confrontation with homeowners. Because the site will also be used as a testing facility, there are potential hazards associated with its location inside populated areas.

(b) Significant Comparative Advantage.

The subject property has significant advantages because of its location adjacent to both water and ground transportation. As indicated previously, barge facilities are located adjacent to the site and the site is near three roads capable of handling industrial transportation. Dike Road, East Columbia Boulevard, and the private industrial road all have direct links with Highway 30 within a distance of one or two miles.

The location of the site is particularly important in view of its transportation access because of its proximity to the Portland market. Most users of ultralight aircraft facilities will be transporting the aircraft from the Portland metropolitan area. (There is a long range plan, however, to construct storage facilities for ultralight aircraft on the site.) As noted previously, the geographical features of the County favor the Scappoose area for marketing products to the Portland metropolitan area.

Although the airstrip would initially only employ approximately five persons, the ultralight industry itself is burgeoning in all areas of the country. The location of an airstrip in Columbia County is anticipated to induce ultralight manufacturing ultimately. A manufacturing facility could easily employ from 20 to 50 persons in a relatively short period of time, given the growth of the industry, according to Columbia Ultralight, Inc. Location of manufacturing facilities in proximity to an airstrip allows for the ready testing of manufactured aircraft and is a significant advantage to attracting such industry to the County.

The loss in resource productivity involves the removal of approximately 20 acres from agricultural production. Mr. Bernet currently leases his farming operations for grain production and clover seed. For the subject property, this amounts to less than \$50 per acre annual return. The employment potential for this amount of agricultural production is practically nil. These factors are discussed below under the environmental consequences section.

Utilization of the site carries both direct and indirect benefits for the County's economy. On the one hand, the development of the ultralight complex provides an excellent base for creating more jobs in Columbia County. This is especially important for the sub-regional economy in the Scappoose area. According to a recent school district survey, over 53% of the work force in the Scappoose area commutes to Portland. The development of manufacturing and testing facilities for ultralight aircraft would be a boom to the economy. Indirectly, the property furnishes a site for the location of land-extensive industrial facilities, which then need not to be located inside the Scappoose urban growth boundary.

B. Alternative Locations.

(1) Non-resource and committed lands.

The County must consider whether non-resources land or lands irrevocably committed to non-resource use can accommodate future industrial growth rather than the subject property. Columbia County has essentially no non-resource lands, except lands that are presently developed or which have been filled.

One such filled area is a site located in Prescott consisting of approximately 65 acres. The site is located immediately south of the Trojan nuclear facility. It is

unsuitable for ultralight aircraft facilities for several reasons. One is the proximity to the nuclear plant itself and associated hazards. Another is the proximity to the Columbia River, which is noted for strong winds that may be hazardous to the testing of ultralight aircraft and student training. A relatively sheltered area such as the Bernet site is one of the location criteria for siting an ultralight aircraft field. Finally, the Prescott site is relatively remote from the Portland metropolitan area, a fact which will greatly limit the market feasibility of establishing the industry in Columbia County.

There are some committed lands inside the three other exception areas for industrial uses outside the urban growth boundaries. Thus, the Reichhold complex contains approximately 269 acres of filled lands. Similarly, the Port Westward site contains about 300 acres of dredge spoils. As appears from the exception statements for these sites, the committed areas are to be devoted to rural industrial uses compatible with existing facilities. The sites are also controlled by single owners who have developed master plans for the site. An ultralight aircraft facility is not compatible with such heavy intensity uses, because of noise and safety factors.

To the extent that the Scappoose Airport has "committed" lands as opposed to lands for which a Type 2 exception must be taken, such lands will essentially be reserved for light-industrial uses which require transportation for economic advantage. Further, the Port of St. Helens has refused to accommodate the ultralight facility because of potential hazards with existing aircraft and the use of the facilities by student pilots.

(2) Lands inside urban growth boundaries.

As previously noted, noise and safety factors indicate that an ultralight site should be located outside of urban growth boundaries, so that it will not be in a high-density area.

C. ESEE Analysis

This standard requires a comparison of the site with potential other sites which could be used for industrial purposes if justified under a goal exception. Other potential exception areas include four isolated sites outside proposed urban growth boundaries and the potential expansion of existing urban growth boundaries to accommodate more industrial uses. It is not necessary to evaluate alternative sites except in general categories. The standard is that "the consequences of the use at the chosen site are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site." OAR 660-01-020(2)(c).

(1) Environmental Consequences.

Selection of this site will have less adverse environmental impacts than selection

of other potential sites in the County for the kinds of uses anticipated. Most of the Columbia River valley consists of Class II and III soils. The conversion of any such lands, whether through the development of rural sites or through the expansion of the urban growth boundary, poses approximately the same losses if soil capability alone is the determining factor. This is easily seen from the display map accompanying this statement. Expansion of the Scappoose urban growth boundary to include additional land as an alternative to development of the subject property necessitates expansion of the city boundary to the east. Vacant lands immediately west of Highway 30 are devoted to urban and rural residential use. The area on this side of the highway is considerably parcelized. Although it is possible for the city to expand lineally along Highway 30, this development pattern creates inefficiencies in the extension of urban facilities and services and poses additional transportation costs by virtue of strip development. Further, the majority of the lands north or south of the city are currently in agricultural production, as are lands immediately to the east of the city. All of these lands are of similar soil capability to the Bernet site. Industrial development in the site will not induce eastward expansion of the Scappoose urban growth boundary. If such expansion is to occur, it is likely that it will be to the northeast, encompassing industrial lands associated with the Scappoose Airport. Development of the site does not require the installation of any additional facilities and services, other than a septic system and the drilling of a well. Although it would be possible to expand the urban growth boundary eastward as an alternative to the development of the Bernet property, such expansion consumes land of the same general soil type as the Bernet property. These lands are actually more productive than the subject property because of its alteration as next described.

The subject property is particularly unsuited for continuing agricultural production. Mr. Bernet owns approximately 360 acres of farmland. The parcel under consideration is the least productive of all the land, due to the fact that the topsoil was scalped from the property in 1948 to prevent the flooding of the district due to the lower elevation of Crown Zellerbach's road adjacent to the site. The northeast portion of the property is covered with water during much of the rainy season and would have to be drained to bring the parcel to marginal agricultural productivity. These factors prevent continuing resource utilization of the site in a profitable fashion. It is the intention of Mr. Bernet's lessee to land bank the site because of its relatively low productivity (PIK Program).

Utilization of the site for industrial purposes will permit Mr. Bernet to purchase adjacent acreage to complement his present farming operations. As indicated on the accompanying exhibit, there is a relatively large parcel adjacent to Mr. Bernet which, if acquired, would make for more efficient production because of the resultant configuration of the farm after purchase. Acquisition would permit increased agricultural production in the County because of economics of scale. This acts as a mitigating factor for taking the subject property out of a marginal farm production.

(2) Social Consequences.

This addition of this industrial land will increase the tax base for the County and the property value for the School District. The conversion to industrial land will have no effect whatever on the Scappoose Drainage District, because activities on the site will not affect flood control measures used by the District. The District has specifically stated this.

Because of relative isolation from concentrations of rural residences, the character of the area will also not be affected appreciably.

There is also a social advantage in providing a variety of industrial sites in the County, as opposed to concentrating industrial lands among a few large ownerships. The exception statements for Reichhold and Port Westward manifest a specific plan for marketing these sites geared toward rural industrial use. While these sites are certainly assets to the County's inventory of industrial lands, the diversity of ownerships is necessary for attracting a diversity of industries. This is a positive social benefit for converting the subject property to industrial use.

As noted previously, utilization of the site for industrial purposes will add to the economic diversity of the County. Assuming development of the ultralight aircraft facility, more Scappoose area residents will be induced to work in the County. The result may well be a reduction in commuting between Portland and Scappoose. This produces not only energy efficiencies, but also potentially stabilizes the community. This too is a positive social benefit.

(3) Economic Consequences.

There are significant economic advantages for developing the site. As indicated previously, the economic return from farming operations on the site is no greater than \$50 per acre per year. It is also anticipated that the property would be placed into the land bank program if it remains in resources classification. On the other hand, the development of ultralight aircraft facilities promises a considerable economic return to the County, both directly as a result of additional employees and indirectly by virtue of persons commuting to the County for use of the airfield.

There will be no adverse impact on public facilities and services. Access will most likely be via the Crown Zellerbach road. Transportation to and from the ultralight field would not require road improvements either on East Columbia Boulevard or on Dike Road. Prospective industrial uses will not require the installation of sanitary sewers nor the extension of other urban services. Well water is available on the site at a depth of approximately 120 feet. The soil is suitable for subsurface sewage disposal under newly adopted DEQ rules.

(4) Energy Consequence.

The subject property is in close geographic proximity to the Portland metropolitan area, linked by three roads to Highway 30. This circulation network affords comparative advantages for energy conservation not enjoyed by other isolated industrial sites outside urban growth boundaries. The road network and the existing barge facilities should be utilized rather than development of new facilities in order to conserve energy.

D. Compatibility with Adjoining Properties

The site is situated amidst existing farming operations. The Bernet farm is contiguous to the site on the south. To the west are the farming operations of Konnie Wheeler and the Kessi Brothers dairy operations. To the north of East Columbia Boulevard and east lies the dairy farm of Mr. Case Loos. Each of these farmers is familiar with the subject property and has expressly stated that its conversion to rural industrial use will not interfere with existing farming practices. These farmers are familiar with the industrial activities of Crown Zellerbach and Scappoose Sand and Gravel adjacent to the site. The private logging road near the property on the east separates some of the farming operations from the Loos and Wheeler properties.

Mr. Richard Churchill does not object to the conversion of the property to rural industrial use. Mr. Churchill maintains a six-acre hobby farm with a rural residence and four cows on his property, lying to the north of the site across East Columbia Boulevard. His is the only residence in proximity to the site. The airfield will be oriented so as not to have direct overflight of Mr. Churchill's residence during take-offs and landings.

The use of the area as an ultralight site will not significantly conflict with adjacent farm uses. The ultralight facility will be generally nonpolluting. The facility would not generate a need for other nearby development. Adjacent farm uses will have little or no impact on the ultralight facility.

IV. Conclusion

For all the foregoing reasons, the property should be classified for rural industrial use on the comprehensive plan map and the zoning map for the County under plan policies and zoning criteria providing for land-extensive uses and uses which cannot be provided inside urban growth boundaries.

PORT WESTWARD EXCEPTION STATEMENT

I. Proposal

This exception statement, which supplements the Columbia County Comprehensive Plan, is for 905 acres owned by the Port of St. Helens. The property is known as Port Westward and is located at the confluence of the Columbia River and the Bradbury Slough at approximately River Mile 54 on the Columbia River.

The proposed use designation is Rural Industrial, and it is intended to take advantage of the location on the Columbia River, the existing dock facilities, railroad, and urban services, as well as potential linkages to the electric generating facilities.

This Exception Statement is based on the LCDC rules to allow certain industrial uses to occur on resource land outside of Urban Growth Boundaries, and it includes an analysis of both the county's needs for industrial sites as well as existing, irrevocable commitment of the land resource uses.

II. Physical Characteristics

Port Westward is located approximately 7 miles from the city of Clatskanie which is 62 miles west of Portland and 52 miles east of Astoria on Highway 30. Road access to the site is via a narrow county road.

The site contains 905 acres with approximately 4,000 feet of frontage on the Columbia River and 5,000 feet of frontage on the Bradbury Slough. The Columbia River frontage is on the 40-foot shipping channel and is adjacent to a natural deep section of the river. A portion of the site is developed with a 1,250-foot dock and a combined cycle 535 MW combustion and steam turbine electric generating plant, a 1.3-million-barrel tank farm, and other related facilities.

Undeveloped, unfilled portions of the site are Class II and Class V agricultural soils and are used as pasture. The terrain of the site is flat with slopes of less than 3 percent. Portions of the site have been filled and are at an average elevation of 15 to 20 ft. mean sea level. Unfilled portions of the site are at an elevation of 8 to 10 ft. mean sea level. There is a small grove of trees near the generating plant and some natural vegetation existing along the western portion of the Columbia River shoreline. Because the area is drained and diked, there are no on-site ponding areas.

The foundation conditions are typical of most riverfront sites and will not require piling for any major structures.

III. Background

The site was developed during World War II by the Federal Government as the Beaver Army Terminal Ammunition Depot with facilities to transfer explosives from train to ship. The Army terminal was remained operational until the early 1960's, at which time it was decommissioned. Many of the facilities and services installed at that time still exist on the site. In 1966, the Federal Government deeded the property to the Port of St. Helens for economic development.

In 1967, the Port leased the property for 99 years to Westward Properties, a subsidiary of Kaiser Aetna, a California real estate development firm. A condition of the lease required development supporting 150 jobs, or a value of \$15 million.

In 1972, Kaiser Aetna formed a partnership with Brady Hamilton Stevedores to operate Bradbury Terminals, a general cargo port on 125 acres, using the existing dock, rail system, and buildings. The primary materials handled were lumber, logs, and other wood products.

In 1973, Portland General Electric bought Kaiser Aetna's leasehold and constructed the combustion phase of the Beaver Generating Plant in 1973-1974, thus satisfying the development conditions. In 1976, the combined cycle steam turbine was added. In 1977, PGE purchased Bradbury Terminal's interest and utilized the dock to deliver fuel oil to its Beaver Generating facilities. PGE currently uses approximately 120 acres for its generating complex and has the remainder of the land available for sublease to large-scale rail, barge, and/or ship users. A number of firms have studied the site in recent years, but no subleases have yet been signed.

IV. Existing Facilities and Development

The United States Army had constructed extensive facilities and services during World War II. The complex was designed to house 500 on-base personnel, as well as the rail, storage, and dock facilities for handling the explosives. This installation included a sewage system, water system, and fire protection system. These systems have been modified and supplemented with construction of the PGE Generating Plant. The following is a list of the existing on-site facilities.

A. Generating Plant

A combined cycle combustion and steam turbine capable of generating 535 MW occupies the center of the site. The first phase combustion turbines can generate 385 MW and the steam phase, 150 MW. This complex occupies approximately 120 acres and includes a tank farm, fire protection system and water pollution control system. The generating plant can be fired with either oil or natural gas. Facilities exist to receive oil by truck, rail, barge, or ship.

B. Dock

There is a 1,250-foot dock immediately adjacent to the Columbia River 40-foot channel. The dock is of creosoted timber pile construction, protected with a sprinkler system with 100 pounds of pressure, and has been well maintained. Rail tracks traverse the dock and connect it to the mainland from the downstream end by a trestle. There are two berths capable of storing large cargo vessels, plus dolphins for log rafting and barge moorage on the Bradbury Slough.

C. Railroads

The site is served by a spur track from the Burlington Northern Railroad Astoria-to-Portland branch line. The tracks on site serve the generating facilities, the tank farm, the dock, plus the presently undeveloped lands.

D. Tank Farm

Associated with the generating plant is a 1.3-million-barrel tank farm (the largest single-ownership tank farm in the State). The 1.3-million-barrel tanks were constructed to serve the generating plant. Due to the availability of other generating plants on the system, there is a capacity and some tank facilities area available for other industrial uses. Heated piping connects the tank farm to the dock as well as truck loading facilities.

E. Water Supply System

The source of water for the potable water, fire protection water, and the water needed for plant operation is drawn from Bradbury Slough. The old Beaver Army terminal system is located near the Columbia River and now provides fire protection to the docks. PGE's new water system facilities are located near the southeast end of the property.

Treatment facilities are in place for potable water and to demineralize water for the plant operation. Excess capacity exists in all three systems, and the system could readily be expanded to cover other uses. There is an existing 75,000-gallon potable water storage tank on-site.

F. Water Distribution System

The existing water distribution system is in place to serve the plant, the dock, and the headquarters facility area. This system could be extended to serve additional industries.

G. Sewage Treatment Facilities

A small sewage treatment plant exists on the site. The system was originally designed to serve the 500 personnel stationed on-site during World War II. Specialized additions, such as sedimentary facilities and oil separation facilities, have been added to serve the generating plant. Similar additions could be made for other uses.

H. Sewage Collection System

Piping is in place to connect the use areas to the plant.

I. Fire Protection System

Both the dock and the plant are protected with a high-pressure fire protection system with capacity to serve other installations. Additional equipment would be needed for extensive development of the site.

J. Buildings

All the ammunition storage "igloos" and a few of the barracks buildings constructed during World War II have been removed. The security guardhouse, storage, office, and maintenance buildings still exist.

K. Electrical Service

The site is served by the Clatskanie People's Utility District with power supplied by the Bonneville Power Administration. Adequate service exists for a high level of industrial development on the site.

L. Natural Gas

The site is served by a 16-inch natural gas line capable of supplying the turbines. An on-site auxiliary 2-inch line is available to supply gas at lower pressures.

M. Flood Control and Drainage

The entire site is diked and within the Beaver Drainage District. During the 1948 flood, the entire area was well above floodgates. In 1978, the Corps of Engineers completed a \$2 million project, which included dike, pump, and, drainage improvements, financed by assessments against property owners in the district.

N. Filled Areas

Approximately 300 acres of the site have been filled. The material is mostly sand with some gravel and is well compacted. The fill areas are mostly at elevations of 15 to 20 ft. Unfilled areas are mostly at elevations of 8 to 10 ft.

V. Proposed Use Of The Property

Probable uses would likely be related to the existing services including the railroad, the dock, and the tank farm.

Because of the distance to Portland and the constraints on the access roads, the site is not likely to attract any heavy highway users. Uses likely to be located here are best illustrated by four proposals submitted to the current leaseholder since 1980.

Proposals have included a 200-acre oil refinery, a 150 to 200-acre coal port, an 80-acre petrochemical tank farm, and a 230-acre coal gasification plant. These types of uses NEVER absorb a small amount of acreage each year, but rather occupy large sites and occur at intervals over a number of years. These four uses, plus the generating plants, would have occupied virtually the entire site.

VI. LCDC Requirements

This is a request to allow industrial uses to occur outside of an Urban Growth Boundary on resource lands which require an exception to Goal 3 Agriculture.

The basis for an exception to a goal is contained in Goal 2. The interpretation and administration of this goal has been further expanded in DLCD Rule 660-04-000, Division 4, Goal 2, Exception Process. This requires that an exception statement must demonstrate a need for land for the non-resource use or that the land is built upon or irrevocably committed to non-resource uses. In all cases, the statement must contain compelling reasons and facts to support the conclusions.

This section of the Exception Statement has been divided into three parts. The first section addresses the four factors outlined in Goal 2 based on need; the second discusses the irrevocable commitment to industrial uses; and the third contains the conclusions and findings.

VII. LCDC Evaluation

The following is an evaluation of the four factors in Goal 2, as well as a discussion of the requirements of the rules concerning "commitment" to non-resource uses.

A. Goal 2 Factors

1. "Why these other uses should be provided for."
 - a. Jobs must be provided in Columbia County.

The impact of the current recession on the State of Oregon is well documented. The unemployment in the State has been above the national

average for some time. The recession started in Oregon early and is predicted to continue longer than most other areas of the country.

A commonly cited reason is our heavy dependence on the wood products industry which is, in turn, resulted to the construction of new homes. In Oregon, 37% of the basic manufacturing jobs in 1980 were in the forest products industry. The unemployment rate for Oregon has ranged around 30% above the national rate.

Columbia County has long had chronic unemployment problems. For instance, the county's unemployment rate in February 1958 was 18.2%. It has stayed above 11% since 1975. In addition to the higher unemployment rate, nearly one-third of the labor force in Columbia County is employed outside of the County.

In 1976, there were 2,590 manufacturing jobs and 4,835 non-manufacturing jobs, for a total of 7,420 non-agricultural jobs in Columbia County. Between 1970 and 1977, the total wage and salary employment grew by 2,000. At the same time, the labor force increased by nearly 4,000.

See the Columbia County Economic Analysis for detailed description of future employment needs for Columbia County.

An examination of the comparative advantages of Columbia County provides a clue as to the type of industry which might locate here and provide the needed jobs. The favorable industrial location factors of Columbia County, in addition to resource-based activity, rest on the availability of a few industrial sites on the Columbia River.

The County lacks any educational facilities beyond high school and has a limited labor force. The labor force that does exist is scattered throughout the County; thus, it cannot look to the development of many jobs in labor-intensive industry.

b. "How much land is needed?"

Forecasting the precise acreage required for economic development is difficult and risky. It is clear that the County needs to expand its economic base. Without an increased effort, the gap between the number of jobs and the number of workers will continue to grow, or outmigration will occur. Diversifying the economy will lessen dependence on the wood products industry and make the County less vulnerable to swings in a home-building industry, which is the major market for lumber and plywood.

The river ports, the rail, and the location in the Lower Columbia River System are one set of advantages that could attract new industries. The isolated character of some of the County's industrial areas is an advantage to some

users. Users seeking these characteristics usually also require large amounts of land.

The Port Westward site has excellent characteristics to develop as a complex for several of these types of users.

Because of its location on the Columbia River, Port Westward is a unique site-specific resource that is important to the economy of Columbia County. This fact was recognized by the Port of St. Helens in 1966 when it entered into a long-term lease for the property, on the condition that it be put to industrial uses to provide jobs.

Port Westward is unique for several other reasons as well. Most importantly, it offers prospective users a large existing dock facility. Existence of the dock facility reduces the lead-time for commencement of operation, allowing prospective users to achieve a head start on the competition. It also eliminates uncertainty and delay which might otherwise exist, due to the process requirements to obtain permits for building docks on navigable waters. Another important characteristic of Port Westward is that the basic infrastructure of urban services already exists on the property, although upgrading such services would likely be required when significant development occurs. Neither government nor the developer would be called upon to bear the large cost necessary to create a completely new infrastructure.

The Port Westward site is also large enough to accommodate loop rail systems that could handle 100-car unit trains. In this case, the site size for the exception is recommended based on the ownership pattern and the legal lease requirements to develop the land for industrial development. Past history and commitment support the 900-acre site size.

c. "Why is resource land required for the use?"

There are no non-resource lands available which have the competitive advantages of the Port Westward sites. The existing dock/rail system, generating plant, and services are this site's primary competitive advantage. These facilities exist and cannot be relocated or reconstructed without considerable cost. The site's location on a natural deep part of the Columbia River channel and the frontage on the Slough provide extensive waterfront. If the County is going to be able to take advantage of these characteristics, this site must be designated for heavy industry.

d. Types of industrial users allowed on resource land.

The LCDC rules outline three specific types of industrial uses which might be used to justify an exception on resource land. Port Westward is an appropriate site for all three types of industrial uses.

The first types are "unique site-specific resources" which include a river or ocean port. Port Westward is already a partially developed, deep draft river port.

The second attribute is uses which are "hazardous or incompatible with densely populated areas." Port Westward clearly is an appropriate site for this type of user. The 80-acre petrochemical tank farm identified earlier is a clear example. Those uses often require rail, harbor facilities, and large sites.

A third type of use includes those which would have a "significant competitive advantage due to the location of energy facilities."

The PGE Beaver plant equipment includes both industrial combustion turbine generators and a conventional steam turbine generator unit. This provides the opportunity (if a mutually acceptable deal can be struck, and a sufficient market at the required price exists for the electric energy produced), for a user who produces a combustion turbine compatible fuel or steam turbine compatible steam, to market these products to PGE for use in the Beaver plant.

The combination of the above factors makes this site a prime candidate for development expansion and diversification of the Columbia County economic base.

2. "What alternative locations within the area could be used for the proposed uses."

There are two levels of evaluation of alternative sites which are important in this case. The first is Port Westward's ability to compete with other ports along the Lower Columbia River, and the second is an analysis of other sites within Columbia County.

a. Comparative advantages on the Lower Columbia River.

In addition to Port Westward, there are three areas in the Lower Columbia System which provide sites with access to the 40-foot channel for marine industrial uses. These include the Portland-Vancouver area, the Longview-Rainier area, and Astoria. Each of these areas has its own character and attractions for different types of industrial uses.

Portland/Vancouver has the most competitive rail system and best direct connections to the Interstate Freeway System. Portland/Vancouver also has a large labor market and market for products and services. The recent addition of West Hayden Island to Portland's supply of land has begun to solve a serious shortage of land in the Portland area. However, it will likely be 5 to 10 years before any land on West Hayden Island is actually developed for users.

Astoria also has land available for marine industrial development. Astoria's primary competitive advantage is its strategic location at the mouth of the Columbia River, which would shorten the river trip to port facilities. This is to some degree compensated for in the slightly longer rail or truck time to reach the port. Astoria is served by the same non-competitive railroad which serves Port Westward. Astoria also has some existing facilities which could be reconstructed to serve new users. Like Columbia County, Astoria is also in need of economic expansion and development to diversify its local economy.

Longview/Kelso/Rainier is midway between Portland and Astoria. There are connections from Longview to the I-5 Freeway. Considerable development has occurred in Longview, and there is land available for additional development.

Port Westward has some unique attributes that make it attractive for certain types of users. Its comparative isolation make is attractive for capital-intensive types of uses. The existing services and dock structure would make it possible to reduce startup costs and time for permits for new industries locating in the area.

The users who have contacted the leaseholder and have studied the Port Westward site would have been activities new to the area, and with the exception of the coal port, would have handled products which are not identified in current forecasts for land development by the alternative ports.

The following quote from the owners of the proposed tank farm indicates the attractiveness of Port Westward for these uses. The negotiations were ended because of the downturn in the economy and not because of any deficiency in the site.

"We can only hope that we will be back before long to reopen negotiations for lease of one of the most attractive sites on the northwest coast for our type of business."

". . . We have made many friends in Portland and are generally impressed with the general positive attitude - it must be one of the best places in North America in which to do business".

The Port Westward site does have a significant comparative advantage to improve the economy of Columbia County and the State of Oregon.

b. Alternatives within Columbia County.

The alternatives are discussed in the County's Comprehensive Plan.

3. "What are the long-term environmental, economic, social, and energy consequences - to the locality, the region, or the state - of not applying the goal or permitting the alternative use."

- a. Environmental

The primary environmental impact of approving the exception is the eventual removal of 485 acres of unfilled resource land from resource use. In this case, the land is Type II agricultural soils, and based on Soil Conservation Service data, is primarily suitable for pasture, small grains, hay, mint, and blueberries. The property has been leased as pastureland for the past 14 years. Lease payments from the grazing have averaged \$4,600 per year for the past 10 years.

The land is divided by the rail and pipelines, as well as the generating plant. Major portions of the riverfront lands have been filled with material hydraulically removed from the Columbia River and are no longer resource lands.

In addition to the environmental judgments made in the Paul Norris study, a recent more detailed review of the site indicated limited habitat areas. While there are waterfowl nesting areas near the river, drainage of the land has eliminated nesting on interior areas. Since most of the land has been cleared, drained, and used for pasture, there are no resident populations of White Tail deer. Conceivably, the potential exists that these deer might occasionally swim from nearby islands to the site.

The only two areas are not cleared are a small grove of trees to the south of the generating plant and the land downstream from the existing dock. Assuming similar design for future dock facilities, most of the waterfront vegetation would likely remain after development.

In terms of the positive aspects of not allowing the industrial use, these resources values would remain as they currently exist. The negative results of allowing the use would be removal of 370 acres of agricultural lands capable of providing one to three tons of hay per acre per year.

- b. Economic.

The positive aspects of allowing the industrial use would be additional jobs and the addition of value to the county's tax base. This site has comparative advantages, which makes it more likely to attract development than most other sites in Columbia County.

The PGE facility pays \$1.5 million per year in property taxes to Columbia County and employs 56 people. Additional investments and activities on the

site would increase both of these figures. An agricultural designation on part of the site would reduce the lease payment to the Port of St. Helens.

c. Social

Changing the use of this site would have little direct social consequence. The additional jobs and tax support for the local government and services would have a positive impact.

d. Energy

There are potential energy savings to the State and region through increased use of water transportation, which has the ability to move cargo with significantly less energy usage.

The following finding gives a comparison of each mode:

"Nationally, water is the most energy-efficient means of bulk cargo transportation at 274-ton-miles per gallon of fuel, compared to rail at 183-ton-miles per gallon, pipeline at 74, truck at 57, and air at 22".

There are also energy consequences of providing co-generation facilities or alternative fuel developments adjacent to the Beaver Generating Plant.

4. "Are the proposed uses compatible with other adjacent uses."

The potential uses would create a cluster of 5 to 10 major large scale industrial uses adjacent to the surrounding farmland. The impact of this development on the farmland would be minimal. The State Department of Environmental Quality would restrict and limit pollution of the surrounding land, air, and water.

Because these uses have few employees, there would be few, if any, problems of trespass, vandalism, and complaints against the resource uses. These uses also would not put pressure for housing or other developments on adjacent farmland.

Because of the scale of the industrial development and extensive land involved in this type of use, adjacent farm practices would have virtually no adverse impact on the uses allowed by this exception.

There have been no problems from the existing development.

B. Commitment to Non-resource Uses

Within the Goal 2 process, a second method of justifying an exception to a resource goal is to demonstrate an "irrevocable commitment" to uses not allowed by the applicable resource goal. Most of the past LCDC cases concerning commitment

have been applied to rural residential uses. In this case, the commitments have been to heavy industrial uses and have occurred over a period of at least 40 years.

1. Assessment of irrevocable commitment based on existing criteria.

The Port Westward site is, and has been, irrevocably committed to industrial uses for at least the past 40 years. The following is an analysis of the factors identified in the LCDDC Goal 2 Exception Rules:

a. Adjacent uses

Adjacent uses are agricultural and do not commit Port Westward to non-resource uses.

b. Public facilities and services

Significant investments have been made in services and facilities on the Port Westward site. Those are described in more detail under the description of the physical characteristics. The major facilities creating the commitment are as follows:

- (1) The largest facility is the \$125 million power generating facility. This facility occupies approximately 120 acres and provides opportunities for related activities to locate on nearby land.
- (2) The site's second major facility is the 1,250-foot dock on the Columbia River. In addition to servicing the oil tanks required by the turbines, this dock is available for other uses. The dock can handle one or two ships (depending on size) and could be expanded to six to eight berths. It is a fully serviced dock and is accessible by rail, road, and pipeline.
- (3) The 1.3-million-barrel tank farm was originally constructed to serve the generating plant. Because of changes in the system, some facilities could be made available for other industrial uses.
- (4) The on-site rail system now constructed to serve the ammunition depot and now is available to bring fuel to the generating plant by rail. This rail could serve additional industries.
- (5) Fill. Significant portions of the site have been covered by fill material consisting of sands and gravel. These areas are no longer resource soils and have little resource potential.
- (6) Services.

Water, sewage, electrical, natural gas, and fire protection services are all existing on the site. The utility requirements of large-scale industries vary

considerably; however, the in-place systems have excess capacity and are capable of being expanded. The petrochemical tank farm, for instance, would have utilized the existing water, fire, and sewage facilities and would have used the existing dock during their initial operation. Construction of their own dock facility would have occurred at a later time.

c. Parcel size and ownership

In this case, the full 900-acre site is under the single ownership of the Port of St. Helens, and 855 acres is leased to Portland General Electric. These parcels would allow virtually any industry to lease a site of almost any size and to deal with a single owner.

d. Neighborhood and regional characteristics

The immediate neighborhood is open farmland, crisscrossed with drainage ditches and levies. There are few houses or structures in the immediate area.

The communities of Mayger, Lacoda, Quincy, and Alston are clustered along the roads serving this site. The town of Clatskanie is to the west.

The regional character is a series of small settlements along Highway 30 surrounded by farm and forest lands. There are also many small clusters of houses forming historic communities. The Columbia River and its lowlands dominate the character of the area.

These characteristics do not commit Port Westward to nonresource uses.

e. Natural boundaries

The site is located at a bend in the Columbia River, and the river forms the boundary on the north side. The east boundary is the Bradbury Slough. The proposed southern and western boundaries are the ownership pattern of the Port of St. Helens.

f. Other relevant factors

In addition to the physical and use factors, there is the historic commitment and the legal requirements of the lease.

The federal government selection of the site for the ammunition depot, and the construction of those facilities, created a commitment towards industrial development. Every study of industrial sites on the Columbia River since that time has included this site as a major development area, and there has been a continuous sequence of industrial uses on the site.

Four major developments in the past two have sought out the leaseholder without any formal publicity or advertising, indicating a national/ international recognition of the industrial attributes of this site. These types of development do not locate and construct facilities on a regular basis; however, with the interest shown in the past few years, and assuming a general economic recovery and the continuing emphasis on increasing our exports to the Pacific Rim countries, it is likely that a major firm will locate here in the next five years, providing the heavy industrial land use category is maintained.

The second factor is the legal requirements of the existing lease. This requirement has been in each assignment of the leasehold since 1969. Section 26, Development of Premises, states:

"Tenant acknowledges that landlord's principal motivation for entering into this lease agreement has been its desire to have the premises developed for industrial use. To this end, it is agreed that if at the end of the fifth year from the commencement of this lease agreement tenant does not demonstrate that capital improvements have been made and/or obligations have been undertaken for capital improvements in the total sum of at least \$5 million (\$5,000,000), and that at least 150 permanent annual employees have been employed, this lease agreement shall terminate and expire as to all or any part of the premises not then being occupied and used for industrial purposes, provided that the figure of 150 shall be reduced by 10 for each \$1 million (\$1,000,000) of improvements over and above the aforesaid \$5 million (5,000,000), up to \$15 million, (\$15,000,000)."

PGE has met the requirements of this section of the lease with the completion of the Beaver Generating Plant; however, both the Port of St. Helens and PGE recognize that the site has potential for further development and are aggressively responding to all inquiries.

2. Assessment of irrevocable commitment based on industrial criteria.

It would seem that the following criteria and information are more suitable to evaluate industrial land potential, rather than those primarily used for rural residential.

- a. Investment in and availability of industrial services capable of servicing the area.

The Beaver site has a nucleus of existing services, including sewer, water, fire, electricity, and natural gas available to support development. These services could be expanded to serve anticipated industrial activities.

- b. Placement of fill material on the resource lands.

An estimated 300-350 acres have been filled to some degree. This has raised the land above flood level and improved the foundation conditions. The fill material is sand and gravel and not suitable for resource uses.

- c. Construction of major structures and facilities which could be linked to other industries.

The dock and portions of the tank farm could be utilized on a joint-use basis by other industrial users. The water tank also has capacity for joint usage.

- d. Presence of industries or uses on adjacent lands, which would supply raw materials and/or markets for related industries.

The generating facilities, particularly the steam turbine, provide opportunities for co-generation, as well as potential markets for low-cost alternative fuels. The ability to use these fuels "on-site" would eliminate transportation costs.

- e. Size and shape of the land parcels.

Port Westward is approximately square. The generating plant is in the center, with land available for two to three waterfront sites on the Columbia River, two to three interior sites, and one or two sites on the Bradbury Slough. Sites for these types of industry would probably range between 80-200 acres.

- f. Past usage, such as sawmills, buildings, roads, pavings, railroads, etc.

Past usage in this case includes an ammunition depot and military base, a marine terminal, and an electrical generation facility. These facilities have included roads, railroads, and pipelines. Security, maintenance, warehousing, and barrack buildings have been constructed on the site. In addition to creating a commitment, these uses have also reduced greatly the resource potential of portions of the site

- g. Legal commitments to and/or form public agencies predating the LCDC process.

The property was transferred from the federal government to the Port of St. Helens to support the community's economy. The lease from the Port of St. Helens required a minimum investment on the property. If the leaseholder failed to meet the requirement, all or part of the lease would revert back to the Port. These legal requirements were developed in 1967 and have continued to be part of the legal documents.

The construction of the PGE plant has satisfied all these requirements.

3. Conclusions concerning commitment.

Based on past investments, the ability to provide services, and the availability of major facilities which could be linked to new development, this site is, in fact, committed to non-resource uses. Although some lands could be physically used for pasture or resource uses, that use would preclude efficient and beneficial use of the existing industrial support facilities which have been provided over the past 40 years.

VIII. Findings and Conclusions

This section summarizes the findings and reasons based on the facts presented in the earlier parts of the statement. These findings support the proposed continuation of the heavy industrial uses of Port Westward.

A. Findings Related to Need:

1. The county has a clear need for land that can attract new industry to diversify and strengthen its economy.
2. The county has a history of high unemployment and cyclical swings in its economy, which is based predominantly on wood products or timber
3. The county has few natural "comparative advantages" to attract new industries.
4. Port Westward's combination of access to ship, rail, and barge, plus potentially very large and isolated sites, are very attractive to certain kinds of industries. This site clearly represents a unique site-specific resource, as included in the LCDC exception rules.
5. A series of specific inquiries over the past several years by these types of users demonstrate this site's attraction and potential to meet part of the county's economic needs.
6. Because of the land extensive nature of these industries, Port Westward could create between 200 and 800 jobs for Columbia County residences.

B. Alternatives:

The alternatives are discussed in the county's comprehensive plan.

C. Findings Related to Consequences:

1. The long-term consequences of not applying the agricultural goal in terms of the environment are a loss of some productive farm capability and a need for on-site protection of the remaining wildlife habitat.

2. The consequences to the economy of this action would have a positive impact on the economy of the county by increasing the number of jobs and increasing the tax base.
3. The social consequences would be minimal.
4. The consequences of not applying the goal would increase energy efficiency by making water transportation, which is the most energy efficient form of transportation, available to Columbia County. The Beaver generating plant has a potential to utilize the steam turbine for co-generation.

D. Findings Related to Compatibility:

1. The 900-acre site is large enough to allow adequate buffer area to protect adjacent agricultural users.
2. These types of large-scale industrial users do not create pressure for housing or other uses on adjacent farmland.
3. The requirements of the Department of Environmental Quality will assure that new industry does not pollute the adjacent air, water, or land.

E. Findings Related to Irrevocable Commitment:

1. Portions of the 900-acre Port Westward site are irrevocably committed to non-resource uses. This includes the dock area, the generating facilities, the filled area, the rail and pipelines, and the service facilities.
2. In addition to the physical facilities, there is a long-term historic and legal commitment to use this site for industrial development.

F. Conclusions:

1. The above findings and the supporting facts are adequate to compel a reasonable person to conclude that an exception to Goal 3 Agricultural Lands is justified, and
2. The 900-acre Port Westward site should be designated Rural Industrial.

PRESCOTT INDUSTRIAL SITE STATEMENT

I. Proposal:

This proposed exception statement, which supplements the Columbia County Comprehensive Plan, is for 65 acres located north of the city of Prescott.

The proposal is to designate the site as Rural Industrial, based on the fact that the site has been filled and no longer qualifies as a resource site.

II. Description:

A. Location.

The site is located between the Burlington Northern Railroad and the Columbia River 40-foot shipping channel just north of the city of Prescott. It is approximately 44 miles from the city of Portland. PGE's Trojan nuclear plant is located approximately 1 mile south of the site.

B. Site.

The site consists of a peninsula of approximately 65 acres. It is approximately 3,000 feet long and 700 to 1,100 feet wide. The site has been filled to elevation 20-30' with sand and gravel hydraulically removed from the Columbia River as a part of the creation and maintenance of the 40-foot channel.

C. Limitations.

The site access is from Highway 30 via a narrow dike road that also serves the city of Prescott. This road has limited capacity to serve industrial traffic. Any industrial or commercial development would also require buffering to protect the residents of Prescott.

III. Potential Uses:

A. Natural Resources.

Because of the placement of the filled material, the site no longer has any natural resource potential. The soils are not Class I - IV agricultural soils and vegetation consists mostly of poplars, Scotch Broom, and other herbaceous material capable of surviving in sand. The 65-acre site has very limited potential for wildlife habitat. The shoreline, which is 100% sandy beach, is used by sport fisherman during certain times of the year.

B. Industrial Uses.

A sawmill was formerly located on the site, and the site's primary potential is for the reestablishment of industrial uses. The railroad, the 40-foot channel, and the potential to pipe hot water from the Trojan Nuclear Plant are the site's primary attributes. The citizen planning advisory committee has recommended designating the site as heavy industrial.

IV. Conclusions:

- A. Because of the fill material, the site has absolutely no resource potential or capabilities.
- B. The site's only reasonable potential is for industrial development.
- C. The future developer should be responsible for improving the access, providing services, and buffering the uses from the city of Prescott.

REICHHOLD CHEMICALS, INC.
EXCEPTION STATEMENT

I. Proposal:

This Exception Statement supports the Columbia County Comprehensive Plan designation for acreage owned by Reichhold Chemicals, Inc., 607 acres as Rural Industrial and 254 acres as Forestry. The property is located three and one-half miles north of St. Helens, about mile 82 on the Columbia River.

The proposed use is Rural Industrial on the majority of the site, and is intended to take advantage of existing rail, river, and major highway access for receipt and shipment of raw material and finished products from existing and proposed manufacturing facilities.

This Exception Statement is base on ORS 197.732 Exception Process to allow industrial uses on land outside established Urban Growth Boundaries. It also includes justification for maintaining the current designation on 56 acres of the property site as built and committed, 269 acres as vacant non-resource, and 282 acres of vacant resource land that qualifies for exception for rural industrial development.

II. Site Description:

Reichhold Chemicals, Inc. (RCI) owns 861 acres of land located approximately three miles north of St. Helens, Oregon. The property is fronted on the east by 4,400 feet of the Columbia River. The terrain varies from 0 to 400 feet above mean sea level (MSL) largely level with its slopes exceeding 50% only in a few areas.

The site is part of an alluvial plain in the Columbia River valley. The hills to the west were formed by an overlay of Columbia River basalts, while the waterfront property to the east consists of river-deposited alluvium in layers of sand, silts, and some clay.

Approximately 70% of the site is relatively level. Although some of the level area is covered with small trees and brush, most of the second-growth timber and brush are located on side-hill slopes, which are unsuitable for heavy industry.

Much of the land located east of Highway 30 and the Burlington Northern tracks lies in the Columbia River flood plain. Ordinary flood level at this point is 13.7 feet above MSL.

The 100-year flood high-water level of 21.2 feet above MSL and the standard project flood level of 24.4 feet above MSL at nearby Columbia City are levels determined by the Corps of Engineers in "Flood Profiles". Therefore, to protect against flooding and to allow adequate drainage from the site during high water, much of the land has been filled to an elevation of 28 feet above MSL.

Although sufficiently distant from residential population and already zoned Heavy Industrial (M-2), the site is partially undeveloped. Presently, RCI has a fertilizer plant west of the highway that utilizes 56 acres. Directly north of this plant is 100 acres of land that was tentatively proposed as a refinery site, and farther north, an additional 125 acres that was purchased by Portland General Electric (PGE) in 1974, but rebought by RCI in 1982 for future industrial development. A cooling-water intake structure and barge terminal are located just south of the mouth of the Deer Island Slough, 400 feet out from the shoreline. These facilities also include a timber trestle, pier, and mooring dolphins. Anadromous, Inc. of Seattle, Washington, a corporation specializing in commercial aquaculture, has leased five acres of land for a private fish hatchery.

Commercial quantities of electricity and natural gas are being used by RCI. The natural gas supply line runs in a north-south direction. Potable water is obtained from wells and 25 million gallons per day of industrial water is pumped from and returned to the Columbia River. Two 500 GPM wells for the hatchery operation have also been developed. One spur from the Burlington Northern track presently services the Reichhold plant. Several access roads link east and west of Highway 30.

These industrial service water lines, rail tracks, and roads crisscross the site covering substantial areas of the property, and are intended for, and in fact, capable of servicing the entire site.

Three sandy beaches frequently used for public fishing are located near RCI's barge pier, warm-water effluent outlet, and at Shell Beach.

RCI has a lodge and overnight guesthouse for company business on the bluff overlooking the river.

Other Uses

The steeply sloped hills to the west of the level areas (See Figure 2, Area 17) are naturally suitable for a tree farm, logging, and/or a greenbelt system. Some less steep portions of this might serve as storage tank locations. Some of the terrain is rocky and might even be conducive to a rock quarry. Presently, the Bonneville Power Administration has a 100-foot right-of-way for power lines through this area.

III. Existing Facilities:

West of Highway 30

Approximately 592 acres of RCI property lie west of Highway 30. This area is well above the flood plain. About 37% of this land is on hilly terrain covered with second-growth timber and brush. (See Figure 1)

Industrial Use

RCI's fertilizer plant is the only major industry presently located here. The production facilities are built on 56 acres and manufacture 100,000 tons per year of urea for industrial and fertilizer use, 60,000 tons of urea-ammonium nitrate fertilizer solution, and 70,000 tons per year of anhydrous ammonia. In addition, administration offices, a maintenance shop, and shipping facilities complete a totally self-contained plant that employs 68 full-time people.

With access to rail, highway, and the Columbia River, the site is uniquely situated to take advantage of marine industrial development activities.

East of highway 30

Of the 269 acres east of Highway 30, 106 acres have been filled to a nominal +28-foot elevation above MSI from dredging of the main Columbia River channel. Proposed additional filling in 1980 was delayed because of changed Corps of Engineers' priorities following the St. Helens eruption. The remaining 163 acres are scheduled to be filled with dredging by the Corps of Engineers.

The plant has its once-through cooling water supply and return, firewater protection line, and urea-ammonia nitrate solution loading line to the barge dock in the Columbia River in this area.

Fish Hatchery

Anadromous, Inc. of Seattle, Washington, a corporation specializing in commercial aquaculture, has constructed a private fish hatchery on five acres of filled land. The hatchery raises fingerling salmon in well water. The salmon were initially released directly into the Columbia River, but this plan has been modified and a release site has recently been developed at Coos Bay, Oregon. It is estimated that 1% to 3% of these salmon return every two to three years.

Circulation

The property is served by Highway 30 and the Burlington Northern Railroad. Presently, access roads to the highway and one spur from the railroad serve the area. The Columbia River fronts on approximately 4,400 feet of the property.

Railroad

One railroad crossing at Highway 30 presently exists.

When access to the waterfront property is desired, a spur would be constructed from the main line at the north end of the east property and follow the easiest grade to elevation +28. Such a southeasterly direction would require less excavating and grading. For port-related activities, this spur might move in a circular pattern, to serve warehouse and storage areas. (See Figure 2).

Utilities

No municipal system of water or sewage disposal is available on the site. Electrical power and gas lines run north and south along Highway 30.

Water

Two sources of water supply are available.

Water from the Columbia River for industrial use and fire protection is available and authorized by the Oregon Department of Environmental Quality (DEQ). DEQ's control influences the volume of water needed, and the quality and temperature of the waste water returned.

Two six-inch diameter wells dug to a depth of 150 feet have supplied up to 500 to 600 gallons of water per minute to the fish hatchery. Two smaller four-inch wells supply potable water to the fertilizer production facilities.

Sanitary

All of the disposals of sanitary wastes at the RCI site are handled by septic tank/drain field systems. The soil is suitable for the leaching process required for an efficiently working drain field. The existing soil and the potential fill material from the river are coarse or silty sand, with very little troublesome clay.

All process waste discharges are treated extensively to eliminate contamination and are permitted under Federal NPDES rules administered by the State DEQ.

Electricity

Electrical power is presently obtained from PGE via the 115KV main line along Highway 30. Adequate service exists for high level of industry activity.

Natural Gas

A 10 3/4-inch natural gas line from the north and 18-inch gas line from the south run along the railroad and highway right-of-way to serve the Reichhold-owned property. Northwest Natural Gas Company has sufficient line capacity and reserves to assure substantial additional load if future development requires.

IV. Proposed Site Development Plans:

Maritime Facilities:

Most of the land east of Highway 30 is naturally suited to port-related industries, and is prime waterfront property that would provide a location for a marine transportation link to industries located on the more westerly portion of the property.

It is unique to have a site that has the following characteristics:

- 1) It is already committed to heavy industrial use.
- 2) It has substantial amounts of land under single ownership so that a potential user can obtain enough land by negotiating with only one owner.
- 3) It will accommodate users that should be away from heavily populated areas because there are no such areas near the site.
- 4) It has the unique combination of rail, highway, and river access that is essential for heavy maritime industrial use.
- 5) It has installed industrial service utilities that can support additional uses.

According to a recent report by Oregon's Department of Economic Development, the Lower Columbia River Region has only six miles of riverbank available for maritime industrial sites, and RCI's 4,400 feet of waterfront property is a significant part.

Marine Terminals

RCI's waterfront property is ideally suited for marine terminals because of its access to a major railroad and highway, its proximity to the 40-foot deep channel less than 1,400 feet away, and its access to 35-40 feet of water less than 900 feet offshore. The land is relatively level, easy to fill, and foundation conditions appear to be relatively good.

Deep-sea berths for handling liquid or dry bulk materials could be constructed at several locations along its waterfront area. A permit obtained from the Corps of Engineers for the construction of the pier extension expired on November 30, 1976, but could be reopened when a specific proposal is developed. The present pier length would be increased by 420 feet, for a total of 855 feet. Special walkways, pipe supports, mooring and breasting dolphins, and 1,000 feet of shear boom would highlight the construction. With suitable pipelines added, this sea-tanker facility could serve RCI's fertilizer plant for bulk export shipments or other commodities - either needed by RCI or shipped by additional industry located west of Highway 30.

V. LCDC Evaluation:

What follows is an explanation of the standards for exception as set forth in ORS 197.732 that became law on August 9, 1983. This exception can be applied to the RCI

site for the resource land west of Highway 30 to maintain a zone, which accommodates heavy industrial uses.

The proposed areas can be summarized as:

<u>ACRES</u>	<u>DESCRIPTION</u>	<u>LOCATION (Fig. 2)</u>	<u>ZONE</u>
254	Forestry	17	F-1
56	Built and Committed	15	M-1
269	Non-Resource	1 - 12	M-1
282	Resource	13, 14, 16	M-1

The land in section 17 was originally zoned Heavy Industrial. However, the topography and future use more aptly tends toward Forest Management. We, therefore, agree that it should be included in the Forestry zone.

The existing fertilizer production facilities occupy about 56 acres in section 15 that are clearly "built and committed" under all current definitions.

Of the 269 non-resource acres east of Highway 30 (section 1-12, Figure 2), about 88 acres (in section 5, 6, 7, & 9) have been filled by the Corps of Engineers to the +28-foot elevation; about 84 acres (in sections 1, 2, 3, & 4) are on a bluff or steeply sloping terrain along the railroad track; about 45 acres (in section 10) are the southern tip of Deer Island, which has been permitted for future dredge spoil deposits by the Corps of Engineers; and about 52 acres (in sections 8, 11 & 12) include the cooling water effluent channel and frontage roads, Tide Creek drainage area, and beachfront along the Columbia River.

Although the topography varies within this area, the ultimate use for marine related industrial activities is clearly evident.

The acreage located in sections 13, 14, and 16 are resource lands that qualify for an exception from Goal 2 guidelines. These exception arguments are:

- 1) Rural Industrial Development: The siting of industrial development on resource land outside an urban growth boundary can be justified for the RCI site because:
 - a) It is located next to an existing industrial activity and near the Columbia River and the currently operating marine terminal owned and operated by RCI. Raw material or finished products are moved by barge, and extensive engineering design has been done to incorporate a turning basin to allow deep-draft ships if a specific use were justified. In addition, existing services - such as non-contact industrial cooling water, fire protection systems, easily-expandable sanitary service drain fields, large-capacity (1200 gpm) developed water wells, and available land for pollution control ponds if an activity would require it - are available or easily expandable.

These sections also contain significant aggregate deposits at least 75 feet deep. There are small, developed pits to the south of the property operated by Dick Backland, and an old State pit no longer in use to the north that confirms the extent of this resource.

- b) The site is suitable for uses which are "hazardous or incompatible with densely populated areas". This is certainly true of the existing nitrogen fertilizer complex, but would also apply to other compatible industries that could not or would not locate in the Urban Growth Boundary of St. Helens, Columbia City, Rainier, Clatskanie, or other major cities in Columbia County. Traffic flow that does not have to pass through heavily populated urban centers is also a major asset for future development.
- c) Potential uses include those which have a "significant comparative advantage due to existing industrial activity, energy facility, or other products available." The existing nitrogen production facility is the only such plant in Oregon and serves the agricultural fertilizer needs of Oregon, Washington, parts of Idaho, and Northern California. The location on the Columbia River for cost effective barge shipping provides a distinct advantage that would benefit other bulk products as well. The site with the Heavy Industry zoning is critically important for the future growth and expansion of the plant.

The plant depends on significant quantities of natural gas for feed-stock and fuel. In 1979, a wholly owned subsidiary of RCI, Reichhold Energy Corporation (REC), successfully discovered the only commercial quantities of natural gas in Oregon. The exploration and drilling was risky, and undertaken solely to provide RCI raw material and energy for this plant. Additional modern production facilities alongside the existing plant and utilizing the infrastructure available would be a definite unique potential advantage.

Alternate energy resources from municipal refuse, biomass conversion, wood waste, and coal have also been evaluated extensively. The availability of the required land area to support this type of potential activity is critical to develop new industry or improve the reliability of the existing energy-intensive use. This could have significant economic benefit for the County.

The economic value to the County from use of the 282 acres on the west side of Highway 30 for industrial activity as compared to resource land is significant. Information from the Oregon State University County Extension Service indicates that similar Type II agricultural soils in this area are used primarily for livestock grazing, small grains, or hay. This activity would return to the farmer a net of \$100-\$200 per acre per year with little or no new job potential.

An appraisal by Moscato, Ofner & Associates of the 125 acres repurchased in 1982 from PGE discussed the highest and best use of this land as follows:

"With respect to the subject site, it is the opinion of this appraiser that the highest and best use as the present time is as currently allowed under the zoning and comprehensive plan - for industrial use."

Some of the more important factors leading to the above conclusions are:

- a) The subject's size, topography, accessibility, and exposure are all favorable for an industrial use.
- b) Surrounding land uses and trends in the subject's area, including several large industrial users, tend to support its use as industrial at this time.
- c) Supply and demand factors were considered, including the fact that the subject site is one of few such large, level, vacant sites in the county. In addition, it would be the only one of its type which would be available at the present time.
- d) Several other locational factors were considered to be positive in this respect, including proximity to barge and other river traffic in the Rainier-Longview and St. Helens areas, together with recent gas discoveries in western Columbia County which may provide possibilities for future industrial plants in the County.
- e) As the Portland S.M.S.A. continues to grow outward, the St. Helens area has and will gradually be considered less and less distinct as a bedroom community or suburb, which will mean more likelihood of further development of all types in this area. For example, the 20 miles distance directly from downtown Portland northwest to St. Helens is comparable to the Banks area west of Portland via Highway 26, to the Dundee community to the southwest via Highway 99W, to the Woodburn area to the south via I-5, to Mollalla to the south via Highway 213, to the Estacada or Sandy areas to the southwest via Highway 224 and Highway 26, to the Bridleveil area to the east via Highway I-84, and to the Woodland area to the north via I-5.

However, in all directions these communities are still beyond the present limits of strong developments around the Portland S.M.S.A. and are not generally as desirable for industrial development unless they have their own separate and viable economy. Although fairly close to Portland, such as the case in the Scappoose, St. Helens, and Rainier areas of Columbia County, these areas around the subject do appear to have their own independent economic structure, with the close proximity to the Portland area considered to be an asset to some types of industrial users.

- f) As an alternative, residential or commercial uses are not considered to be appropriate on the subject property and agricultural uses are determined to be only temporary in nature and appropriate only as an interim use prior to the industrial development of the subject.

2) Long-term environmental, economic, social, and energy consequences.

a) Environmental

The principal environmental impact of approving this exception is the removal of 282 acres of land from resource areas.

This acreage is Type II agricultural soil, based on Soil Conservation Service data, and is primarily suited for pasture, small grains, or hay.

The western-most boundary of the property is heavily forested with steep slopes. These 254 acres could reasonably be zoned Forest and managed on a sustained yield basis for hillside erosion control and greenbelt. It is currently zoned Heavy Industrial.

The 269 acres east of Highway 30 have been extensively filled with dredge spoils from channel maintenance of the river and are no longer resource lands.

b) Economic

The positive aspect of industrial use would be potential new jobs in a county whose historical unemployment rate has far exceeded the State and National averages.

The added value to the tax base of the County both for the land and processing facilities would be significant. Capital improvements could be possible only if the land is zoned for industrial use.

c) Social

Maintaining the use of the RCI site for industrial use would have major positive social impacts for the County because of the potential for more jobs. In comparison, agricultural use here provides very little in the way of employment because grazing or hay cropping is a very low labor intensive activity.

Continued high [un]employment has been recognized as having serious social consequences. [typographical error]

d) Energy

There are potentially significant benefits in the ability to directly utilize the natural gas discovered by REC. The existing production facilities as well as new operations could be developed once proven reserves are developed. Being on a major gas pipeline also allows options if gas is discovered in other areas.

The energy and cost saved by using a water-related transportation network is substantial. For bulk cargo, traffic consultants recognize that water

transportation is the most energy efficient means when compared to ton-miles-per-gallon of fuel.

3) Compatibility with other adjacent uses.

Industrial activity on large blocks of land has very little impact on adjacent agricultural activities. The existing operation has had no adverse impact during the past 15 years, and has proven to be compatible.

The adjacent Agricultural, Rural Residential, and Forest zones act in themselves as effective buffers to the higher density residential areas to the north and south.

Adjacent Uses

The east west property line extends up the hillside with major forestland inland; approximately 254 acres on the hillside could properly be rezoned as Forestland. [typographical error]

The northern property line is Chaney Road. The area beyond is zoned Rural Residential land that does not conflict with the industrial use of the RCI land.

The north property line east of Highway 30 follows Deer Island Slough and abuts the Deer Island Stock Ranch which is zoned Agricultural.

The east property line extends into the Columbia River with over 4,400 feet of river frontage. Extensive fill from river dredging has already occurred in areas up to the railroad line and these lands now have little resource potential.

The south property line to the east of Highway 30 adjoins Heavy Industrial land owned by Crown Zellerbach. To the west of Highway 30 the southerly property line follows the meander of Canyon Creek. Adjacent property up to the hillside abuts the Urban Growth Boundary of Columbia City and is zoned Agricultural Residential.

The mix of Forest, Agricultural, Columbia River, Heavy Industrial, and Urban Growth Boundary support the commitment of the RCI property as rural industrial. No adjacent uses commit the site to resource use.

Pubic Facilities and Services

There are no public (municipal) facilities such as sewer or water on-site. Potable water is obtained from wells, and sanitary facilities are easily handled by a septic system. Each is capable of sufficient expansion to allow further industrial development.

The major facilities on the site are described in great detail under the description of the physical characteristics presented earlier. In summary, there is a fully

operational manufacturing facility in the middle of the site producing nitrogen fertilizer. In addition to the direct manufacturing plant, there is an office/ administration building a shipping and warehouse storage area, a maintenance shop, a barge dock with a cooling water pump station, and a fish hatchery.

The rail system crosses Highway 30 from the Burlington Northern main line and provides rail transportation to the west side of the property for finished product shipment. There is a major exit off Highway 30 for truck traffic. River barges are loaded from the dock facility extending into the Columbia River.

Parcel Size and Ownership

The entire 861-acre site is under the single ownership of Reichhold Chemicals, Inc. This allows any potential user to lease or purchase a site of almost any size and deal with a single owner.

Neighborhood and Regional Characteristics

The immediate neighborhood varies from forestland, rural residential, agricultural, heavy industrial or agricultural residential. These are few houses or structures in any of the ~~continuous~~ *contiguous* zones. [typographical error]

Columbia City is adjacent to RCI's south property line and the small community of Deer Island is one mile from the north property line. The regional characteristic is a series of small communities along Highway 30 - the predominant natural feature being the Columbia River and its lowlands.

These characteristics do not commit the site to resources uses.

Natural Boundaries

The eastern boundary is the Columbia River, to the south is Canyon Creek and to the west is the steeply rising foothills of the Coast Range.

Other Relevant Factors

In addition to the existing use factors, there are historic precedences that have established the actual and intended use of this land. In the mid 1960's, Shell Chemical Company purchased segments of land from different property owners to assemble an enlarged block of land suitable for industrial development. The key assets, then as now, were access to rail, highway, and river transportation systems; flat, high load-bearing soil suitable for heavy equipment foundations; and a location removed from major population centers so that there would be minimum impact on residential areas.

Part of this land included in the Old Columbia County fairgrounds, which was moved. The foundation remains of that old activity can be seen yet, and makes

that parcel uneconomical for farming. The impressions and surface irregularities from the old racetrack can still be seen. Several decaying asphalt roads crisscross the area and contribute to the detriment of agricultural activities.

In 1972, Shell Chemical terminated operations because of poor market conditions for the products, resulting in the loss of jobs for 75 people.

In 1973, RCI, recognizing the inherent value of the site and the production facilities, purchase the entire facility. The plant was restarted, significant capital improvements were made (\$5 million), and 68 people were put back to work with new hope and enthusiasm. Without the potential benefits possible from future site development, it's doubtful this would have happened.

In 1974, RCI sold 125 acres north of the existing plant and west of Highway 30 to PGE. PGE had planned to develop this site as an alternative for the Harborton turbines now located in northwest Portland, or construct an electrical switch station to intertie with the BPA system. Neither of these plans materialized and RCI repurchased the same 125 acres in 1982. The basis of both this initial sale and buy-back was the industrial development of this site.

Every decision either RCI or previous owners have made regarding this site was based on its being zoned industrial.

The above findings relate primarily to support for rural residential decisions rather than to help evaluate industrial land potential. Some additional criteria and information is needed to clarify this exception request.

Significant Investment in Industrial Services

The proximity and availability to deliver large volumes of natural gas; the 115 kV electrical power high lines; non-contact cooling water supply; fire protection system; and rail, truck, and barge access are essential ingredients for any heavy industrial development. They are present on the RCI site and could be easily expanded in a cost-effective manner to serve new anticipated industrial activity.

Fill Material on Resource Lands

Much of the 269 acres east of Highway 30 have been filled to +28 feet above MSL to be above the 100-year flood plain and to improve foundation conditions. This fill is sand and gravel and not suitable for agricultural resource use.

Existing Uses Which Could Provide Raw Materials or Intermediates for New Industries

The existing nitrogen fertilizer complex could be a key factor in supporting additional business activity using other nutrient elements to provide more diversified end products for specific markets. Several prospects have been

seriously evaluated in recent years, but the severe economic recession and high cost of capital have delayed their implementation. The key to all of these discussions has been the commitment that the site is zoned industrial.

Topography of Land

For any industrial development, the land surface conditions can greatly influence construction costs and, therefore, project feasibility. The 282 acres of vacant resource land to the west side of Highway 30 on the flat land is ideally suited for economic development because of its high load-bearing capabilities and topography.

Based on past investments, the ability to provide services and the potential for compatible industrial development, 607 acres of the 861 total must be committed to industrial (non-resource) uses.

Findings and Conclusions

This section summarizes the findings based on the fact provided in the previous sections of this statement. These findings support the continued use of 607 acres for rural industrial uses and the possible rezoning of 254 acres as Forestland.

The RCI site is unique and has several characteristics that are significant:

- 1) It is already committed to heavy industrial use.
- 2) It has substantial amounts of land under single ownership so that a potential user can obtain enough land by negotiating with only one owner.
- 3) It will accommodate users that should be away from heavily populated areas, because there are no such areas near the site.
- 4) It has the unique combination of rail, highway, and river access that is essential for heavy maritime industrial use.
- 5) It has installed industrial service utilities that can support additional uses.

Findings Related to Consequences

- 1) Not applying Goal 2 in terms of the environment would be the loss of some productive farm capacity. The most realistic use is currently for pasture, and that will continue for land not specifically needed even if zoned industrial.

- 2) The future favorable economic impact from land evaluation, tax assessments, and industrial uses are significant. No comparable advantages are achieved if the land is zoned Agricultural.
- 3) Social consequences are favorable because of additional jobs.
- 4) Not applying the goal would increase energy efficiency by maximizing the use of highly efficient river transportation and the possible future utilization of natural gas discoveries from the REC Mist field.

Findings Related to Compatibility with Adjacent Uses

- 1) The 861-acre RCI site is large enough to provide an adequate buffer for adjacent uses - the contiguous zones being Heavy Industrial, Forest, Rural Residential, Agricultural Residential, and Agricultural.
- 2) Large-scale industrial users do not put pressure on resource land for housing.
- 3) The EPA and Oregon DEQ regulations will insure that all future developments preserve the air and water quality of the site and its environment.

Findings Related to Irrevocable Commitment

- 1) Of the 861 acres, 254 could be zoned Forest as it is on steeply sloping ground.
- 2) 269 acres east of Highway 30 is non-resource land because of its extensive landfill operation from river dredging.
- 3) 56 acres west of Highway 30 is the site of the existing nitrogen fertilizer manufacturing process.
- 4) The remaining 282 acres are resource lands that qualify for Rural Industrial development because of a long history of prior zoning, land transactions and development plans. These acres are needed by RCI for future industrial expansion.

Conclusions:

- 1) The above findings and the supporting facts are adequate to compel a reasonable person to conclude that an exception to Goal 3 Agricultural Lands is justified.
- 2) Of the RCI site, 254 acres should be zoned Forestry Land and 607 acres should be zoned Rural Industrial.

SCAPPOOSE INDUSTRIAL AIRPARK (SIA)
EXCEPTION STATEMENT

I. Proposal:

This exception statement is a decision to exclude 249.24 acres of land, commonly referred to as the Scappoose Industrial Airpark, from the requirements of applicable statewide goals. The exception area is owned by the Port of St. Helens or is included in the Scappoose Industrial Airpark Master Plan 1980/2000.

The Port, owner of the site occupied by the Industrial Airpark and accessory buildings, is requesting an Exception to allow a non-resource use to occur on resource land outside of an Urban Growth Boundary.

The proposed designation is to:

- (1) allow continuation of the existing use; and
- (2) provide for meeting future county needs for industrial lands taking advantage of the location and the existing air facilities and services.

The basis of the exception is that:

- (1) 151.11 acres of land is already built upon and is irrevocably committed to non-resource uses; and
- (2) an additional 98.13 acres is needed for future airpark and industrial expansion.

II. Site description:

A. Location

The 249.24 acres site is located in Section 6, T3N, R1W; Section 1, T3N, R2W, and Section 31, T4N, R1W, Columbia County, Oregon.

The site is located one (1) mile north of Scappoose, Oregon. Scappoose, Oregon is located 22 miles north of Portland on Highway 30. Road access to the site is via a county road.

The county seat of St. Helens, Oregon is seven (7) miles to the north. Topographically, the area is bound by steeply rising hills west of Scappoose and low, poorly-drained land extending to the east to the Multnomah Channel and the Columbia River. The industrial airpark itself is situated on level ground, mostly above an elevation of thirty (30) feet, in an area of gravelly loam soil.

B. Existing Facilities (built and committed)

The Scappoose Industrial Airpark is the only major airpark located in Columbia County, part of the Federal National Aeronautical System and Oregon Aviation System. These facilities are fully described in the Scappoose Industrial Airpark Master Plan, which has been adopted by the Port of St. Helens, Columbia County, and FAA, and is included as part of the County Comprehensive Plan.

Airstrip 86.42 acres -

The physical and performance characteristics of the airstrip and related facilities are included in the Master Plan.

Road Access 13.18 acres -

By Federal Law, the Airport and Airway Improvement Act of 1982, and the Standard DOT Title V and VI Assurances, the Port has agreed to use these lands for access for twenty (20) years, in the Port's FAA agreement.

Airstrip Extension 27.84 acres -

By Federal Law, the Port has agreed to use these lands for airstrip extension for the next twenty- (20) years.

Aircraft Park 15.0 acres -

Areas used for aircraft parking and apron, per the FAA Grant Agreement.

Fix Base Operations 8.67 acres -

Existing FBO operation (to be purchased by the Port in SIA Master Plan).

Total land area built and committed to non-resource uses is 151.11 acres. The uses of the site will be associated with the existing airport facilities. Due to the involvement of Federal Aviation Administration funding of property acquisition for SIA, a large amount of Port owned land and land designated for Port ownership in the Airpark Master Plan will be required by the FAA to be used for airport purposes at least twenty (20) years after acquisition.

Other existing facilities on site include:

1. Water Supply - Five- (5) water wells on site.
2. Subsurface Sewage Disposal - Individual Septic Systems

3. Electrical - Adequate service from Portland General Electric is available. This service will be replaced by the Columbia River Public Peoples Utility District after August of 1984. [typographical error]

C. Future Facilities (needed) -The amount of land under the FAA approved plan not built on but needed for future airpark related use is 98.13 acres, divided as follows among proposed site development plans.

Airport Related Uses, 82 acres -

This need identifies sixty (60) acres to the west of the runway and twenty-two (22) acres to the east of the runway to be used by the airpark. The land to the east will be used to house aeronautical navigational aids. The land to the west will be for future auto parking, aircraft parking, T-hangar, future tower, and future fuel farm. The twenty-two (22) acres is a part of the FAA grant approval. The 60 acres to the west is not currently under FAA control.

Existing House 3.89 acres -

The Port acquired a five (5) acre parcel, as part of a FAA requirement to obtain an access road. Approximately 1.5 acres is committed to FAA access grant. The remainder of the parcel and the home is to be used in conjunction with the airpark related light industrial zone. An exception to this land is requested.

Industrial Land not airpark related 12.24 acres -

The land is considered as part of the Scappoose Industrial Airpark, but its use is not limited to airpark usage. The land is not obligated by any FAA Grant agreement. An exception to this land is requested.

Light Industrial Uses 16.13 acres (total of above two parcels) -

The airpark site has excellent potential for light industrial activity related to airport services. Some opportunities exist for manufacturing activities that would compliment other county development objectives. The above-sited 16.13 acres is designated of industrial uses other than airpark-related and is not obligated by an FAA grant.

III. Regulatory Agencies:

The Federal Aeronautical Administration (FAA), the Oregon State Aeronautics Division, and the Oregon Dept. of Environmental Quality have review regulation authority over the airpark construction and operation.

On June 12, 1942, Columbia County passed a resolution to enter into an agreement with the United States for the development of a National Defense Airport whereby the county provided the property interest and the government constructed the airfield.

The county cooperated with the government to select a site and insure accomplishment of the project without interference or hindrance, and agreed that all improvements would be the property of the county. They further agreed that the airport would be operated as such and for no other purpose, and would at all times be operated for the use and benefit of the public.

In the original agreement, the county was to maintain and repair the landing area and improvements, and prevent any use of land (either within or outside the boundaries of the airport) from becoming a hazard to the land[ing], taking off, or maneuvering of aircraft, or otherwise limit the usefulness of the airport.

The airport was constructed over a 5 to 6 month period by the Department of Commerce Civil Aeronautics Administration, Seventh Region in Seattle (Project No. 7-552), with an allocated total cost of \$182,108 which excluded land value.

In 1973, ownership of the airport was transferred from Columbia County to the Port of St. Helens, the current airport sponsor. The Port has implemented some critical portions of the 1975 Airport Master Plan, especially land acquisition in the approaches and west of the airport, as well as construction of a partial parallel taxiway on the west side.

IV. Goal Exception:

Based upon information found in the Scappoose Industrial Airpark Master Plan, 151.11 acres of land are now developed and irrevocably committed to non-resource uses. An additional eighty-two (82) acres are considered committed to non-resource use because they are identified, in the Scappoose Industrial Airpark Master Plan as committed per the FAA Grant agreements. The County is requesting an exception to Goal 3 for an additional 16.13 acres of light industrial land. The total needed land requiring an exception to Goal 3 is 98.13 acres (82 acres committed to airpark use plus 16.13 acres for light industry). See the attached map for identification.

A. Goal 2 Factors

1. "Why the state policy embodied in Goal 3 should not apply."

The parcels are isolated and too small for commercial agricultural use typical of the area, as noted on the attached map. The parcels, approximately twenty-eight (28) total, are located adjacent to the airport and between the airpark property and a major county road. Major agriculture in the area is dairying and accessory uses. These parcels contain a dwelling and access road per FAA Grant agreement. The lots are irrevocably committed to a non-resource use.

The industrial designation is requested to allow industrial uses that need to be close to an airport for the movement of materials and personnel. Columbia County needs jobs and the location of this property provides an opportunity not found in other industrial lands. Land available for companies requesting the use of air transportation as a necessity is critically short. There are no non-resource lands available which have the advantage of the sites proposed for an exception. The access to rail, the Columbia River Highway, and the airport is a unique combination.

The economic value to the county from use of the 16.13 acres for industrial activity and the 82 acres for airport uses as compared to resource land is significant. Information from the Extension Service indicates that similar type agricultural soils in the area are used for small grains, hay, or livestock grazing. Such activities could net a farmer \$400-\$800 total per year with little new job potential. The 16-acre light industrial site, using a job creation factor of 3 or 4 jobs per acre, could create 50 jobs or more, with 20-30 jobs created by the airpark industrial uses on the 82 acres needed for future airport uses.

2. "What alternate locations within the area could not be used for the proposed uses?"

The Columbia County Plan discusses alternate sites that are zoned industrial uses, their competitive advantages, and the potential the areas offer to meet future development needs of Columbia County.

Some of the other sites may have less resource impact than the Scappoose Industrial Airpark but none have the specific advantage the airpark sites offer for industrial uses that require air transportation for the movement of personnel and material. Other lands in the airpark are to be used for aircraft related uses only.

The uniqueness of the airport location for industrial activities is further justified by the fact the existing runway length (4,000 ft.) is greater than general utility standards and only 100 feet short of commuter classification. Future runway length will be extended to a length of 5,100 feet. Business jet requirements are as little as 4,600 feet or as much as 7,400 feet, depending on the size of the aircraft and percent of useful load being carried.

3. "What are the long term environmental, economic, social, and energy consequences resulting from the use at the proposed site?"

- a. Environmental

The principal environment impact of approving this exception is the removal of 98.13 acres of land from resource use. The SCS data indicates the soils are primarily suitable for pasture and hay. The property has been leased for the past ten (10) years for hay land.

The western boundary of the light industrial site has frontage on West Lane Road. The east sides border committed airpark lands to be used for future expansion of the airpark. If the industrial uses are not allowed, the acreage will remain as hay land.

b. Economic

The positive aspect of industrial use is the addition of jobs and the addition of value to the County's tax base. The sites have competitive advantages which make them more likely to attract development than most of the sites in the County.

c. Social

Changing the use of the site will have a direct social consequence. The future use of the site is for a use dependent upon air transportation. This service is not available at other locations in the County. The major positive social impact for the County is the potential for more jobs.

d. Energy

There are significant benefits in the ability to utilize air transportation for materials and personnel. Future runway extension to accommodate commuter aircraft and business jets allows for several options in the future. The planned runway extension will allow for more fuel-efficient airplanes to utilize the facility for transporting materials and personnel. This impact should be beneficial, but not significant.

4. "Are the proposed uses compatible with other adjacent uses?"

Industrial activities on these small sites that are located between a county road and the airpark will have no impact on agricultural activities in the area. The State Dept. of Environmental Quality will restrict the pollution of surrounding land, air, and water.

The development of jobs in the area would not put pressure for housing or other developments on adjacent farmland due to the close proximity to the City of Scappoose, which will provide housing and urban services sufficient to accommodate the needs.

The location of the sites will limit the problems, if any occur at all, of trespass, vandalism, and complaints against resource uses in the areas.

V. Conclusion:

Based upon the existing development at the Scappoose Industrial Airpark, and on the irrevocable commitments made as part of the Federal Aeronautical Administration (FAA) Grant Approval, the Scappoose Industrial Airpark as shown, excluding the 98.13 acres not under FAA Grant regulations, should be exempt from the requirements of State Goal 3.

The findings and the supporting facts are adequate to support the conclusion that the 98.13 acres should be excepted from State Goal 3.

The 151.11 acres irrevocably committed, and the needed 82 acres adjacent to the airstrip designated for airport uses in the Airport Master Plan, should be zoned airpark industrial, and the 16.13 acres should be zoned Light Industrial under the exception.

**SCAPPOOSE INDUSTRIAL AIRPARK
EXCEPTION INVENTORY**

<u>BUILT AND COMMITTED:</u>	<u>Area</u>	<u>Acres</u>	<u>Description</u>
	Area A	86.42	Airport strip
	Area E	11.67	Access Rd. FAA Grant 20 years
	Area F	13.13	Airstrip - FAA grant
	Area G	15.00	Aircraft Parking Apron - FAA Grant
	Area H	14.71	Airstrip Extension - FAA Grant
	Area J	1.51	Access Road - FAA Grant
	Leffler (12)	<u>8.67</u>	Existing FBO operation (To be purchased by Port in SIA Master Plan)
TOTAL BUILT AND COMMITTED		<u>151.11 Acres</u>	

NEEDED:

To be Airport Industrial use, west of runway		60	Acres
Master Plan Approved by FAA, east of runway		22	Acres
Light Industrial Uses	Area J-1	3.89	Existing House
	Area K	<u>12.24</u>	Acres
TOTAL NEEDED		<u>98.13</u>	Acres

UTILITIES: Water - 5 wells. City of Scappoose has applied to State Water Resources Department for authorization to serve Scappoose Industrial Airpark.

Sewer - Individual Septic Systems

Electricity - on site

Telephone - on site

Map attached.

TROJAN
EXCEPTION STATEMENT

I. Proposal:

This Exception Statement, which supplements the Columbia County Comprehensive Plan, is for 623 acres owned by Portland General Electric Company. The property is located between River Miles 72 and 73 on the Columbia River.

The site is occupied by the Trojan Nuclear Plant, and this exception is to allow a non-resource use to occur on resource land outside of an Urban Growth Boundary.

The proposed designation is to allow continuation of the existing use. The basis of the exception is that the land is already built upon and is irrevocably committed to non-resource use.

II. Site Description:

A. Location

The 623-acre site is located in Section 35 and 36, T.7N, R.2, W.W.M., and in Section 1 and 2, T.6N, R.2, W.W.M., Columbia County, Oregon.

The site is located 42 miles north of the city of Portland. The City of Rainier is approximately 5-1/2 miles west of the site, and the community of Prescott is about 1/2 mile to the north.

B. Facilities

There are a number of buildings and facilities on the site associated with the plant. In addition to the nuclear plant facilities, the site development includes a reflection lake and a recreational lake, as well as paths, picnic areas, and a visitor's information center.

The attached site plan indicates the facilities and their location on the property (see site plan).

III. Regulatory Agencies:

The State of Oregon Department of Energy, the State Energy Facility Siting Council, and the Federal Nuclear Regulatory Commission have review and regulation authority over the plant construction and operation.

PGE is licensed to operate the plant through February 8, 2011. A part of the governmental regulations requires both an exclusion area and a restricted area, as shown on the attached maps (see site and exclusion area).

IV. Conclusion:

Based on the construction on the site of the Trojan Nuclear Power Plant and on the irrevocable commitments made as part of the licensing and regulatory process of both the State of Oregon and the Federal Government, the Trojan site as shown, including the area within the Exclusion Boundary, should be exempted from the requirements of LCDC Goal 3 and Goal 4.

TYPE I EXCEPTIONS

The following industrial sites qualify for a Type I exception. Columbia County recognizes the ability of these industrial uses to expand as long as the industrial site and/or zoning boundary does not change. If a change in the zoning boundary and/or the industrial use is needed, the appropriate procedure (e.g. an exception or a justification of use) will be applied.

1. Crown Zellerbach log dump site

This industrial site is currently used for log rafting and barging of aggregate material. The site is served by Crown Zellerbach's private logging road that extends to timberlands owned by Crown Zellerbach. Part of the site is leased by Scappoose Sand and Gravel for hauling gravel to barges. The site is adjacent to the proposed Bernet Industrial site.

This narrow 28 acre site parallels the Willamette Slough for approximately 4,000 feet. The site is non-resource land. It consists of land elevated above surrounding lands forming the dike, the staging area, and the service road.

The site is located two (2) miles east of the City of Scappoose, 22 miles north of Portland. (Section 17, T3N, R1, W.W.M.)

Because of the existing industrial use and because the site is non-resource land, Columbia County will designate this site as Rural Industrial.

2. Dike Road Industrial Area

This area includes several industrial operations, with the two largest being Rose Valley Pallet factory and Brock's Candle factory and warehouse. The industrial sites are contained within an area acknowledged by DLCD staff as an area that qualifies under a Type I exception. Because of the existing industrial uses in this area, Columbia County will designate forty-eight (48) acres as Rural Industrial.

Please refer to the Scappoose-Spitzenberg Area #8 exception map and fact sheet for further information on the area.

3. Farwest Auto Wrecking

This existing auto wrecking yard is located on a 1.65-acre lot. The site is contained within an area acknowledged by DLCD staff as an area that qualifies for a Type I exception. Because of the existing industrial use on this site, Columbia County will designate this site as Rural Industrial.

Please refer to the Scappoose-Spitzenberg Area #5c exception map and fact sheet for further information on the area.

4. Olympic Forest Products Site

This active sawmill site currently employs 100+ persons. The site consists of two (2) contiguous lots totaling 41.87 acres. The site includes the sawmill, log ponds, offices, log storage areas, and accessory uses.

The site is located on the Banzer Road, approximately midway between the communities of Mist and Birkenfeld. (Section 16, T6N, R5, W.W.M.)

Because of the existing use, Columbia County will designate this site as Rural Industrial.

5. Mist Mill Site

This approximately nine (9) acre site is located at the junction of State Highways 47 and 202. The site is also served by Longview Fiber Company's private road to the Clatskanie area. The site has a heavy covering of ballast rock in the operating area, and a scale site and a mill pond site utilized by previous industrial occupants.

The site was occupied until 1978 by wood processing mills. Since that time, the site has been used as a staging and assembly area for gas drilling and pipeline equipment.

This industrial site is contained within an area acknowledged by DLCD staff as an area that qualifies under a Type I exception. Because of past uses and the existing condition of the site, Columbia County will designate this site as Rural Industrial.

Please refer to the Mist-Birkenfeld Area #3 exception map and fact sheet for further information on the area.

INDUSTRIAL DEVELOPMENT

GOALS:

1. To strengthen and diversify the economy of Columbia County and insure stable economic growth.
2. To utilize Columbia County's natural resources and advantages for expanding and diversifying the industrial base.
3. To encourage industrial growth in Columbia County to diversify its economy. New industry should locate to take maximum advantage of existing public and private investments.

POLICIES: It shall be policy of the County to establish, implement, and maintain an industrial development program that:

1. Encourages the creation of new and continuous employment opportunities.
2. Encourages a stable and diversified economy.
3. Reflects the needs of the unemployed and of those persons who will enter the labor market in the future.
4. Places the County in the position of being able to respond to market opportunities by providing technical assistance in locating available sites for development.
5. Recognizes the existence of sites suitable to be developed as deep-water ports but are not needed at this time.
6. Reserves valuable industrial sites for industrial use.
7. Supports 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
8. Coordinates with public utility companies to insure energy supplies are available to areas programmed for development and redevelopment.

9. Assures land which is already used as industrial or irrevocably committed to industry shall be so designated.
10. Directs labor intensive industries and/or industries needing extensive public facilities to sites within urban growth boundaries.
11. Directs industries that are neither land extensive, resource related, marine related, and/or incompatible with urban populations to those sites which are appropriate to the use and are currently zoned for that use.
12. Is consistent with the exception statements for those sites requiring an exception to the applicable resource goal.

RESOURCE INDUSTRIAL DEVELOPMENT

GOAL:

It is a goal of the County to provide for industrial development on rural lands when such development can be shown to support, utilize, or in some manner be dependent upon, the natural resources of the area.

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

1. Designate as Rural Industrial in the Plan those lands which are currently being utilized or which are recognized as being needed to accommodate rural and natural resource industries.
2. Implement the Rural Industrial plan designation through the use of a single Resource Industrial Planned Development zone.
3. Restrict industrial development on land zoned Resource Industrial Planned Development to those uses that:
 - A. Are not generally labor intensive;
 - B. Are land extensive;
 - C. Are located with adequate rail and/or vehicle and/or deep water port and/or airstrip access;
 - D. Complement the character and development of the surrounding area;
 - E. Are consistent with the rural facilities and services existing and/or planned for the area; and,
 - F. Will not require facility and/or service improvements at public expense; or,
 - G. Are not appropriate for location within Urban Growth Boundaries due to their hazardous nature.

TRANSPORTATION

WATERBORNE

One of Columbia County's most valuable transportation resources is the Columbia River. Deep water access at numerous points along the river gives the County a great potential for the establishment of waterborne transportation facilities. However, this resource is being underutilized by the industries of the County.

The Columbia main channel runs along the County's northern and eastern boundaries, stretching a distance of almost 60 miles. The shipping channel is maintained to a minimum depth of 40 feet and a width of at least 600 feet by the U.S. Army Corps of Engineers.

Waterborne commerce on the Columbia River accounted for the transport of 42,756,524 tons of cargo in 1977. However, less than 2% of this total volume originated from the County:

TOTAL TONNAGE FROM PORT OF ST. HELENS

Sand and Gravel	15,512 tons
Logs	10,123 tons
Rafted logs	183,451 tons
Timber, posts, poles, piling	<u>3,240 tons</u>
Total	212,326 tons

In addition, 864,954 tons of gravel was shipped from the Multnomah Channel area. Most of this gravel went to the Portland area.

Currently, there are two tug companies which work out of Columbia County and provide towing service to the lower Columbia River area.

There are eleven dock facilities in Columbia County.

SUMMARY OF DOCK FACILITIES

	<u>Number of Berths</u>				<u>Number</u>	<u>Approximate</u>
	<u>General</u>	<u>Special</u>	<u>Petroleum</u>	<u>Total</u>	<u>Public</u>	<u>Total Length</u>
Shallow Draft	3	3	2	8	0	1,387
Deep Draft	2	0	1	3	2	1,654

The number of dock facilities in the County will increase as the industrial sites, which have easy access to the main channel, are developed.

AVIATION

Aviation is one of the smallest components in the County's transportation system. The cost of utilizing this form of transportation has placed it beyond the means of most residents of the County.

There are two public airports in the County, providing facilities for general aviation. The need for scheduled air carrier services and commuter air service is met by services that are available in Portland. The County's relatively small population and its close proximity to the Portland metropolitan area will preclude the development of commuter air service.

The largest airport is the Scappoose Industrial Airpark, owned by the Port of St. Helens. Located less than a mile northeast of Scappoose, this airport is growing steadily and is expected to be used as the base for aircraft from the Portland area when the general aviation facilities at Troutdale and Hillsboro reach their capacity.

This airport is classified as a Basic Utility Airport according to the Oregon Aviation System Plan (OASP). This means the facilities of the airfield are capable of handling 95% of all propeller aircraft under 12,500 pounds. The Port of St. Helens Master Plan for the airport includes a schedule for the upgrading of this airfield. The runway will be lengthened from 4,000 feet to 6,000 feet in length.

The Scappoose Industrial Airpark is expected to have a substantial increase in the number of aircraft based at the field and the number of operations conducted at the airfield in the next 10 years.

The Vernonia Airport is the other public airfield in the County. It is isolated and serves a much smaller population. The airport is currently classified as a Community Access Airport, which means it is part of the OASP for planning purposes but is not part of the National Aviation System Plan (NASP).

State funding is available to the City of Vernonia to offset part of the cost of upgrading this field so it can be reclassified as a basic utility airport and become eligible for inclusion in the NASP. The upgrading of this airfield would result in federal funding being available for future improvements.

PIPELINES

There are currently two pipelines serving Columbia County, both operated by Northwest Natural Gas. The mainline crosses the Columbia River and enters the County at Deer Island. The pump station at this site has a capacity of 28 million cubic feet of gas per day. This station's capacity is one of the main factors that currently limit the total flow capacity of this pipeline network. The pipeline system branches at Deer Island with one line running south to serve St. Helens and Scappoose, while the other line runs north following the river to Astoria.

There is also a short line connecting the Reichhold Chemical Plant at Deer Island. The main gas transportation line system is currently 46 miles long.

A newer pipeline has been built by Northwest Natural Gas and connects the gas field at Mist with the main pipeline near Clatskanie. The line carries a maximum capacity of 50 million cubic feet per day.

RAILROADS

Railroads have traditionally been the major mode of transportation for the purpose of moving goods in the County. However, the total trackage has declined dramatically from its high point in the heyday of the logging railroads. The Burlington Northern (BN) Railroad presently serves the County with a main line which runs parallel to the Columbia River. There is currently no rail service to the Nehalem Valley.

BUS

There are three companies that provide differing types of bus transportation to the County. Greyhound passes through the County along U.S. 30 on its way from Portland to the coast, and is the only scheduled inter-city bus service in the County. The Nehalem Valley is not served by a regularly scheduled inter-city bus. Jenson Transportation, of St. Helens, provides charter bus service. The remainder of the large busses used in the County are school busses which serve the needs of the local school districts.

Colco Transportation is a non-profit corporation operated by the Columbia County Council of Senior Citizens and has provided bus service since 1969. They operate a system that utilizes passenger vans, a number of which are equipped with wheelchair lifts. Colco will serve any resident of the County, but gives priority to those individuals with medical needs, the handicapped and elderly. Colco does not charge a set fare for this service, but rather collects donations on an ability-to-pay basis.

Colco served over 5,000 persons in 1982; approximately 1,000 of these riders were not senior citizens. The State Public Transit Division listed the total ridership of Colco as 59,735 in 1978, with a weekday average of 241 riders. Colco has used some federal and state funding to build its system to the present level of service and they have requested that a Transportation Service District be established with the County to make it eligible for further funding. This district would have the ability to contract with organizations such as Colco to provide transportation services to the residents of the County. The formation of a County Transit Service District would not immediately establish a fixed route transit service in the County. The Transit Service District could explore the feasibility of establishing a fixed point, variable route system, or it could contract with organizations such as Colco to run such a system. A Transportation Service District would also be able to handle the establishment of future connecting transit service to the Longview and Portland urban areas when this service becomes feasible. In addition, such a district can act on behalf of organizations it contracts with in solving any problems with the Public Utility Commission or any other regulatory body.

TRANSPORTATION DISADVANTAGED

The greatest percentage of users of the various bus systems in Columbia County are the transportation disadvantaged. These are people who, for a variety of reasons, have difficulty in moving about under the current system with its strong orientation toward the use of the private automobile. There are four groups of people who are classified as transportation disadvantaged - young people (ages 10-15) who are unable to obtain a driver license and thus are limited in their mobility; the elderly who often cannot afford a car or are unable to maintain their driver licenses; the poor who also cannot afford a car, or if they do use a car, spend a very large portion of their total income for transportation purposes; and the disabled who are incapable of using a car.

TRANSPORTATION DISADVANTAGED BY GROUP AND PERCENT OF TOTAL POPULATION

Aged	10.7%
Poor	10.4%
Disabled	16.9%
Young	12.6%

These groups overlap in some cases and the Oregon Department of Transportation (ODOT) figures that 11,733 people, or 39.2% of the County's population, are transportation disadvantaged. Currently, Colco is the only organization working to meet the needs of the transportation disadvantaged.

TAXI CABS

Taxi Service in the County is very limited. There is only one taxi service serving the St. Helens area.

BICYCLE AND PEDESTRIAN TRANSPORTATION

Bicycle and pedestrian transportation are energy efficient forms of transportation; however, the wide distribution of services and jobs, and the distances between the towns in the County, are limiting factors.

To date, only two bike paths have been constructed in Columbia County. One runs along Old Portland Road in St. Helens and the other is in Columbia City. Another path has been discussed, which would link St. Helens with Columbia City. The narrowness of most County roads makes it difficult for bicycle and pedestrian traffic to share a roadway with vehicular traffic.

The majority of inter-city bicycling in the County is done by recreation cyclists going from Portland to the coast. Highway 30 is the main route used, although some of the cyclists travel up the Nehalem Valley on Highway 47. The second route is less desirable because of the narrowness of the road, although traffic is relatively light. The majority of bicycle riders in the County are young and most of the riding is either for pleasure or to and from school.

Pedestrian travel is limited primarily to movement inside cities and rural neighborhoods. In 1980, 6.2% of those persons employed in the County walked to work. The relatively long distances between the cities insures that walking will not become a major mode of inter-city travel. Many of those who depend upon walking as a mode of travel are young and are among the transportation disadvantaged. Pedestrian travel will continue within the cities of the County but it is unlikely that it will become a major element in the overall County transportation scheme.

AUTOMOBILE AND TRUCK TRANSPORTATION

Columbia County, like the rest of Oregon, is heavily dependent upon automobile traffic for the movement of people. Truck traffic carries a large portion of the goods which are used in the County. The population of the County is not concentrated in any one area and this dispersion of the population has increased the dependency of the people on auto transportation. It is not practical in many cases to rely on forms of transportation other than cars because of the distances to be traveled to work or shopping.

It is difficult to ascertain what degree of auto dependency will be maintained by the residents of the County in view of the rising cost of gas. The scattered settlement pattern of the County leads to the conclusion that the car will remain the primary means of personal transportation in the County despite increasing costs. It may be necessary for the County to become involved in the provision of transportation to the transportation disadvantaged as the difficulty of maintaining a countywide transportation system based upon the private automobile increases.

The County is currently served by three trucking lines which handle freight on a regular basis. In addition, U.S. 30 is a major north-south truck route, carrying more than 300 trucks per day. This traffic should increase as U.S. 30 is upgraded between St. Helens and I-405 at the Fremont Bridge in Portland. Traffic on U.S. 30 has been growing by more than 5% annually. ODOT has projected that the majority of U.S. 30 between the south County line and Rainier will be carrying 75% to 90% of its capacity by 1995. Referring to the table below, this is a "D" level of service and would result in an average travel speed of 35 to 40 miles per hour.

<u>% Of Capacity Used</u>	<u>Level of Service</u>	<u>Speed on Two Lane Highway</u>
Less than 35%	A	55 +
35% to 55%	B	50 - 55
55% to 75%	C	40 - 50
75% to 90%	D	35 - 50
90% to 100%	E	less than 50

ODOT attempts to design new roads to operate at C Level capacity. This projected growth will mean that a choice must be made to either accept a lower level of service in the future or to plan for long range improvements to this major highway corridor.

It is apparent that the funds for new highway construction are becoming more difficult to obtain. This reduction in the level of funding must result in a new approach to the development of the road system in the County. The County will need to begin considering low capital solutions to the problems of the road system. These solutions should be aimed at preserving the road capacity which now exists rather than building new roads to increase the capacity of the road system. This can be done by the use of such techniques as restricted access onto main highways, frontage roads, and the development of a public transit system. Other solutions to this problem may be found in the next few years, but the County must work with the resources which are currently available.

EXISTING ROAD SYSTEM

The existing road system can be divided into two parts: State highways and County roads. The State Highway System consists of three primary roads which comprise the major routes throughout the County for automobile and truck traffic travel. These highways carry the highest volume of traffic and serve the greatest percentage of the County's population. ODOT has designated U.S. 30 as a principal arterial (non-interstate). This highway goes through or close to all of the incorporated cities, with the exception of Vernonia. The road serves as a secondary north-south truck route, parallel to Interstate 5. U.S. 30 is being upgraded through a series of construction projects.

One section of U.S. 30 that should be upgraded to a four-lane road is the portion between Warren and St. Helens. This is the most heavily traveled section of road in the County. This will soon be a two-lane bottleneck between stretches of four-lane highway. The expansion of this two miles of highway is a logical last step in the process of upgrading U.S. 30, although no funding for the project has been budgeted. It is unlikely that U.S. 30 will continue to be a four-lane highway north of St. Helens. The average daily traffic (ADT) north of Columbia City is less than one-half the amount south of St. Helens.

AVERAGE DAILY TRAFFIC ON U.S. 30

<u>U.S. 30 Milepost</u>	<u>Location</u>	<u>ADT</u>
18.37	Multnomah County Line	11,100
21.31	North Scappoose City Limits	10,300
27.59	South St. Helens City Limits	11,600
32.00	North Columbia City City Limits	6,300
45.88	East Rainier City Limits	5,400
60.62	East Clatskanie City Limits	4,900
69.95	Clatsop County Line	3,600

ODOT has identified several sections of U.S. 30 between Rainier and the south County line on which the accident rates exceed the State average for rural highways. One of the worst sections is the two-lane portion between Scappoose and the South County line. In 1975, this length of road had an accident rate of 3.11 accidents per one million vehicle miles and a fatality rate of 30.07 fatalities per 100 million vehicle miles. This fatality rate is 15 times the rate north of Scappoose.

There are two other State Highways in the County: U.S. 47 and Oregon 202. These two routes occupy the same roadway for most of their length through the Nehalem Valley. The highway enters Columbia County south of Vernonia and follows the Nehalem River to Mist. At this point, U.S. 47 goes north to Clatskanie, and Oregon 202 goes west to Jewell and Astoria. These are narrow two-lane roads winding along the Nehalem River Valley and over some of the low ridges of the coast range. These two routes are the most important through roads in the western portion of the County.

COUNTY ROAD SYSTEM

County roads act as a feeder system for, and connect to, the State Highway system. The system includes a wide range of roads, including dedicated county roads, public roads, and public ways. This road system is joined in numerous places by private roads. The major problem facing the County is maintenance. With 540 miles of roads, of which 325 are paved and 215 are gravel, it is a constant struggle for the County to find the funds to maintain them. No detailed studies have been made to ascertain if any of the roads are serving traffic beyond their capacity. There are indications of deterioration on some roads, such as Lost Creek Road between Rainier and Clatskanie, which would indicate that a rebuilding program, although expensive, is needed in certain areas. The County is reluctant to accept any new roads into the system for maintenance because of the problems it is experiencing with the existing system. A detailed transportation plan should be done by the County to address the problems of the road system, in addition to the other transportation problems.

A major issue in the cities is that many of the streets within the Urban Growth areas of the cities are County roads. These roads were adequate for the rural traffic they once carried; however, the demand of urban traffic often exceeds the capacity of the roads. In many cases, the County would like to have the cities take the responsibility for these roads, but the cities are usually unwilling to take the roads over until some improvements have been made.

ACCESS TO MAJOR ROADS

Portions of U.S. 30 have been widened to allow for a better flow of vehicular traffic. However, this widening will encourage problems with congestion, if the number of access points is allowed to increase unrestricted. The additional traffic conflicts which could occur with an increase in access points could nullify the benefits of the new road construction. The use of a limited number of access points onto major roads will reduce the potential for traffic congestion and related problems. This can be accomplished by the use of such mechanisms as shared driveways and frontage roads.

UNCONSTRUCTED COUNTY ROADS

There are numerous road rights-of-way that were dedicated to the County for road purposes but are no longer in use or were never constructed. The existence of these roads poses numerous problems for future developments. In many cases, people are unaware of roads through their properties, and occasionally buildings have been constructed in the rights-of-way. The County needs to conduct a detailed inventory of these road rights-of-way to determine how many should be vacated.

TRANSPORTATION

GOAL:

The creation of an efficient, safe, and diverse transportation system to serve the needs of Columbia County residents.

OBJECTIVES:

1. To utilize the various modes of transportation that are available in the County to provide services for the residents.
2. To encourage and promote an efficient and economical transportation system to serve the commercial and industrial establishments of the County.
3. To improve the existing transportation system.

POLICIES:

1. The County shall undertake the development of a detailed transportation plan that should contain the following minimum elements:
 - A. The development of a road classification system.
 - B. The development of road standards for all different types of roads over which the County has jurisdiction.
 - C. The location of future arterial streets inside the Urban Growth Boundaries.
 - D. Review the status of all county roads.
 - E. A review of all incorporated rights-of-way and a determination of whether or not the County should pursue the vacation of them.
 - F. A study of ways to maintain and upgrade the current county road system.
2. The dedication of adequate rights-of-way to meet the standards set in the Transportation Plan shall be required of any person seeking a Zone Change, Conditional Use Permit, Subdivision, or Partition. The developer of a subdivision in an urban growth area will be required to make the appropriate improvements to any related street to meet the standards set in a Transportation Plan.

3. Appropriate off-site improvements to county roads shall be required whenever a development results in a major increase in traffic on an existing county road.
4. The County will work with the State Highway Department to limit the number of access points onto arterial roads. Direct access to U.S. Highway 30 will be limited as much as is practical in order to reduce the potential for congestion and conflicting traffic patterns which would disrupt the flow of traffic.
5. Industrial uses shall be encouraged to locate in such a manner that they may take advantage of the water and rail transportation systems which are available to the County.
6. The County will support reducing the number of rail crossings.
7. The County will work with the Port of St. Helens to encourage the establishment and use of dock facilities.
8. The two existing airports, in Scappoose and Vernonia, will be zoned with a landing field overlay zone that incorporates the height restrictions set by the Federal Aviation Administration. It will allow the development of airport related industrial uses.
9. Restriction of the location of new pipelines and high voltage transmission lines to within existing rights-of-way will be encouraged whenever possible.
10. The County will study proposals, when presented, to develop modes of transportation as an alternative to the automobile. If these proposals prove to be feasible, the County will work to implement them.
11. Columbia County will continue to support the efforts of COLCO Transportation to supply public transit to the citizens of the County.
12. Special attention will be given to the needs of the handicapped whenever the County considers a proposal for the provision of public transit.

PUBLIC FACILITIES AND SERVICES

BACKGROUND

Urban and rural developments are to be guided by public facilities appropriate for the needs of the areas to be served. Plans for public facilities and services in urban areas should be provided at levels that are necessary and suitable. Facilities and services for rural areas should be provided at levels for rural use only and should not support urban uses. It is necessary [that] the plan include provisions for key facilities such as police protection, solid waste disposal sites, planning for zoning and subdivision control, governmental services, and subsurface sanitation services.

CURRENT SERVICES

WATER

Columbia County has eleven (11) major domestic water supply systems (Table 27) serving almost two-thirds of its residents. The remainder of the population is served by wells and small community water systems. In 1979, Senate Bill 288 was passed by the State Legislature to identify sub-standard water systems with the Intergovernmental Relations Division (Executive Department) as the coordinating agency. Results of a county survey of water systems taken in 1979-80 in response to Senate Bill 288 indicate that virtually all water systems required upgrading to meet federal drinking water regulations. Since that survey, a number of systems have implemented measures to both expand service capability and upgrade water quality.

A list of Columbia County Community Water Systems provided by the Intergovernmental Relations Division lists a total of 45 community water systems. Of these 45 systems, eleven (11) are considered major systems, sixteen (16) are minor systems, and eighteen (18) are in mobile home parks. The major systems appear to have the capacity to serve twice the population presently being served.

The McNulty Water Association has 470 service connections, which is less than capacity for the system. The McNulty Water Association is relatively self sufficient, usually only needing to buy water from the City of St. Helens during the County Fair and when the need arises during extended periods of hot weather.

Water users unable to obtain municipal or community water must provide their own source. With the exception of a few surface water points, ground water is the primary source for these individuals. Preliminary geological surveys and well drilling data indicate many areas of the County have only enough ground water for very low-density development.

TABLE 27

MAJOR DOMESTIC WATER SUPPLY SYSTEMS*

<u>System</u>	<u>Population Served</u>	<u>Number of Services</u>	<u>Storage Capacity</u>	<u>Expected User Capacity** (Year 2000)</u>
City of Clatskanie	2,100	800	50,000	4,300
City of Rainier	2,000	575	1,500,000	4,000
City of Vernonia	1,700	665	475,000	6,000
City of Columbia City	695	255	200,000	1,600
City of St. Helens	8,225	2,100	5,200,000	19,800
City of Scappoose	3,300	1,100	1,500,000	6,350
Quincy Water Association	200	97	60,000	N/A
McNulty Water Association	1,680	480	400,000	N/A
Warren Water Association	1,410	400	N/A	N/A
Goble Water Association	225	29	50,000	N/A
Mist-Birkenfeld Water Assoc.	<u>50</u>	<u>12</u>	<u>10,000</u>	<u>N/A</u>
Total	21,585	6,513	9,445,000	42,050

** Expected user capacity for year 2000 is based on assumptions made from maximum capacity available from the same source. For example, for St. Helens to serve 19,800 people, it would be necessary to add a second Ranney collector on the Columbia River.

*Source, Public Water System Inventory Printout, received from Intergovernmental Relations Division.

LAW ENFORCEMENT

Law enforcement agencies within the municipalities appear to be in a favorable position to serve continued urban growth. However, without periodic improvements, increased rural population growth could result in lowered response services. With the establishment of 20-year Urban Growth Boundaries, residents within these growth regions may choose to contract with nearby cities for police services.

Most of the residents within the Urban Growth Boundaries presently receive police services from the cities without contracting for these services. For example, St. Helens Police Department estimates its daytime service population is in excess of 10,000 people, 20% more than the city's population, due to the influx of people from surrounding areas for business, shopping, entertainment, or just driving through the city.

Although the County Sheriff's office employs substantially fewer officers per 1,000 population than other counties of similar size, the County's volunteer reserve force and posse help offset the lack of salaried personnel.

FIRE PROTECTION

There are nine (9) fire protection districts within Columbia County which collectively protect 65% of the County's total six hundred seventy-six (676) square miles. These include the combined municipal and rural districts of Scappoose, St. Helens, and Vernonia, and the Mist, Rainier, and Clatskanie Rural Fire Protection Districts. In addition, the State Forestry Department has the responsibility of protecting the County's five hundred thirty (530) square miles of forested lands. This means that substantial portions of existing fire districts within the County actually fall under the primary jurisdiction of the Forestry Department.

Mutual aid agreements exist between all fire districts, the Forestry Department, and the city of Longview, Washington.

All the fire districts compare favorable with others throughout the State. The St. Helens municipal and rural districts enjoy the best fire insurance ratings of any similar district in Oregon. The Vernonia Fire District is slightly less adequate than comparable systems.

Fire Districts are efficient generally within a two (2) mile radius of the fire station, although topography and road conditions may effect this efficiency by restricting accessibility of emergency vehicles. The efficiency of fire protection service is also dependent upon the distance between structures, population density, and property values. Fire protection also depends upon free access to protected areas and water supplies.

HEALTH CARE FACILITIES

Health care services for southern Columbia County are provided through the Columbia County Hospital, an eighty-four (84) bed facility. The hospital serves a district population of 21,000. Present facilities can serve an estimated population of 35,000 - 40,000 people.

The hospital provides a home health care program directed primarily toward the elderly residents of the rural areas outside the hospital district.

Hospital care for the residents of Rainier and Clatskanie is provided by St. Johns Hospital in Longview, Washington. The hospital has a 144-bed capacity and a medical staff of 400, including 93 doctors. In addition, the Monticello Medical Center in Longview has a 120-bed capacity and a medical staff which includes 111 doctors on call from the surrounding community. Vernonia residents must travel to Forest Grove (in Washington County) for hospital care. No estimates on level of services in Forest Grove were available.

As of 1980, ambulance services were being provided by the St. Helens Rural Fire District, the Scappoose and Clatskanie Fire Departments, the Vernonia Volunteer Ambulance Association, and the Rainier Fire Service Ambulance.

COMMUNICATIONS FACILITIES

Over 90% of all residents in Columbia County are served by one of three telephone utility companies: Rose Valley (a subsidiary of Telephone Utilities, which is subsidiary of Pacific Power & Light), Pacific Northwest Bell Telephone, and General Telephone. As of 1979, the distribution of telephone service within the County was essentially unlimited. The combined telephone company capacity for hookups amounts to 50,000 (5-exchange stations with a capacity of 10,000 connections each). As of 1979, less than 11,000 connections existed. This means that well over 100,000 residents could be served by the remaining exchange stations within the County.

Areas beyond the basic rate service are subject to paying increased connection charges because the cost of extending service to such areas is significantly greater than extending service within base service rate areas. The areas surrounding and including Birkenfeld and Mist are served by the Astoria exchange and are excluded from this discussion.

SCHOOLS

Columbia County's population has been increasing at a comparatively rapid rate. This has a direct effect upon school enrollments. At present, most schools in the County are keeping pace with demand.

Five school districts operate 26 separate attendance centers in the County. By the end of 1978, these districts provided public education to approximately 7,500 students and were capable of serving a total student population of 10,000. While it is difficult to project the demand for school facilities to the end of the century, the following projections are considered fairly accurate.

PUPIL PROJECTIONS, 1978 - 2000

<u>Year</u>	<u>Population</u>	<u>Pupils</u>
1978	34,200	7,500

1980	36,388	8,625
1990	48,902	11,345
2000	65,720	14,916

Generally, existing facilities should be able to accommodate expected enrollments through the mid 1980's. All existing facilities will have to be expanded to meet future enrollment. However, population concentration in some areas will require earlier expansion than in others. While most districts appear to have substantial capacities at the high school level, capacities at the lower grades are less flexible in absorbing growth.

SOCIAL SERVICES

As the name would suggest, the Senior Citizen Council conducts programs and offers services that address the needs of the senior community. It is the only local County-wide service program, although there are a number of other services offered by the cities.

The major program operated in conjunction with cities in COLCO, a countywide non-profit transportation system aimed at providing both emergency and routine transportation for the handicapped and elderly who are transportation disadvantaged. Other services include the Loaves and Fishes Program, providing nutritious meals several days a week, both at the Senior Centers in Clatskanie and through a "Meals on Wheels" program to individual residences.

Additional services include Legal Aid, Housing Aid, Home Health Program, Senior Advocacy, and Counseling.

ENERGY FACILITIES

Energy delivery planning is concerned with:

- (1) providing service to all parts of the County while assuring as little conflict as possible with other existing or planned land uses;
- (2) locating primary transmission lines away from airports or other land uses which may be adversely affected by their proximity;
- (3) providing appropriate easement reservations in new developments so that secondary transmission lines are made as unobtrusive as possible, with full access for servicing and repair;
- (4) locating generating stations and the various substations; and
- (5) assuring, as much as possible, that primary transmission lines will not be located in prime forest areas.

Portland General Electric Company operates two energy supply sources: the Trojan Nuclear Power Plant located adjacent to the City of Prescott, and the Beaver Generating Plant located along the Columbia River northeast of the city of Clatskanie. The Trojan Plant generated 40% of the entire PGE requirements in 1977. Transmission lines for these energy supply resources traverse over 30 miles along the Columbia River and the Multnomah Channel, supplying energy not only for County use, but for use throughout the PGE service area (most of northern Oregon).

The Bonneville Power Administration supplies power to the Clatskanie People's Utility District and to the West Oregon Electric Cooperative (Vernonia). Under contractual arrangements between the BPA and these PUD's, energy resources for these customers are generally unlimited.

In 1981, the citizens of Columbia County voted to establish a Public Utility District by authorizing 17 million tax dollars be spent to acquire PGE facilities. The actual acquisition of the facilities has not yet taken place (as of July 1983).

There are at least 12 electric substations within Columbia County - nine operated by PGE, two operated by Clatskanie, and one operated by West Oregon Electric. The location of transmission lines and substations does involve serious land use consideration on two levels. First, it involves allocating land away from densely populated areas for the purpose of transmitting high voltage electricity, and second, it involves arranging land uses to attain the greatest possible degree of energy conservation. The second point is considered separately in the Energy Conservation element.

SOLID WASTE DISPOSAL

Proper management of solid wastes is an integral part of any attempt at upgrading environmental quality. The principal problems associated with traditional solid waste disposal practices have been well documented:

- (1) the attraction of vectors such as rats, flies, and other pests;
- (2) air pollution in the form of smoke, airborne ashes, and odors from burning and/or untreated dumping;
- (3) unsightliness of solid waste disposal sites;
- (4) pollution of ground and surface water; and
- (5) increased vehicular traffic along routes leading to the sites.

All these problems can be solved satisfactorily by competent planning and engineering.

An estimated 64,200 tons of solid waste was generated within Columbia County during 1979. Almost 20,000 tons (31%) was discarded by residents and commercial establishments, while the remaining tonnage was produced by industries.

The incidence of uncollected solid waste is a serious problem in the County. Estimates, reported in the "Columbia County Solid Waste Proposal" dated August 24, 1976, indicate that 10,000 tons, or approximately 15% of the solid wastes, end up uncollected.

The solid waste now collected from the North County area is, for the most part, transported to the Cowlitz Country Landfill in Washington. Waste generated in the mid and south County areas is transported to the St. Johns Landfill in Portland. Refuse collected in the southwest part of the County is transported to the Vernonia Landfill, the only site currently in the County.

The County has been involved in studies on the feasibility of a landfill site proposed to be located in the Deer Island area. Also, recent studies have been undertaken to assess the feasibility of locating a refuse burning facility in the North County area.

PUBLIC FACILITIES AND SERVICES

GOAL:

To plan and develop a timely, orderly, and efficient arrangement of public services as a framework for urban and rural development.

POLICIES: It shall be County policy to:

1. Require that adequate types and levels of public facilities and services be provided in advance of or concurrent with development.
2. Require that the level of facilities and services provided be appropriate for, but limited to, the needs and requirements of the area(s) to be served. The types and level of public facilities allowed within Rural Residential, Rural Center, Existing Commercial, and Rural Industrial areas are:
 - A. Public or community water systems.
 - B. Public or community sewage systems.
 - C. Collector and/or arterial street systems.
 - D. Fire protection by a rural fire protection district, or an equivalent level of service.

Development of public or community water and sewer facilities is not appropriate within forestry or agricultural areas unless needed to alleviate a demonstrated health hazard, and where such facilities are the minimum level to accomplish the task. Urban levels of streets and fire protection are also inappropriate within forestry and agricultural resource areas.

3. Approve development only when found to be in accordance with the standards set out in the Columbia County Subdivision and Partitioning Ordinance.
4. Encourage new development on lands within urban growth boundaries or built and committed exception areas.
5. Coordinate public facilities and services planning with affected service districts and/or agencies.
6. Manage and coordinate the collection and disposal of solid waste through application of the County Solid Waste Management Ordinance.

7. Encourage solid waste collectors to expand the opportunities for recycling of solid waste by households and businesses.
8. Pursue establishing a solid waste landfill site.
9. Direct new development into areas where services exist or are proposed within a reasonable time frame.
10. Conduct planning and policy review meetings with service providers at least every two (2) years.
11. Review facility plans for urbanizable areas to assure proper coordination of facilities consistent with the long-range plans and procedures established within the urban growth management agreements.
12. Establish agreements with service providers to assure:
 - A. Review of development proposals.
 - B. Review of proposed service extension or facility expansion proposals.
 - C. Policies exist for service district annexations.
 - D. Coordination of capitol improvement programs.
 - E. Consistency of services with plan policies.
 - F. Current and future service areas or customers are defined.
13. Support a level of fire safety and service in all areas of the County sufficient to minimize the risk of fire damage to life and property.
14. Involve the school districts in the planning process by requiring notification to the appropriate school district of all land use requests likely to impact their facilities.
15. Integrate schools with land use, transportation, recreation, and other community objectives and plans in order to realize their optimum value to the community.
16. Work with the appropriate agencies to ensure adequate levels of health care exist for county residents.
17. Work with the appropriate agencies to encourage support services and programs for the elderly and handicapped.
18. Designate parcels supporting public and private facilities and services as Community Service in the Comprehensive Plan and implement this plan designation through the use of three (3) zoning designations:

- A. Community Service Utility - CSU
- B. Community Service Institutional - CSI
- C. Community Service Recreation - CSR

(See Zoning Ordinance for types of uses allowed in each zone.)

19. Designate as Community Service Utility (CSU) those lands that:

- A. Support various types of public and private utility facilities existing as of the date of this ordinance; or,
- B. Are needed to support public and private utility facilities which can be shown to satisfy the minimum standards set out in the implementing ordinances.

20. Designate as Community Service Institutional (CSI) those lands that:

- A. Support various types of public and private institutional facilities existing as of the date of this ordinance; or,
- B. Are needed to support public and private institutional facilities which can be shown to satisfy the minimum standards set out in the implementing ordinances.

21. Designate as Community Service Recreational (CSR) those lands that:

- A. Support various types of public and private recreational facilities existing as of the date of this ordinance; or,
- B. Are needed to support public and private recreational facilities which can be shown to satisfy the minimum conversion standards set out in the implementing ordinances.

ENERGY CONSERVATION

Goal 13 of the Statewide Planning Goals offers a framework within which local government may establish a comprehensive energy policy as an element in long-range land use planning. The Goal reads:

"Land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles."

Important energy considerations relating to land use planning are the distribution and location of housing, shopping, employment, and public facilities. The mixing of these land uses can produce energy savings to both the consumer and the supplier, if the mix is compatible. Without effective planning, development tends to progress in a haphazard manner. By encouraging public growth, public facilities and services can be provided more economically and efficiently. Proper mixing of land uses will use less energy for transportation between home and employment, shopping, and services. To achieve this, it is necessary for private and public officials to work to conserve energy.

The issue of energy conservation first became visible to most people during the oil embargo of 1974. Since that time, overall consumption of energy has continued to increase in spite of conservation efforts.

The discovery and development of new and existing energy sources may attempt to keep up with energy consumption. Many see the energy crisis as being a temporary inconvenience, rather than a challenge to our very way of life. The fact remains that wasteful consumption of energy is undesirable. The intent of the County Comprehensive Plan is to maximize the conservation of the County's resources.

The Pacific Northwest has enjoyed low energy rates in the past and so there was little incentive for insulating homes. Many of the older buildings have little or no insulation. The rate increases being granted to the electric and gas utilities, increasing the energy costs to the homeowner, are now finding additional insulation to be cost effective. Most utility companies now have programs to audit homes for heat loss and provide low cost loans for weatherization projects.

In general, passive solar designs for residential and some commercial uses are cost effective throughout Oregon. In addition, with State and Federal Tax credits, residential solar domestic water heaters are cost effective in more areas of Oregon.

There are many ways to save on energy costs. Landscaping, eave extensions, and proper placement of windows can increase a home's efficiency.

Clustering of houses on or near lot lines is a way to provide more useable space in a neighborhood. Clustering saves energy and money because of reduced room and utility runs,

provides more opportunity to preserve the natural features of the site, and reduces heat loss from each of the dwellings.

Properly placed trees can cause diversions in the airflow, creating in an area of relative calm on their leeward side, thereby lessening the home's heating need?

The industrial sector offers unique opportunities for energy conservation. Manufacturing processes are in some instances huge producers of heat. In these cases, the possibility exists in some instances for co-generation of electricity (i.e. using waste heat to generate electricity or generating electrical energy and using waste heat from that for the industrial process).

Sharing of industrial heat is feasible in some instances. Industrial parks can be developed in which waste heat from one industry is used as process heat for the next, producing a cascading effect.

Another possibility is for a community energy system, using waste heat from industrial processes as heat for a district or local residential heating system.

Rehabilitation or replacement of obsolete structures provides the opportunity for reducing energy consumption through land use considerations. According to one source, "higher density urban development consumes one-half as much land, requires one-half as many streets, consumes one-half as much energy, costs 44% less total dollars, creates 45% less air pollution, and results in 35% less water consumption than rural development."

Shifting the emphasis from single family detached housing to attached, cluster or multi-family housing will also save energy. Multi-family housing, for example, uses 30% less energy than single family housing. In addition to reducing the energy needed for heating and cooling, multi-family housing can contribute to transportation energy savings if properly located.

There are other conservation tactics which can be employed in the original design plan as well. Buildings can be solar-oriented to make the most of the sun's rays. Proper landscaping can shield a structure from the summer sun while permitting maximum exposure to the lower winter sun. In general, passive solar designs for residential and commercial use are cost effective throughout Oregon.

Savings of 30% can be achieved by reducing the use of glass and installing double or triple-pane glass in new buildings. Glass need not be eliminated. There are attractive new glass materials that darken when exposed to direct sunlight, and these minimize heat and cooling losses.

Energy savings available to the commercial sector are similar in nature to the residential sector. Differences between the commercial and residential sectors are due to such factors as more complex building mechanical systems, more limited building usage, and the high-density human occupation. Large energy savings in existing commercial buildings can result from effective energy management practices, careful monitoring of energy use, and improved operation techniques for mechanical systems.

Carpooling is another aspect of energy conservation in transportation schemes. Local jurisdiction could provide incentives for the development of car or vanpooling efforts by business, industry, and government.

Four ways of transportation in communities or between them, in order of energy conservation, are walking, bicycling, public transit, and the private auto. Where conflicts between motorized and non-motorized systems occur, the non-motorized method should be favored.

Public transit systems offer the greatest potential for fuel savings. To be widely used, a public transit system requires high densities of living areas and working/shopping places along major transportation corridors. Distribution of population and businesses over a large area makes public transit too costly and inefficient to operate.

In Oregon's largest energy consuming sector, transportation, land use patterns can reduce energy by reducing the need for motorized transport. Establishing neighborhood shopping and activity centers with bicycle and pedestrian access will reduce total energy consumption.

ENERGY CONSERVATION

GOAL:

To strive for an energy efficient land use pattern based upon sound economic principles.

POLICIES:

1. The County shall encourage energy saving building practices in all future commercial and industrial building.
2. The County shall encourage development projects which take advantage of solar energy.
3. The County shall encourage the development of recycling facilities and the use of recycled resources.
4. The County will encourage the development of alternative energy sources.
5. The County will make energy conservation literature available at County offices.
6. Commercial services will be encouraged to locate within or adjacent to residential areas to limit the energy consumed by travel between residential and shopping areas.
7. The County will encourage reuse of waste heat from manufacturing processes for further industrial purposes, space heating, or other uses.

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

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.

GOAL FIVE REQUIREMENTS:

All Goal 5 resources except wilderness areas, Oregon Recreational trails and federal wild and scenic waterways are found within Columbia County. Therefore, in order to meet the requirements of the State Goal, 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;

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 rule 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 codified in the Columbia County Zoning Ordinance.

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 an analysis of economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit conflicting use including the following steps:
 - A. Identify conflicting uses.
 - B. Determine the impact area.
 - C. Analyze the ESEE consequences.
 - D. 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.

OVERALL GOAL 5 POLICY STATEMENT:

1. Columbia County recognizes that forest operations for which notification is required by ORS 527.670(2) shall be governed by the Forest Practices Act.

2. 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
3. Columbia County shall not apply the provisions of Sections 1120, 1180, 1185, and 1190 of the Zoning Ordinance to commercial forest operations covered by ORS 527.670(2).

OPEN SPACE

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.

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 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.

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, the Willamette River Greenway, natural areas, scenic features and parks, which exist in the County, are addressed in other sections of this report. A discussion of conflicting uses and measures for their resolution can be found in the section pertaining to each particular resource.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

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.

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.

Environmentally, limiting conflicting uses protects those characteristics of the land, which serve naturally. These characteristics reduce water and air pollution, flooding, soil erosion, and other problems related to man-induced and naturally caused changes in the environment.

Limiting conflicting uses for open space also has positive energy consequences. It encourages the clustering of residential development and restricts major developments to rural centers and urban growth boundaries. Thus, resources which otherwise might be wasted providing roads and services to scattered areas throughout the County can be used more efficiently.

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 values as well. Conflicting uses with open space values are minimized in these resource zones. Conflicts may exist for some areas of open space in the County, which are built and committed to non-resource use. However, the extent of existing development in these areas has already reduced their open space value. The County has taken exceptions to exclude these areas from resource zones because of this rural residential development.

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

OPEN SPACE

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.

SURFACE MINING

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 of significant aggregate sites 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 the 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

(TO BE ADDED)

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

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 insure 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 that extraction operations approved by the County and other regulating agencies to 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 implementary ordinances to accommodate newfound resources.

ENERGY SOURCES

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 affects may also be experienced because of gas removal, though research is too limited to address these affects 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 future protection of resources and surrounding lands.

ENERGY SOURCES

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 implementary ordinances to accommodate them.

BIG GAME HABITAT

LOCATION:

Three types of big game habitat have been identified in Columbia County by the Oregon Department of Fish and Wildlife and are shown on Map 44, Big Game Range. In Columbia County, these habitat types are defined as:

Major That portion of the County which supports the majority of big game. These areas provide forage and cover for game during most of the year.

Peripheral Lands also important for sustaining big game populations. These areas are generally lower elevations and serve as critical habitat during severe winter months. Areas in Columbia County are:

1. Clatskanie River Drainage
2. Nehalem River Drainage
3. Rock Creek Drainage
4. Tide Creek Drainage
5. Merrill Creek Drainage
6. Milton Creek Drainage
7. Scappoose Creek Drainage
8. Clear Creek Drainage
9. Woodson Upland Area
10. Mayger Area

Impacted Areas of the County, which, because of existing levels of land use, are no longer considered viable big game habitat. However, these areas frequently contain populations of big game.

QUALITY:

Columbia County contains large amounts of forested lands that provide good to excellent big game habitat. Logging practices have created mixed stands of mature forests, clear-cuts, and brush lands that are 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. Game animals spend summer months in the higher elevations where food and protection from human disturbance are abundant. 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.

QUANTITY:

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 figures from the Fish and Wildlife Protection for Columbia County, in 1976 the Oregon Department of Fish and Wildlife estimated that 16,256 big game animals were within the County. This population figure included: 800 Roosevelt Elk, 15,000 Black-tailed Deer, 50 White-tailed Deer, 400 Black Bear, and 6 Cougar.

POTENTIAL CONFLICTING USES:

The Oregon Department of Fish and Wildlife has recommended the following dwelling unit densities per section in big game habitat areas:

Major Habitat - 1 unit per 38 acres using clustering techniques.

Peripheral Habitat - 1 unit per 19 acres using clustering techniques.

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

Portions of the Major and Peripheral Big Game Range have been found "built and committed" and are zoned rural-residential because of previous residential impact. This zone allows residential development at densities higher than those recommended by the Oregon Department of Fish and Wildlife. Lands within this zone correspond with those areas recognized and mapped as "impacted" by the Oregon Department of Fish and Wildlife. Substantial conflicts between big game and residential use already exist in these areas. Because of this, little additional impact for big game is expected in areas zoned for rural residential use. Notwithstanding the lack of detail on the Wildlife Overlay Impact Map (Map 44), all exception areas shall be considered impacted and exempt from the standards of the Wildlife Overlay District.

Other non-resource uses have been identified which could permanently alter big game habitat areas. These uses often have the same general characteristics:

- 1) the introduction of people to habitat areas on a year-round basis;
- 2) the permanent introduction of groups of people on a seasonal or weekly basis; or
- 3) the use of land in a manner which necessitates the removal of large amounts of vegetative cover.

The major problems associated with the introduction of people to habitat areas are dog harassment, poaching, traffic harassment, and lost forage and cover areas.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

Economic:

The loss of big game habitat and subsequent reduction in big game population could have negative economic consequences. According to the Fish and Wildlife Protection Plan for Columbia County, big game recreation brought approximately \$870,000 into Columbia County in 1976. This figure has probably increased since then. Development within habitat areas could also prove costly to the County if it must provide services to these remote forested areas.

Negative consequences would also result from not allowing further development within “built and committed” areas of the County where the infrastructure and services have already been developed for these sites and they provide opportunities for rural residential living.

Social:

If residential densities are allowed above those 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. Some County residents may experience a personal loss if development is restricted in habitat areas.

Environmental:

If potential conflicting uses are managed, big game will have an opportunity to flourish in a habitat undisturbed by human activity. If potential conflicting uses are allowed, 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.

Energy:

The energy consequences of limiting rural development appear to be positive. Traffic and road construction associated with the development of remote areas of the County will be reduced because of density and development restrictions.

FINDINGS:

While there are conflicting uses for big game, they cannot be completely prohibited without negative consequences. Therefore, the County will adopt a program to protect big game habitat but allow limited impact from conflicting uses. The County shall adopt the density standards recommended by the Oregon Department of Fish and Wildlife for all Major and Peripheral Habitat areas except those identified as impacted by previous residential development. In big game habitat areas, non-forest and non-farm dwellings shall 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 and zoned for rural residential use. Because of existing conflicts in these areas, no additional standards to protect big game in rural residential zones are proposed.

COLUMBIAN WHITE-TAILED DEER HABITAT

LOCATION:

The present range for the Columbian white-tailed deer in Columbia County is limited to that portion of Clatskanie Flats west of Wallace Island and to several islands in the area. The islands are Wallace Island, Skull Island, Anundes Island, and Kinnunen Cut. Crims Island has been identified by the Fish and Wildlife Service as a potential island for deer transplants. It is believed that the range for this deer once included the islands and shore lands from The Dalles to Astoria and the valleys along the Willamette and Cowlitz rivers.

QUALITY:

According to the Recovery Plan, by the Columbia white-tailed Recovery Team, the white-tail population has probably declined with the trend toward more intensive agriculture which employs efficient drainage and clearing of all season cover (i.e., trees and shrubs). These past practices have restricted white-tails to islands remaining brushy, undeveloped areas, and a network of sloughs, rivers, and ditches.

QUANTITY:

In 1976, an estimated 50 white-tailed deer were present in Columbia County. The area identified by the Oregon Department of Fish and Wildlife as habitat for these deer includes approximately 3800 acres. While Columbian white-tailed deer are occasionally sighted on other islands and shore lands along the Columbian River, sightings are infrequent and these areas (including Walker, Lord, Deer, and Crims Islands) have not been identified as habitat for the Columbian white-tailed deer by the Oregon Department of Fish and Wildlife and U.S. Fish and Wildlife Service.

POTENTIAL CONFLICTING USES:

Lands within the Columbian white-tailed deer habitat area are zoned Primary Agriculture (PA-38). Generally, practices allowed within this zone are those that enhance the deer habitat. White-tails often prefer to feed on pastureland, especially those kept short by cattle grazing or 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.

Potential conflicting uses for Columbian white-tails include: 1) the removal of brushy, vital Columbian white-tailed deer habitat for creating and improving pasture and agricultural lands, and 2) the draining, filling, and tilling of wetlands. The introduction of residential development

into native riparian habitat could be a potential conflict, but considering current zoning and other circumstances, the conflict should be very limited.

The intrusion of residential development will be limited somewhat by the 38 acre minimum lot size and the restrictions placed by the zoning ordinance on farm and non-farm dwellings. In addition, the threat of residential development is limited because much of the area is unsuitable as a construction site for residences. Much of the land in the area has standing water for parts of the year. Thus, even if the number of 38-acre lots increased, there would be a very limited increase in residential development because many of the 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 area. The County's zoning regulations requiring clustering of dwellings will further limit residential development.

Conflicts will also be reduced because of the impacts of the County's wetlands and riparian area overlay zones. The entire habitat is in either the riparian overlay or the wetlands overlay zones. The impact of these zones will be to substantially limit residential development in a manner that will protect the habitat for the deer. In particular, both zones limit the removal of vegetation, and filling or draining of wetlands.

The U.S. Fish and Wildlife Service has approved a recovery plan to restore the Columbian white-tailed deer to a minimum population of 400-600 deer, distributed in suitable secure habitat throughout their former range in at least 4-5 viable sub-populations. In February 1979, there were an estimated 300-400 of these animals along the Columbian River. A plan to re-establish and/or maintain habitat for Columbian white-tailed deer is one adopted approach for bringing about this recovery. This includes protecting and enhancing habitat on off-refuge land and applies to the Clatskanie Flats and Wallace Island areas of Columbia County. The 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.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

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, they 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 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 these

agencies.

Social:

The browsing of garden crops and ornamental vegetation can be a nuisance for property owners in the habitat areas. If the white-tail 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 would be an opportunity for nature and animal enthusiasts to see the endangered Columbian white-tailed deer.

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.

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.

FINDINGS:

Potential conflicting uses for Columbian white-tailed deer habitat exist in the Clatskanie Flats area. The County has adopted an overlay zone to protect habitat for Columbian white-tailed deer by limiting conflicting uses. 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. A maximum dwelling density of one (1) dwelling per 38 acres will be allowed, with clustering as required by the County's zoning ordinance. 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

DEFINITION:

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

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

LOCATION:

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 Milton, Goble, Tide, and Merrill 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.

QUALITY:

Habitat for fish in Columbia County is generally of good to excellent quality.

QUANTITY:

Many rivers and streams in Columbia County drain from the Coastal Mountains to the Columbia River. Here they meet a network of lakes, ponds, sloughs, and other water bodies formed in the old Columbia River flood plain. These features provide an abundance of fish habitat within Columbia County.

POTENTIAL CONFLICTING USES:

Three major land use activities which take place within and adjacent to fish habitat areas are potential conflicting uses. These are forest practices, agricultural practices, and the development of residential, commercial, and industrial activities. Actual potential conflicts caused by these practices and activities include:

1. 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.
2. Obstructions to fish passage may be created for other land use purposes. Obstructions, which hinder migration, include dams, culverts, tide gates, and logging practices.
3. Streamflow levels may be reduced below acceptable levels when waters are diverted for residential, industrial, agricultural, or other purposes.
4. Pollutants introduced into the water because of land use actions may reduce water quality.
5. 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.
6. Mining and filling practices which change the structure of the stream channel may destroy spawning and rearing habitat in streams and rivers.

SUMMARY:

Habitat for fish exists in the lakes, rivers, and streams of Columbia County. Potential conflicting uses affect habitat quality in a number of ways: by removing vegetation, introducing pollutants, creating obstructions to fish passage, reducing streamflow levels, or by destroying spawning and rearing habitat. The consequences of these conflicting uses have been determined in the Riparian Area 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. The County will rely on implementation of these programs to protect fish habitat. In addition, the County will adopt a program to limit conflicting uses and protect riparian and wetland vegetation. 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

LOCATION:

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

QUALITY:

The quality of furbearer habitat is good in Columbia County. Important habitat areas for furbearers have been described in more detail in other sections of this Goal 5 report.

QUANTITY:

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.

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.

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 areas. Since the economic, social, environmental, and energy consequences of allowing or restricting this development have already been addressed in the Riparian, Wetland, and Big Game Habitat sections of this report, they are not again determined here. However, 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.

WATERFOWL HABITAT

LOCATION:

Waterfowl habitat areas have been identified in Columbia County by the Oregon Department of Fish and Wildlife. These areas lie near the Columbia River and hold standing or slowly moving water at least part of the year. They provide ideal nesting, feeding, and resting habitat for waterfowl. Wet agricultural areas are also important waterfowl habitat. Often these farmlands are flooded in the fall and winter and attract large numbers of migrating birds.

QUALITY:

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 transcend on 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 refuge.

QUANTITY:

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

POTENTIAL CONFLICTING USES:

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

Activities that are potential conflicts with waterfowl are:

1. Filling, draining, or tilling of wetlands.
2. Removal of riparian vegetation or other vegetation that serves as nesting, feeding, or resting habitat.
3. Conversions of sloughs, flood plains, and swamp areas to other uses.
4. Spring damage to pasture and grain fields by waterfowl.

SUMMARY:

The major consequences of allowing conflicting uses in habitat areas are 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 determined and analyzed in the riparian, wetland, and surface mining portions of this report.

State and Federal programs limiting conflicting uses in waterfowl habitat include Section 404 of the Clean Water Act and the State Fill and Removal Law. The County will provide further protection to waterfowl habitat through programs limiting conflicting uses in wetland and riparian areas.

NON-GAME WILDLIFE HABITAT

LOCATION:

Non-game wildlife require 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 contains 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 important non-game species in Columbia County. These sites are shown on Map 45 and described below:

Bald Eagle Nest Sites:

1. 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.
2. 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.
3. 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.

Blue Heron Nest Rookery:

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.

Northern Spotted Owl:

1. Nest area is located along Cedar Creek in Sec. 1, T4N, R3W on BLM land.
2. Nest area is located along Cedar Creek in Sec. 7, T4N, R2W on BLM land.

QUALITY:

The Northern Bald Eagle and the Northern Spotted Owl are both considered 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. Since the nest and the area adjacent to the nest are considered the most sensitive habitat for these animals, their safety is critically important.

POTENTIAL CONFLICTING USES:

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 agricultural. 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 but under current zoning are not problems. Generally, conflicts result for two reasons: One, human activities destroy and disturb sensitive non-game habitat, and two, non-game animals, such as coyotes, encroach onto developed land destroying vegetation and killing livestock.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

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.

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.

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.

Energy:

No significant consequences have been identified.

FINDINGS:

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 critical habitat areas.

In addition, specific 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 sensitive nesting habitat on forestland used for other purposes, and for the other identified nest sites, the County will adopt measures to limit conflicting uses and protect the resources.

UPLAND GAME HABITAT

LOCATION:

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.

According to the Fish and Wildlife Protection Plan for Columbia County by ODFW, there are two types of upland game birds: 1) those that require forest lands and 2) those that utilize agricultural lands. The forest species includes 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, morning 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.

The majority of land within Columbia County has retained that rural character valued by upland game birds. This mixture of forest and agricultural lands supports a large bird population.

Specifically, three important habitats for band-tailed pigeons have been identified in Columbia County. These mineral springs are attractive to the pigeons primarily during nesting season and early migration. The pigeon springs are shown on Map 45 and described as follows:

1. 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

2. 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

3. DUTCH CANYON PIGEON SPRINGS

Location: T3N, R2W, S17

Quality: Mineral springs have been impacted by residential development.

Quantity: 1 acre

POTENTIAL CONFLICTING USES:

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 springs.

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.

FINDINGS:

Potential conflicts could reduce the amount of habitat 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 critical habitat areas including the identified pigeon mineral springs.

FISH AND WILDLIFE HABITAT

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.
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 this agreement, the Forest Practices Act and Rules shall be administered to protect these sites through management plans between affected property owners and appropriate State and Federal agencies.
8. Rely on the State Department of Water Resources to insure that minimum streamflow standards are established and maintained in all streams to insure 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 that have the potential to adversely affect habitat and recovery of the Columbian white-tailed deer. If it is determined that habitat and recovery will be affected, the property owner shall work with ODFW and USFW to develop a management plan to protect the deer.
12. Cooperate with the Oregon Department of Fish and Wildlife to ensure that future development does not unduly conflict with major and peripheral big game range by:
 - A. Designating the majority of major and peripheral habitat areas as Primary Forest (PF-38), Forest-Agriculture (FA-19), and Primary Agriculture (PA-38). These zones encourage resource activities and limit potential conflicting uses.
 - B. Limiting development in major and peripheral habitat areas to a density recommended by the Oregon Department of Fish and Wildlife. Where densities of 1 unit per 38 acres in major habitat, or 1 unit per 19 acres in peripheral habitat, are allowed, dwellings shall be sited using clustering technique. Clustering incorporates all of the following, as applicable to the situation:
 - 1) Locating dwellings and structures near each other and existing roads;
 - 2) Locating dwellings and structures to avoid habitat conflicts and utilize least valuable habitat areas; and
 - 3) Minimize road development to that necessary to support the residential use.
 - C. Requiring that areas disturbed for residential use in critical habitat areas be re-vegetated with natural plantings within a reasonable time after vegetation removal.
 - D. Limiting non-forest and non-farm dwellings within major and peripheral habitat areas to individual lots or parcels where it can be shown that:
 1. The dwelling shall be located to avoid habitat conflicts and utilize least valuable habitat areas;
 2. The site shall be limited in size to that area suitable and appropriate for residential use; and
 3. Road development shall be the minimum necessary to support residential use.

4. Dwelling density shall not exceed that defined in (B.) above.
13. Designate as impacted those “built and committed” areas which, because of existing levels of land use, are no longer considered viable big game habitat. Areas zoned Rural Residential have densities exceeding the Oregon Department of Fish and Wildlife acceptable density standards and are considered impacted.
14. Require the owner or occupant of a dwelling sited in major or peripheral habitat to assume the responsibility for protecting the property from wildlife damage.

NATURAL AREAS

DEFINITION:

Natural areas have been defined by The Nature Conservancy as the following:

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 Conservancy, these areas provide:

1. Living laboratories for monitoring changes in the environment, for expanding the limited horizons of man's ecological awareness, and for developing new land management principles.
2. Reservoirs of genetic material, tested by time rather than by man, 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 a naturalist bent.

INVENTORY OF NATURAL AREAS IN COLUMBIA COUNTY:

In 1976, The Nature Conservancy conducted an inventory of potential ecologically significant natural features in Columbia County. This information was acquired with the intention of gaining protection of these resources through tools such as land acquisition, land use planning, and the dedication of preserves.

This resource information has recently been reviewed and reworked by the Nature Conservancy and Columbia County. Sites have been determined (1A), (1B), or (1C) based on this more recent information. The following sites, shown on Map 46, have been found to be ecologically significant natural areas in Columbia County and are classified (1C):

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

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

An application of the remainder of the Goal 5 process shall apply only to these remaining natural areas.

The following sites have been classified as (1A) because, for various reasons, their character has been disturbed to an extent where it no longer retains its natural significance. While these sites may be important Goal 5 resources for other purposes, they are no longer considered natural areas by the Nature Conservancy and Columbia County.

1. Deer Island
2. Kerry Island
3. Wallace Island
4. Big Eddy Park

5. Crims Island
6. Conyers Creek Pigeon Springs
7. Clatskanie Pigeon Springs
8. Dutch Canyon Pigeon Springs
9. Anunde Island

The remaining inventory of the Inventory List of Natural Areas in Columbia County, as defined by the Oregon Natural Heritage Program, are adopted as (1B) sites. Information pertaining to their natural character is presently unavailable to determine their natural significance.

POTENTIAL CONFLICTING USES:

Three of the four sites found to be ecologically significant natural areas in Columbia County are zoned Primary Agriculture (PA-38). In addition, Prescott and Carr Sloughs, the Scappoose Bay Inlet, and "Millionaire Lake" are considered Significant Wetland Areas and covered by the WA overlay zone. Millionaire Lake is within the Sauvie Island Wildlife Management Area and zoned Community Service Recreation. Potential conflicting uses for natural areas are uses which convert the natural area for other purpose, 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.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

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.

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. They 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.

Environmental:

If conflicting uses in the identified natural areas are restricted, positive environmental consequences will result. These areas have been identified as such 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 conflicting land usage in the past. If conflicting uses are not restricted, the remaining natural areas may also be encroached upon and destroyed.

FINDINGS:

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 presented to alert citizens and officials 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 Wetland and Riparian 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.

NATURAL AREAS

GOAL:

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

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

1. Protect the significant character of identified natural areas and direct incompatible land uses away from sensitive areas.
2. Cooperate and coordinate with public and private agencies, such as The Nature Conservancy, to advise land owners 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 inventory potentially significant natural areas in Columbia County, particularly those sites presently identified as (1B) sites, and protect the unique features of these sites through application of the Goal 5 rule.
5. Notify The Nature Conservancy and other appropriate reviewing bodies of actions proposed within natural areas so that they may determine the potential impact upon the site.

WETLANDS

DEFINITION:

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.

For the purpose of this report, a significant wetland in Columbia County is defined as follows:

A significant wetland is an area where the water table is at, above, or below the land surface long enough so the area supports predominantly hydrophytic vegetation, has soils indicative of wet conditions, and is large enough to be of biological value. In case of dispute over whether an area is of biological value and should be considered a wetland, the recommendation of the Oregon Department of Fish and Wildlife and the Columbia County Soil and Water Conservation District shall be relied upon.

LOCATION:

Wetlands in Columbia County are found in the three following areas:

1. The identified wetland areas as identified by the Oregon Department of Fish and Wildlife and Columbia County and generally shown on Map 45. These sites are specifically described and shown in this section. These areas are located along the Columbia River. Once, before dams and dikes were built, they were annually inundated and reshaped by floods. Today, they contain the majority of the remaining wetlands along the Columbia River in the County. These sites are determined (1C) sites and will be addressed in the Goal 5 analysis.
2. Wetlands found adjacent to or in conjunction with rivers and lakes. These wetlands are defined under the County's definition of riparian areas as adjacent shrub, forested, or emergent wetlands.
3. Areas outside of the identified wetland areas containing minor, isolated wetlands. These wetlands have been inventoried on maps as part of the National Wetland Inventory but no other information pertaining to their quality or quantity is presently available to determine their significance. These wetlands have been determined (1B) sites.

QUALITY:

Wetlands in the Identified Wetland Areas were 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 found later in this goal five report.

POTENTIAL CONFLICTING USES:

Significant 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, sites for ground water 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. Specifically, potential conflicting uses are identified within three of the Identified Wetland Areas: the proposed mining of aggregate resources in the Rest Lake Area, the expansion of industrial activities at Port Westward, and the development of industrial facilities in the Prescott area.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

Economic:

As recreational resources, wetlands contribute to the economy of Columbia County. They provide habitat for the waterfowl, fish, and wildlife populations which attracts numerous recreational uses 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 wetland areas, the County can protect these resources for future use.

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. This is true in the three areas where specific potential conflicting uses were identified. 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.

Social:

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

Environmental:

Protecting the quality of significant wetlands in Columbia County through regulation will have positive environmental consequences. Not only will such regulation ensure the availability of quality 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.

Energy:

The regulation of development within and around wetlands will 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.

FINDINGS:

Columbia County contains abundant wetlands within its boundaries. Many of these 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 accomplish this objective, the County will develop an overlay zone to protect the Identified Wetland Areas from filling, draining, or other alterations which would degrade their biological value. The majority of the areas containing wetlands are zoned for agricultural use. Activities allowed in this zone will be restricted so as to protect wetland values. However, minor drainage improvements will be allowed.

Specific potential conflicting uses were identified for three of the Significant Wetland Areas defined by the Department of Fish and Wildlife. These are 1) the proposed mining for aggregate resources in the Rest Lake Area, 2) the expansion of industrial activities at Port Westward, and 3) the development of industrial facilities in the Prescott area. However, upon closer examination of those portions of the Identified Wetland Areas for which potential conflicts are proposed, no characteristics identifying a wetland as defined by this report have been found. Only those wetlands adjacent to or found in conjunction with rivers and lakes, and therefore protected as riparian vegetation, still exist on the conflict sites. It has also been found that allowing conflicting uses will have a positive impact on the economy in Columbia County. For these reasons, the sites will be excluded from the Identified Wetland Areas on the overlay zone, and those wetlands along rivers and sloughs will be protected as riparian vegetation.

WETLAND AREA SITE 1

AREA: North end Sauvie Island

LOCATION: T3N, R1W; west of Columbia River and east of Multnomah Channel.

SIZE: Approx. 17,000 acres ZONING: Wildlife Management

SITE DESCRIPTION: The north end of Sauvie Island is owned and operated by the Oregon Department of Fish and Wildlife for wildlife management. The area is covered by many lakes, sloughs, ponds, and other wetlands, and is managed primarily for increased fish and wildlife productivity. The site combines abundant wetland vegetation and agricultural practices to create an area attractive to fish, migrating waterfowl, shorebirds, and other wildlife populations. No conflicting uses have been identified in this area.

WETLAND AREA SITE 2

AREA: Round Lake

LOCATION: T3N, R1W, S7, 17, 18, and 19. An area southeast of Scappoose, north and west of Dike Road, and south of Honeyman Road.

SIZE: Approx. 1,000 acres ZONING: Agriculture, Rural Residential, Industrial

SITE DESCRIPTION: This area is characterized by agricultural lowlands intersected by Johnson Creek and drainage channels with many wetlands. The largest wetland in this area is Round Lake. Wetlands are surrounded by pasture and crop plantings attracting abundant waterfowl and other wildlife to the area. Many of these wetlands dry up by mid-July, at which time they are planted and farmed. Then, in the fall, they are flooded and leased to commercial gun clubs for hunting. Wetlands in this area contain emergent vegetation including cattails, sedges, rushes, canary grass, and smartweed. A potential conflict exists in this area between the protection of wetlands and the expansion of agricultural practices.

WETLAND AREA SITE 3

AREA: Rest Lake

LOCATION: T3N, R1W, S4, 5, 6, 7, 8 and 9. Area is located northwest [northeast] of Scappoose, and bordered by Honeyman Road on the west, south, and east.

SIZE: Approx. 2,000 acres ZONING: Agriculture, Rural Residential, Surface Mining

SITE DESCRIPTION: The majority of this area has been developed in the past for agricultural purposes. It contains one large lake, Rest Lake, and is crossed by Jackson Creek, Santosh Slough, Evans Slough, and small drainage ditches. The area also contains a string of wetland[s] near the City of Scappoose Sewage Treatment Plant. A healthy cover of emergent and forested wetland vegetation has developed within and adjacent to portions of these wetlands and encourages the use of many kinds of waterfowl and other wildlife.

Underlying the area is a large reserve of aggregate resources. Already a proposal to mine 700 acres within the area has been submitted for approval. Presently, the area to be mined is in agricultural use and contains no wetlands except those found in conjunction with streams and sloughs. Therefore, this portion of the 700-acre site has been excluded from the Wetland Area. Jackson Creek and Rest Lake, which lie to the east of the proposed aggregate site, have remained within the Wetland Area.

WETLAND AREA SITE 4

AREA: Santosh Slough

LOCATION: T4N, R1W, S20, 29, 30, 31, 32. The area is bordered on the east by the dike road next to Santosh Slough, to the west by the BN railroad, and on the south by Dike Road.

SIZE: 2,000 acres + ZONING: Agriculture

SITE DESCRIPTION: Here is the wettest portion of the Scappoose Wetland Area. It contains numerous shallow lakes and marshes, and is crossed by Scappoose Creek. Much of this area remains inundated throughout the year and has developed a healthy emergent and forested wetland vegetation cover. This wetland area attracts migrating waterfowl and many other wildlife species. Activities which fill, drain, or otherwise alter wetland characteristics in this area are potential conflicting uses.

WETLAND AREA SITE 5

AREA: Deer Island

LOCATION: T5N, R1W, parts of section 4-6, 8, 9, 16, 17 and T6N, R1W, S29-32. The area is located west of the Columbia River and East of the Burlington Northern Railroad.

SIZE: Approx. 2,300 acres ZONING: Agriculture

SITE DESCRIPTION: The island contains very low lowlands with many lakes and marshes surrounded by agricultural lands, meadows, and wooded lots. Deer Island Slough and Tide Creek flow through the area. The island is only sparsely populated and the combination of open pasture, woody areas, and abundant water has created a habitat paradise for migrating waterfowl, shorebirds, deer, and other wildlife.

WETLAND AREA SITE 6

AREA: Prescott

LOCATION: T7N, R2W, S26, 35. Area is located north of Trojan Nuclear Power Plant, both west and east of Hwy. 30.

SIZE: Approx. 300 acres ZONING: Industrial, Forest, Agricultural

SITE DESCRIPTION: The area is part of the old Columbia River flood plain and contains many natural wetlands, including lakes and sloughs. A large portion of the site is inundated throughout the year. The healthy emergent and forested vegetation cover includes Cottonwood, Ash, Willow, Alder, Blackberry, Elderberry, Canary Grass, Rush, Sedges, and Wapato. This site attracts many people for recreational and educational purposes because of its abundant fish and wildlife populations.

The sand spit north of Prescott between the railroad line and the Columbia River is planned to accommodate future industrial development. The area has been built up over the years with dredge spoils from the Columbia River, no longer contains wetlands, and has been removed from the Wetland Area.

WETLAND AREA SITE 7

AREA: Port Westward

LOCATION: T7N, R4W, S4-6 and T8N, R4W, S15, 16, 20-23, 27-34. Area is located between the railway line on the south and the Columbia River on the north.

SIZE: Approx. 5,000 acres ZONING: Agriculture and Industrial

SITE DESCRIPTION: The majority of the site consists of agricultural bottomlands crossed by many sloughs and drainage ditches. Most of the wetlands in this area have been drained and filled in years past and are now in agricultural use. However, a number of birds and other wildlife animals are still attracted to the area. Today Palustrine forested and emergent vegetation is restricted primarily to the banks of the sloughs, ditches, and Columbia River. However, generally only areas along the Columbia River and major sloughs still contain tree growth.

The northern portion of the site is Port Westward, an industrial development operated by PGE. The reserved zone for future industrial development within this area is presently in agricultural use. The only present wetland habitat lies along the Columbia River.

WETLAND AREA SITE 8

AREA: Deer Island Pond

LOCATION: T5N, R1W, S6. Area is west of Hwy. 30, ½ mile north of Canaan Road.

SIZE: Approx. 10 acres

ZONING: Agriculture

SITE DESCRIPTION: The pond is approximately ten acres in size. It is bordered on the west by agricultural land, Hwy. 30 on the east, and by wooded area on the south. Riparian vegetation exists around much of the pond which attracts a variety of birds and other wildlife including the black-tailed deer.

WETLAND AREA SITE 9

AREA: Clatskanie Flats

LOCATION: T7N, R5W, S1-6 and T8N, R5W, S31-36. The area is bordered on the north by the Columbia River, on the south by U.S. Hwy. 30, east by Clatskanie Slough, and west by county line.

SIZE: Approx. 4,800 acres

ZONING: Agriculture, Forest

SITE DESCRIPTION: The area contains very low lowlands, parts of which have been converted for agricultural use. It is crossed by many sloughs and ditches. This combination of wet agricultural lands and waterways has made the area attractive to migrating birds and other wildlife including the endangered white-tailed deer. Areas along sloughs and ditches are partially vegetated by stands of Cottonwood, willow, Ash, and Alder, but for the most part, tree cover remains only along the major sloughs, the Columbia River, and in patches of forested land. Activities which propose to fill, drain, or otherwise convert remaining wetlands for agricultural use pose potential conflicts.

WETLAND AREA SITE 10

AREA: Columbia City Pond

LOCATION: T5N, R1W, S28, 33, 34. West of Columbia River, east of Highway 30, north of St. Helens, south of Columbia City.

SIZE: 75 acres ZONING: Forest (in city - residential)

SITE DESCRIPTION: This pond is approximately 75 acres in size. It is surrounded by wooded land with the St. Helens city limits to the south and east. A variety of plant life, game and non-game birds and animals, and warm water game fish exist in the area. The Oregon Department of Fish and Wildlife wetland survey states that the Columbia City pond is: "An important refuge for many types of wildlife existing between the growing cities of St. Helens and Columbia City."

RIPARIAN AREAS

DEFINITION:

Riparian areas in Columbia County are defined as follows:

1. For all Class I rivers and streams, the riparian area shall extend 50 feet landward of the ordinary high water line except where shrub or forested wetlands are located adjacent to the river, then the riparian area shall be the entire area of shrub or forested wetland. Where emergent wetland vegetation exists adjacent to a river, the 50 feet shall be measured from the landward extent of the emergent vegetation.
2. For lakes and reservoirs, the area of riparian vegetation shall extend 50 feet from the ordinary high water line except where emergent wetland vegetation exists adjacent to a lake, then the 50 feet shall be measured from the landward extent of the emergent vegetation.
3. For all other rivers, streams, and sloughs, the area of riparian vegetation shall extend 25 feet landward of the ordinary high water line except where shrub and forested wetlands are located adjacent to the river, then the riparian area shall be the entire area of shrub or forested wetland. Where emergent wetland vegetation exists adjacent to a river, the 25 feet shall be measured from the landward extent of the emergent vegetation.

Class I rivers and streams are shown on Map 47 and defined as waters which are valuable for domestic use, are important for angling or other recreation, and/or used by significant numbers of fish for spawning, rearing, or migration routes. Stream flows may be either perennial or intermittent during parts of the year.

LOCATION:

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 is not agricultural crops, land managed for pasture, horticultural or landscaped areas, or un-vegetated areas.

QUALITY:

The riparian area performs a number of different functions along the water bodies of Columbia County: it provides habitat for the breeding, feeding, and nesting of fish and wildlife; it

stabilizes streambanks and reduces streambank erosion; it filters out pollutants from land use practices on adjacent land which degrade water quality; and it stores 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.

QUANTITY:

Columbia County contains an abundance of riparian vegetation upon the banks of its many rivers, streams, lakes, wetlands, sloughs, and other water bodies.

POTENTIAL CONFLICTING USES:

Three major land use activities which take place within and adjacent to riparian areas are potential conflicting uses. These are forest practices, agricultural practices, and the development of residential, commercial or industrial activities.

- Forest practices may impact the riparian area through the harvest of timber, introduction of toxic chemicals, or construction of roads.
- Agricultural practices within this area may cause damage by converting riparian areas from crop production, or through improper livestock grazing techniques.
- Residential, commercial, and industrial development may affect the riparian area in a number of ways: by removing riparian vegetation and disturbing soils either within the riparian area or on adjacent slopes, by filling in adjacent lowlands, by removing resources from the area, or by introducing structural improvements which alter channel structure.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

Economic:

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.

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.

Social:

When conflicting uses area 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 unable to build on such lands may experience financial and personal hardship because of the loss. This is particularly true 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.

Environmental:

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.

Energy:

Limiting conflicting uses in the riparian area will also be beneficial. Less energy will be spent trying to rectify erosion and flooding damage caused by development within the riparian area.

FINDINGS:

Areas along 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. They are also desired sites for residential, commercial, and industrial development and affected by agricultural and forest practices.

High amounts of sedimentation, debris accumulation, elevated water temperatures, and nuisance algae growth are problems whose growth is often directly related to the degradation of the riparian area. They are often caused by streambank erosion and the removal of riparian vegetation, and 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. Negative economic, social, environmental, and energy consequences are associated with the loss and limitation of these uses.

The majority of the potentially conflicting land use activities are regulated by state and federal agencies. For instance:

- Reduced water quality related to non-point source pollution from agricultural practices is controlled by the State Soil and Water Conservation Commission.
- Maintenance of streamflow levels for fish productivity is the responsibility of the State Water Resources Department that appropriates water rights. The Oregon Department of Fish and Wildlife has identified minimum levels of streamflow necessary for production of fish habitat.
- Forest practices which impact the riparian area are regulated under the Forest Practices Act by the Department of Forestry.
- Effluents from residential septic systems and industrial development are controlled by the State Department of Environmental Quality.
- Gravel removal, stream channelization, and such other activities are regulated by the Army Corps of Engineers and the Division of State Lands.

To limit the consequences of conflicting uses and protect the riparian area, the County is relying on these state and federal programs. The County will also adopt an overlay zone and standards to protect riparian vegetation from activities within the area and on adjacent lands.

The overlay zone and standards shall apply to lands between urban growth boundaries and city limits, as well as to other County lands, to protect riparian resources during the transition from rural to urban land use. The County has adopted the Comprehensive Plans of the six incorporated cities and will apply them to these unincorporated areas as appropriate. Proposed policies and measures encourage planned development so as to avoid accelerated erosion, pollution, damage to riparian vegetation, or injury to fish and wildlife habitats.

LAKES

LOCATION, QUALITY, AND QUANTITY:

The inventory of lakes in Columbia County shall be as published in Lakes of Oregon, Volume One, Clatsop, Columbia, and Tillamook Counties, prepared by the U.S. Department of the Interior, Geological Survey of 1973. This inventory includes twenty-two (22) lakes 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 document contains a description of each lake's location, size, and general characteristics, including water quality data and temperature. Lake locations are shown on Map 47.

POTENTIAL CONFLICTING USES:

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 are 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.

ESEE CONSEQUENCES:

A determination of the ESEE consequences of these conflicting uses is provided in the Riparian Area section of this report. In addition, conflicting uses may have negative social consequences. They may affect water quality to an extent where enjoyment from swimming and other recreational activities is decreased.

FINDINGS:

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 develop plan policies and ordinance provisions to protect the riparian vegetation surrounding these lakes.

RESERVOIRS

Twenty-two (22) potential reservoir sites have been identified in Columbia County. These sites appear based on preliminary investigations as discussed in 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 "Freshwater Resources of the Oregon Coastal Zone", 1975. While there is adequate precipitation in Columbia County, only a portion of this water 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 considered "1B sites".

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

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 such State agencies as the Department of Environmental Quality, the Soil and Water Conservation Commission, the Department of Forestry, and the Department of Water Resources.
3. 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 presently determined 1(B). When information is available, the County shall apply the Goal 5 rule 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 along Class I streams and lakes and Class II streams affecting Class I streams from potential adverse effects of forest practices.
9. Protect riparian vegetation along streams and lakes by requiring appropriate setbacks for nonwater-dependent uses and standards for 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. 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 in riparian areas to assist in maintaining water quality.
14. Protect marches, swamps, and other wetlands from filling, draining, or other alterations which would destroy or reduce their biological value.
15. Support appropriate State and Federal agencies in their efforts to inventory wetland resources in the County. The County shall determine the significance of newly found resources and up-date zoning and other implementing ordinances to protect them when appropriate.
16. Protect municipal water supplies and the quality of water resources in general, by zoning undeveloped resource lands for resource use.

HISTORIC AREAS

DEFINITION:

Historic areas are defined in the Statewide Goals and Guidelines as “lands with sites, structures, and objects that have local, regional, statewide, or national historical significance”.

LOCATION:

The historic sites and structures initially accepted by the Historic Preservation Office, State Park and Recreation are:

1. Thomas McKay’s gravesite near Scappoose;
2. Warrior Rock on Sauvie Island;
3. Caple’s house at Columbia City;
4. Coffin Rock near Prescott;
5. Deer Island;
6. Winship Settlement near Clatskanie;
7. Knighton house in St. Helens;
8. Natal Grange;
9. Natal School;
10. Mist General Store;
11. Mist Community Church;
12. Nehalem Divide Railroad Tunnel;
13. The Wilark Site;
14. The Neverstill Roundhouse, Birkenfeld, 1917.

Of these sites, 1, 3, and 7 are located within incorporated cities and therefore are not included in the inventory. In addition, site 14, the Neverstill Roundhouse, has been destroyed by fire and is classified (1A). Information pertaining to the location, quality, and quantity of sites 5, 6,

and 13 is insufficient to determine their significance. These sites have been classified (1B) and will be addressed further when information related to their significance becomes available. The general location, quality, and quantity of other sites having potential historic importance have been identified in the County Inventory Document. Yet, specific information describing the character of these sites is presently lacking. Because this information is unavailable, these sites have been determined to be (1B) sites. They too will be addressed in the future when more information becomes available.

Sites 2, 4, 8, 9, 10, 11, and 12 are classified (1C) because of available information, are shown on Map 46, and further described below:

WARRIOR ROCK

Location: T4N, R1W, S10, TL #00400

Quality: Warrior Rock is located at the northernmost tip of Sauvie Island. This rock is known as a point encountered by Lieutenant Robert Broughton in 1792. Here Broughton was met by 150 Indian warriors, thus the name Warrior Rock. The site falls within the Sauvie Island Wildlife Management Area and the Willamette River Greenway. It has been designated Community Service Recreation by the County. This designation should protect the significance of the site and limit conflicting uses.

Quantity: 2 acres

COFFIN ROCK

Location: T6N, R2W, S1, TL #00199

Quality: Near the city of Prescott, the rock obtained its name when a group of early explorers found an Indian burial ground on the site. The rock is on land presently owned by Portland General Electric and is part of the Trojan Nuclear Power complex. While the rock is inaccessible to the public, information and relics from Indian settlements on the site are on view in the plant-visiting center. No conflicting uses are identified for the site.

Quantity: 1 acre

NATAL GRANGE

Location: T6N, R4W, S29, TL #1600

Quality: The Grange is located along Hwy. 47 in what used to be Natal, Oregon. It was founded in 1901 and served the social and fraternal needs of the residents of this section of the Nehalem River Valley. The Grange is still an active center for community events. A one-story woodframed building, it was recorded as being in fair condition in 1976 in the Oregon Inventory. The Grange is zoned Community Service Institution. This designation should limit conflicting uses with the building's historical significance.

Quantity: 1/4 acre

NATAL SCHOOL

Location: T6N, R4W, S29, TL #1600

Quality: Natal School is located along Hwy. 47 adjacent to the Natal Grange. Constructed in 1895, the school is presently deserted and in poor condition. The school is also within a Community Service Institution zone.

Quantity: 1/4 acre

MIST GENERAL STORE

Location: T6N, R5W, S13, TL #033-02700

Quality: The store is located along Hwy. 47 in Mist, Oregon about 1/4 mile north of the road junction with Hwy. 202. Constructed in 1915, the Mist General Store has served for almost sixty years as a supply center for groceries and dry goods for residents of the Upper Nehalem watershed. The area is designated as a Rural Center; an unincorporated community with limited commercial services. The building is in good condition.

Quantity: 1/4 acre

MIST COMMUNITY CHURCH

Location: T6N, R5W, S13, TL #030-00700

Quality: The Church is located along Hwy. 47 near Mist, Oregon. Constructed prior to 1890, the building was moved to its present site when the land was given to the fellowship on November 26, 1890. The building has been kept in good to excellent condition. The area has been zoned Rural Center.

Quantity: 1/4 acre

NEHALEM DIVIDE RAILROAD TUNNEL

Location: T4N, R3W, S15

Quality: A logging railroad tunnel 1700 feet in length located between Chapman and Pittsburg. It was a tunnel of the Portland and Southwestern Railroad, a line built for the purpose of transporting timber. The tunnel is an example of early timbered tunnel construction. Later tunnels were improved and strengthened by using cement or masonry. The area is designated Primary Forest (PF-80).

Quantity: 10 acres

POTENTIAL CONFLICTING USES:

Potential conflicting uses for historical areas are uses that degrade or destroy those characteristics for which the sites have been found significant. Potential conflicts include demolition and major exterior alterations of the sites and structures.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

Allowing potential conflicting uses would have negative social consequences and be a loss to the County's historical heritage. Economic benefits of allowing or restricting conflicting uses appear minimal because of the rural, scattered locations of the sites. No significant environmental or energy consequence of allowing conflicting uses or activities have been identified.

FINDINGS:

It is the goal of Columbia County to encourage the preservation and maintenance of historical sites and to identify and preserve new sites. To accomplish this objective, the County shall establish an Ad Hoc Historical Sites Committee to review the identified sites and structures and make recommendations as to whether or not they should be designated historical and protected. The County shall also implement an Historic Overlay (HO) District, which is intended to allow opportunities to preserve sites of historical significance within the County. Initially, the Overlay District will apply only to those sites determined (1C) and described in this report.

CULTURAL AREAS

DEFINITION:

Cultural areas are defined in the Statewide Goals and Guidelines as “areas characterized by evidence of an ethnic, religious or social group with distinctive traits, beliefs, and social form”. Archeological sites from former Indian settlements are identified as cultural areas in Columbia County.

LOCATION:

Three Indian tribes occupied the area that is now Columbia County up until the late 1700's and early 1800's. The Multnomah Indians territory stretched from the Portland area along the Columbia River Valley to the Rainier area. Between this point and the western boundary of Columbia County, lands were occupied by the Skillot Indians. Interior valleys, such as the Nehalem River Valley, were the territory of the Clatskanie Indians.

There are 33 known archeological sites in Columbia County. An inventory of these sites is maintained in confidential status at the State Historic Preservation Office. The locations of these sites are not presented in this report to protect and preserve their significance. It has been estimated by the State Historic Preservation Office that if the County was systematically surveyed 6,000 new sites could potentially be found. At this time, very little survey work has been done in the County and virtually no studies have been conducted in the County's interior portions.

Most of the sites known to have been frequented by Indians lie on Sauvie Island and the shoreline of the Columbia River. Many of these sites were used within the last 2,000 years and consist of camps, shell-middens, and villages. It is believed that many sites were wiped out by early river dredging and other activities along the banks of the Columbia.

POTENTIAL CONFLICTING USES:

Excavation, filling, grading, and other construction activities in or adjacent to an archeological site are conflicting uses. In the Scappoose area, where many past Indian activities were located, surface mining activities present a particular conflict. The consequences of allowing such conflicting uses without proper regulation would be the loss of a significant cultural resource that could improve our knowledge of Indian culture.

FINDINGS:

Several State and Federal laws and statutes pertain to archeological sites. Oregon Revised Statute 97.740 prohibits tampering with Native Indian cairns and graves. Oregon Revised

Statute 273.705-742 governs the removal of archeological, historical, and other valuable materials from State lands.

Federal laws PL 96-95, the Archeological Resources Protection Act of 1979, and PL 93-291, Historic and Archeological Data Preservation Act, also protect archeological sites.

To encourage the preservation of archeological sites, the County has adopted the following Surface Mining Policy:

“Before the County grants approval for a mining operation, the site shall be investigated for archeological excavation, timber harvesting, or other first-use activities, and other non-renewable resource conflicts resolved before mining begins.

The policy is implemented through the zoning ordinance as a standard for operation in a Surface Mining zone. In addition, the County shall support the State Historic Preservation Office in their efforts to conduct systematic surveys of archeological sites in the County.

In addition, to encourage the preservation of archeological sites, the County has also restricted activities in other zones through its zoning ordinance.

HISTORIC AND CULTURAL AREAS

GOAL:

To encourage the preservation and maintenance of cultural and historical sites, and to identify and preserve new sites.

POLICIES: It is the policy of the County to:

1. Recommend the establishment of an Ad Hoc Historical Sites Committee to review the historical sites and structures in the County and make recommendations as to whether or not the sites should be designated as such and protected. The County shall encourage the committee to seek ways to provide historic markers to identify the designated sites and literature to explain and describe them.
2. Support the State Historic Preservation Office in their efforts to conduct systematic surveys of archeological sites in the County.
3. Apply an Historic Overlay District to sites and structures in the County of historical significance. Initially, the Overlay District shall apply only to sites determined (1C) and described in the Plan. Other potentially significant historical sites, including those determined (1B), shall be inventoried. Upon completion of this study, the County shall proceed through the Goal 5 process for new found areas and up-date zoning and other implementing ordinances to accommodate them.

OREGON RECREATION TRAILS

Potential and approved recreational trails are identified and addressed in the Recreation section of this report. To assure coordination with ODOT in regard to the two Oregon Recreation Trails present in the County, the following policies shall be adopted:

POLICIES: It is the policy of the County to:

1. Cooperate with the Oregon Department of Transportation (ODOT) in identifying a specific route for the Portland-to-the-Coast trail. Should ODOT identify a final route for this trail, the County will complete all steps required by the Goal 5 Administrative Rule and will amend its plan to recognize the trail.
2. Columbia County does not believe the Northwest Oregon Loop Bicycle Trail, as it currently exists in Columbia County, is appropriate because of the potential for conflicts between motor vehicles and bicycle traffic. However, Columbia County will cooperate with the Oregon Department of Transportation toward completing a bicycle trail that is safe and appropriate for the area and toward the protection and continuation of that trail.

SCENIC RESOURCES

DEFINITION:

Scenic areas are defined in the Statewide Goals and Guidelines as “lands that are valued for their aesthetic appearance”. However, this is a very broad definition that could be applied to many resources in the County. These resources include: lands used for agricultural or forest use that are defined as open space; ecologically or scientifically significant natural areas; water areas and wetlands; historic structures; potential and approved federal wild and scenic waterways and State scenic waterways; and certain fish and wildlife areas and habitat. Many community recreational facilities in the County could also qualify as scenic areas under this definition.

Therefore, the sites inventoried here are only those whose value is derived primarily from their aesthetic features rather than sites where scenic quality may only be part of its overall value.

LOCATION:

Generally, the open rural character of the land is of scenic value in Columbia County. Peaks, river valleys, falls, tidal flats, and other features form a diverse scenic landscape. Over eighty percent of the land is timbered. Farmlands stretch through these forested areas along the river valleys and create patches of pleasant pastoral settings. Centers of rural activity, which have remained for the most part unchanged in recent history, dot the County. Shallow lakes, marshes, and sloughs remain in the ancient flood plain of the Columbia River. Like a mosaic, these features contrast and compliment each other, creating a varied landscape that is visually attractive.

COUNTY SCENIC RESOURCES:

SCENIC SITES

1. BEAVER CREEK FALLS

Location: T7N, R4W, S12, SE1/4
Quality: Beautiful natural falls in narrow creek valley
Quantity: 1 acre
Plan Designation: Forest-conservation

2. CARCUS CREEK FALLS

Location: T6N, R3W, S20, SW1/4
Quality: A scenic 105 foot falls in a wild stream surrounded by privately owned timber lands of second growth alder, fir, cedar, and maple.
Quantity: 1 acre
Plan Designation: Forest-conservation

3. LAVA CREEK FALLS

Location: T6N, R4W, S24, NE1/4
Quality: Falls on Lava Creek over 100 feet high, this site is surrounded by privately owned timber lands. No road access is presently available to the falls.
Quantity: 1 acre
Plan Designation: Forest-conservation

4. CLATSKANIE RIVER - APIARY FALLS TO CARCUS CREEK

Location: T6N, R3W, S4, 5, and 9 and T7N, R3W, S32
Quality: A wild, deep gorge on the Clatskanie River winding through a large second growth Douglas Fir forest. This is one of the few remaining roadless river segments in the northern coast range.
Plan Designation: Forest-conservation

5. SCAPPONIA RECREATION SITE

Location: T4N, R3W, S18 SE1/4
Quality: Classified and managed by the Bureau of Land Management as a Class I Visual Resource Management (VRM) area. Only natural ecological changes and very limited management activities are allowed in Class I areas.
Quantity: 20 acres includes a buffer zone around the 2-acre site.
Plan Designation: Forest-conservation

STATE DESIGNATED SCENIC HIGHWAYS

6. Hwy. 30 between Deer Island and Rainier
7. Hwy. 47 between the Washington County Line and Treharne and between Pittsburg and Clatskanie.

SCENIC VIEWS

8. Wayside north of Rainier on Hwy. 30
9. Wayside north of Rainier on Old Columbia River Highway

POTENTIAL CONFLICTING USES:

Potential conflicts for these resources are activities which degrade their aesthetic appearance. These activities include clear-cutting, road building, and the conversion of large amounts of agricultural, forest, and other resource lands to high-density residential development.

ECONOMIC, SOCIAL, ENVIRONMENTAL, AND ENERGY CONSEQUENCES:

Visually, the blanket of green forestland stretching over the hills of the region is a valuable social resource for the County. However, timber resources are also economically valuable. They provide jobs, contribute tax dollars, and support local service industries. Curtailment of timber activities to retain the aesthetic quality of the resource could decrease the income received by the County from this resource. Presently, small acreages of timber are being retained along State scenic highways to preserve visual appearances.

The County has taken a number of “built and committed” exceptions to the density level in certain areas, some of which fall along the identified scenic highways. The exceptions will allow a higher rural density in these areas than allowed on surrounding lands. While it is possible that this density increase may change the general scenic quality of the area, it is unlikely that it will degrade it. The areas are small in comparison to the large acreages of surrounding resource land which are zoned Primary Agriculture (PA-38), Primary Forest (PF-76), and Forest Agriculture (FA-19). If higher density development were not allowed in the areas, landowners may experience extreme economic and social hardships because of lost opportunities.

Most of the areas inventoried are on public property, but Carcus Creek Falls, Lava Creek Falls, and the Clatskanie River-Apiary Falls to Carcus Creek are presently undeveloped privately-held scenic resources. There is no present public access to these areas. Consequently, their social value is limited. However, these scenic sites could potentially be made more accessible to the public in the future. For example, a trail system could be developed up Carcus Creek to Carcus Creek Falls and Lava Creek Falls, assuming an easement along the creeks can first be obtained from the landowners. Potential also exists to connect these scenic sites with a 280-acre tract of County-owned land situated within ½ mile of both falls. The falls are rare features whose value lies primarily in their aesthetic appearance. Allowing conflicting uses could have serious social and environmental consequences. However, negative economic consequences will be felt if current timber operations are severely restricted. In order to encourage private landowners to allow access to these sites, the County has chosen to place relatively few limits on conflicting uses. Thus, while the County has restricted residential development on these sites, it has not prohibited commercial forestry. Commercial forestry would impact the land surrounding the falls and river, but would not eliminate the scenic values of the falls and river themselves. The impact of commercial forestry will also be short term because of reforestation requirements.

FINDINGS:

These scenic features have been identified and presented to alert citizens and officials of their significance. Protecting this view quality in the County is socially and possibly environmentally beneficial. However, views often encompass large amounts of land and general restrictions placed to preserve a certain view could have both negative economic and social consequences for the citizens of Columbia County. Therefore, measures need to address and protect certain qualities of the area. Scenic features in Columbia County generally lie within

areas zoned for agricultural and forest uses. Scenic quality will be protected by retaining the general low density of the area. In addition, land use activities along Class I streams, including those identified as scenic sites, are restricted by the Riparian Area overlay zone and the Forest Practices Act. Additional restrictions are unneeded and would be counterproductive because the landowner might react by further limiting public access or refusing to grant public access.

SCENIC SITES, VIEWS, AND HIGHWAYS

GOAL:

To protect and enhance the aesthetic value of scenic resources in Columbia County.

POLICIES: It is the policy of the County to:

1. Protect and enhance the aesthetic appearance of scenic areas in the County through the use of low density residential standards, natural resource related overlay zones, and County encouragement.
2. Examine and encourage the use of voluntary tools and techniques to make Carcus Creek, Lava Creek, and Beaver Creek Falls accessible to the public. Avoid additional mandatory restrictions on private property to encourage landowners' cooperation.
3. Support the designation of scenic corridors by Federal and State land management agencies for land under their jurisdiction.

SCENIC WATERWAYS

There are no designated scenic waterways in Columbia County. The Nehalem River has been identified by the Federal government and the Oregon State Parks Division as a potential scenic waterway. While the County recognizes the Federal and State Designation, we do not endorse or adopt the Nehalem River as a potential scenic waterway.

POLICIES: It is the policy of the County to:

1. Participate in the Federal and State scenic waterways designation process and to apply the Goal 5 rule if and when the Nehalem River is designated as a scenic waterway.

RECREATIONAL NEEDS

BACKGROUND

Columbia County is a region of outstanding recreational resources and potential. It has a total land area of 676 square miles, of which about 30 square miles are water covered. The mountainous Coast Range in the southern and western regions diminishes eastward into a series of rolling hills interspersed with shallow valleys. The lower stretches of the Columbia River serve as the northern and eastern borders of the County. The plain adjacent to the Columbia River varies in width up to five miles and contains a number of large, generally low-lying islands and diked lands.

Columbia County is responsible for supplying its citizens with recreation facilities in an appropriate quantity, quality, and location consistent with the availability of the resources to meet their recreational needs now and in the future.

COUNTY PARKS

The County operates and maintains seven parks: 1) Scappoose Airport Park; 2) Big Eddy; 3) Hudson-Parcher; 4) J. J. Collins Memorial; 5) Fisher; 6) Laurelwood; and 7) Camp Wilkerson. Camp Wilkerson is primarily a youth camp. Reservations are required for the use of the camp and are available through the Road Department.

Carcus Creek Park is also part of the County park system, however, lack of access prevents its use as a park at this time. The County is planning on a sanitation thinning of the 250-acre area, which could result in the development of roads for access into the park.

The Sunset Wayside Area is the only one in Columbia County that is State owned and operated.

Other recreational facilities owned and operated by private enterprise or different agencies that are available in the County include:

1. St. Helens Golf Course
2. Scapponia Park (Bureau of Land Management)
3. Diblee Point Beach (State)
4. Wayside Park (Longview Fiber)
5. Sunset Wayside Area (State of Oregon)
6. Clatskanie River Wayside Park (owned by the State and leased by the County)

7. Nehalem Wayside
8. Mayger Ramp Park (State Game Commission)
9. Willow Bar (State Game Commission)
10. Oak Island Ramp (State Game Commission)
11. Parks Port Marine (Private)
12. John Landing (Private)
13. Gilbert River Access (State Game Commission)
14. Fish Hawk Lake Development
15. Gunners Lake (Crown Zellerbach)

OREGON RECREATION TRAILS

The National Trails System Act of 1968 gave national recognition to the growing demand for recreation trails, and denoted three types. The natural recreation trails are those located in and near urban areas where there is the greatest need. The national scenic trails are long distance trails with significant scenic, historic, natural, and cultural features. These two types of trails are joined by connecting or side trails. The Appalachian and the Pacific Crest Trails were both designated as National Scenic Trails in 1968. The Continent Divide National Scenic Trail was added by Congress in November, 1978.

In 1971, Oregon passed the State's Recreation Trails System Act. The purpose of the act was to establish a system of trails for hiking, horseback riding, and bicycling. Additional emphasis is placed upon developing trails in and connecting highly scenic areas. Trails are to be located with the following priorities: 1) on State land; 2) on other public land (with permission); and 3) on private land (subject to permission and restrictions).

House Bill 1700, the "Bicycle Bill" was passed by the Legislature in 1971. This bill requires that not less than one percent of the funds received each year by the Commission, or by any City or County from the State Highway Fund, shall be expended as necessary to establish footpaths and bicycle trails along newly constructed, reconstructed, or relocated highways. Funds receive from the State Highway Fund may also be expended to maintain such footpaths and trails and to establish footpaths and trails along other highways, roads, and streets and in parks and recreation areas. Administration of this Act is carried out by the Location Unit of the Highway Division, separate from the administration of the Recreation Trails System Act. A Bicycle Advisory Committee of eight members appointed by the Governor advises the Highway Division in carrying out the provisions of the Bicycle Act.

There exists two (2) recreational trail systems in Columbia County; the Portland to the Coast Trail and the Northwest Oregon Bicycle Loop. Only the latter has been completed.

The proposed Banks/Vernonia State Park is located on the old Burlington Northern Railroad grade between the Washington County town of Banks and the Columbia County town of Vernonia. This park could provide trails for hiking, horseback riding, and bicycling on two adjacent pathways. Nature study by individuals or organized groups, including schools, could be a secondary use of the park. This park is not supported by the Vernonia citizens because of the uncontrolled access to private property adjoining the park, which could result in increased vandalism and forest fires. At this time, the status of the proposed park is uncertain.

The Clatskanie Citizen Planning Advisory Committee suggested that the County open the Westport Slough from Clatskanie to the County line and replace the bridges, with the Dike District's approval. This would be used as a recreational boating facility.

The Sauvie Island Wildlife Management Area is an example of non-game/wildlife habitat that provides non-consumptive recreational opportunities. The Wildlife Management Area also provides duck hunting areas for the public, and private duck clubs are located near the area, too.

The Trojan Nuclear Power Plant at Prescott is owned and operated by Portland General Electric. The company has attempted to alleviate the shortage of parks and ball fields in the County through the construction of wilderness parks and ball fields. In addition, public access to fish-stocked lakes and ponds that surround the nuclear facility is provided by Portland General Electric. The following table indicates the number and types of groups who visited the Trojan Nuclear Facility during 1978.

TABLE 28

<u>GROUPS</u>	<u>NUMBER OF VISITORS</u>
Non-Group	71,372
School: Grades 1 -12	11,715
College	872
Other Groups	7,596
Trojan Plant Tours	<u>23,835</u>
TOTAL	115,390

The development of recreational sites and facilities encounters four major problems: 1) lack of financial resources; 2) private ownership of vital and popular public use areas; 3) conflicts between public access and industrial sites; and 4) poor access to potential or existing sites (i.e.

Carcus Creek Park has no access, one can enter by foot only). Three techniques are available for improving the recreational development situation in the County. These include coordination between agencies, legal and administrative techniques, and specialized financing opportunities. These techniques are elaborated below.

The efforts of all the agencies that might be engaged in recreation in the County should be coordinated. These agencies include the County Parks Commission, the State Parks Department, State Fish and Wildlife Commission, U.S. Soil Conservation Service, St. Helens Parks Department, Army Corps of Engineers, Bureau of Land Management, Heritage Conservation and Recreation Service (formerly the Bureau of Outdoor Recreation), and the State Marine Board, as well as private industries.

Coordination with private enterprise is especially important considering the amount and location of private lands. When private facilities answer a public need, the County should encourage and supplement these efforts.

Industrial sites should be developed in a manner that is compatible with adjacent recreational opportunities. Industrial development does not mean recreational sites must be eliminated or destroyed. This fact is especially important in relation to the Columbia River, a resource that is coveted by both industry and recreation enthusiasts. Recreation agencies working with the Port of St. Helens and individual enterprises can minimize the loss of recreation opportunities if they can understand each other's needs.

Civic groups have made, and can continue to make, valuable contributions to recreation opportunities. Their success at Camp Wilkerson is a prime example of agencies, industries, and civic groups working together.

Legal and administrative techniques include:

1. Leasing easements. Access to recreation resources may be achieved through easements or leases for public entrance or use. Access easements or leases benefit the landowner by lowering the taxable value of this property or by providing direct income.
2. Acquiring easements. Recreation agencies may acquire easements for scenic or recreational development.
3. Purchase of rights. Recreation agencies may purchase the development rights of a property. The owner may continue to use the land for its customary purposes but it may not be developed for a new, more intensive use.
4. Property exchange. It is sometimes possible to take advantage of a situation where an individual, company, or public agency accepts property owned by the County in exchange for land needed for a park.
5. Donations. Individuals, groups, and corporations may donate easements or land to the County. These gifts, whether motivated by tax advantages, public relations, or

philanthropy, should be encouraged by publicizing both individual and public benefits.

6. Tax-foreclosed lands. Before any tax foreclosed or other surplus lands are placed back on the market, they should be examined for their potential as a recreation facility. If not of direct value, they may be used for exchange purposes and tax policies; the maintenance of open space lands may be encouraged through these policies. Under Oregon law, real estate values must be assessed by a method, which takes into consideration land use plans, including current zoning.

There are several financing techniques. Federal grants are available through the Land & Water Conservation Act for up to 50% of the cost of planning, acquisition, and development of outdoor or recreation and water areas. The fund is administered by the Heritage Conservation and Recreation Service. Also, financing is available from the State Marine Board's Facility Grant.

The Department of Housing and Urban Development provides Public Facility Loans for public works, including recreation facilities. Loans may cover full cost of land acquisition, architectural, engineering, and legal fees, planning, and construction.

The Watershed Improvement Program, under the Department of Agricultural, aids local agencies in the planning and implementation of improvements within small watersheds. The benefits derived may include recreation.

Rural development loans from the Farmers Home Administration might be attained for development of picnic areas, ponds, parks, camping facilities, trails, and fishing waters.

Federal grants from the Department of Housing and Urban Development may cover up to five years of interest on loans locally financed for acquiring land for public works and facilities.

Grants from the Department of Housing and Urban Development provide matching monies to local public bodies for up to 50% of project costs for open space, urban beautification, and historic preservation.

Financial aid from the Federal Highway Administration and administered through State Highway Departments can be used for landscaping and roadside development. These funds can be used for rest and recreation areas for travelers.

The Federal Aid Highway Amendments of 1974 authorize the Secretary of Transportation to make grants for the construction of bikeways in conjunction with highway projects. The grants are provided on an 80% to 20% basis.

Multiple use of lands and resources is an important factor to consider when determining potential recreation sites. Multiple use practices on forestland, in residential areas, and in school systems are ways to create or extend recreational opportunities.

Recreation areas, open space, watershed protection, wildlife and fisheries habitat, soil protection from erosion, and recreational sites are some of the multiple benefits derived from forest lands. In Columbia County, 93% of the forests are privately owned. These lands may provide multiple benefits, but are not managed to that end. Recreational activities that may be considered permissible by the owner of private forest lands include campgrounds, trails, and points of interest.

The development of privately held resource lands for recreational use can lead to conflicts. This possibility is especially evident regarding the sale of these lands for recreational homesites. The development of these lands can create a serious threat to the natural resources of the County and to the local economy.

There is a special section in the Columbia County Subdivision Ordinance, adopted in 1982, for inclusion of parks and/or open areas in subdivisions or major partitions. Article IV, Section 901, number 18 states the following:

"Parks, Recreation, and Open Space Provisions. The Director or Commission may require a maximum of 5% of the gross area of such subdivision for either dedication to the public for parks and recreation purposes or for open space for the common use of the owners of properties within such subdivision or major partition. In the event open space is required by the Director or Commission, its common use will be governed by a homeowner's association. The association's principal source of funds shall be an assessment levied against each dwelling unit or other property which assessment shall be enforceable as a lien against the property."

There are twenty-six (26) schools in Columbia County. Many have playgrounds and school buildings (auditoriums, gymnasiums, etc.) which are available for community use after school hours. In this way, the school plays a valuable secondary role as an indoor recreation center.

It is essential to recognize the recreational needs of Columbia County in order to establish the ways and means to resolve these needs. By utilizing the various techniques previously mentioned. (i.e. coordination between agencies, etc.) to create a state and/or major regional park and improve other recreation sites and facilities, Columbia County will be more able to serve the needs of its residents as well as its visitors.

RECREATION

GOAL:

To satisfy the recreational needs of the citizens of Columbia County and its visitors.

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

1. Establish a Parks Board to draft a public and private parks plan to aid in meeting the recreational needs of the people of the County.
2. Encourage and cooperate with the State Parks Departments in establishing a State park in the County.
3. Recognize hunting and fishing as major recreational activities which should be maintained and supported.
4. Recommend the Parks Board Inventory the County's beaches to determine what type of improvements should be made. This should be done in conjunction with State and local governments.
5. Explore the possibility of developing regional parks in conjunction with the cities and local civic groups.
6. Designate County parks as Community Service in the Comprehensive Plan and implement this designation through the use of the Community Service-Recreational zoning designation.

AIR, LAND, AND WATER QUALITY

AIR

In August of 1978, the DEQ issued the DEQ Handbook for Environmental Quality Elements of Oregon Local Comprehensive Land Use Plans, which is designed specifically for the analysis of the air, water, and land qualities of the different jurisdiction of the State. DEQ is the State agency with responsibility over air, land, and water qualities statewide.

In 1974, the Environmental Protection Agency (EPA) issued air quality regulations under the 1970 version of the Clean Air Act (P.L. 91-604) for the prevention of significant deterioration (PSD). These regulations established a scheme for protecting areas with air quality cleaner than the national ambient air quality standards (INAAQS). EPA's PSD regulator scheme was further modified by 1977 amendments to the Clean Air Act (P.L. 95-95).

Under existing EPA regulation, "clean areas" of the nation can be designated under one of three "classes". Specified numerical "ambient increments" of net air pollution increases are permitted under each class up to a level considered to be significant for that area. Class I increments permit only insignificant air quality deterioration; Class II increments permit moderate deterioration; Class III increments allow for the greatest amount of deterioration, but in no case beyond the national air quality standards.

Under the Federal regulations, all area of the State are automatically classified as Class II areas except for mandatory Class I areas and "non-attainment" areas. The area classification scheme is administered and enforced through a pre-construction and pre-modification permit program for specific types of stationary sources. No such air pollution sources could begin construction or modification unless EPA and DEQ had found that the source's emissions would not exceed the numerical "increments" for the applicable class and that the source would use the best available control technology.

All of Columbia County is in Class II PSD (Prevention of Significant Deterioration) area according to the Department of Environmental Quality.

The St. Helens airshed is limited for TSP (Total Suspended Particulate) and sulfur dioxide increments because of the Boise Cascade expansion. The exact remaining increments are unknown at this time. The Rainier airshed for TSP is limited due to the Longview, Washington industries.

Development policies and plans should be carefully reviewed to determine if there is a possibility of conflict between meeting PSD air quality standards and the proposed development. EPA and DEQ will be reviewing major TSP and sulfur dioxide sources both as to their impact on ambient air quality within a designated Class II area but also on adjacent areas, e.g. Class I PSD areas. It is conceivable that a new or modified stationary source might violate a Class I "increment". This factor should also be considered in locating industrial areas within Class II areas.

Columbia County does not have an ambient air monitor area to determine whether or not the carbon monoxide (D) air quality standard has been violated in the Class II PSA area.

It has been determined by using the carbon monoxide screening procedure in the DEQ publication, DEQ Handbook for Environmental Quality Elements of Oregon Local Comprehensive Plans (Air Quality Section), that the roads within the Columbia County Comprehensive Plan area, in particular St. Helens and Scappoose, will not cause future violations of the eight (8) hours carbon monoxide standard.

Class I areas could potentially have an effect upon development within Class II or III areas. Previous EPA studies have demonstrated that large air pollution sources as far away as sixty (60) miles from Class I areas may have a significant impact upon these areas. Therefore, land use development in and "near" (at least twenty (20) miles and possibly further, depending on the type and size of emission source) should be carefully reviewed as to its potential air quality impact on Class I areas. Columbia County has no Class I areas nearby. Furthermore, it has been determined by using the guidelines in the DEQ publication, DEQ Handbook for Environmental Quality Elements of Oregon Local Comprehensive Plans (Air Quality Section), that the Columbia County Comprehensive Plan does not appear to cause or contribute a violation of Class I PSD air quality standards or regulations.

Open Burning Rules:

The Department of Environmental Quality has specific rules for open burning which are numerous and detailed and so are not listed. The Department's policy is as follows:

340-23-025 - In order to restore and maintain the quality of the air resources of the state in a condition as free from air pollution as is practicable, consistent with the overall public welfare of the State, it is the policy of the Environmental Quality Commission to eliminate open burning disposal practices where alternative disposal methods are feasible and practicable; to encourage the development of alternative disposal methods; to emphasize resource recovery; to regulate specified types of open burning; to encourage utilization of the highest and best practicable burning methods to minimize emissions where other disposal practices are not feasible; and to require specific programs and timetables for compliance with these rules.

Indirect Source Permit Rules:

The Department of Environmental Quality has specific rules for indirect source permits. A construction and operating permit may be issued to a major new or modified source proposing to locate in an attainment area only if one of the following requirements is met:

1. The emissions from the proposed source are modeled to have an impact upon all non-attainment areas equal to, or less than, the significance levels listed in the table in 340-20-195(3); and/or

- The requirements of 340-20-192 are met if the emissions from the proposed source are modeled to have an impact upon the non-attainment area greater than the significance levels of the table in 340-20-193(3).

340-20-195(3) Table of Significance Levels

<u>Pollutant</u>	<u>Annual</u>	<u>24-hour</u>	<u>8-hour</u>	<u>3-hour</u>	<u>1-hour</u>
CO	-	-	0.50 mg/m ³	-	2.0 mg/m ³
Ozone	-	-	-	-	8.0 ug/m ³

The County's proximity to the Portland-Vancouver AQMA may have an effect on new source development and air quality. Therefore, any construction of a major new or modified source in Columbia County must meet one of the preceding requirements.

Noise:

Background: It has been estimated that environmental noise has been increasing at the rate of one decibel per year. At this rate, noise energy emitted into the environment will double every three- (3) years. The idea that people become accustomed to noise is scientifically being refuted. Biological changes and reactions take place at levels of noise much below these associated with hearing damage.

In 1971, the Oregon Legislature adopted House Bill 1669. This bill gave the Environmental Quality Commission and the Department of Environmental Quality broad powers to identify and regulate excessive levels of environmental noise emissions. Since that time, the DEQ has assumed primary authority for defining, establishing, and enforcing noise standards for the state. During 1980, a program was initiated to develop individual city and county noise control capabilities.

Specific Noise Sources: Columbia County's noise pollution sources are similar to other rural countries whose economic base is largely dependent upon resource related activities. Typical resource related noise sources found in the County include mineral extraction and processing, and timber harvesting and milling.

The County's Surface Mining and Land Reclamation Ordinance requires a permit for surface mines which extract over 10,000 cubic yards of material per year, or which will expand over two acres per year. The twenty-five (25) permitted sites currently in operation in the County are inventoried on page 215-216 of the plan. All mineral processing occurring in the County takes place at the extraction site. The twenty-five (25) aggregate sites are located either on industrial or resource land and all are surrounded by resource uses.

Timber harvesting is a recognized noise source but its transient character prohibits any meaningful inventory. Lumber mills can be classified into two groups - permanent and portable. The County has six (6) permanent mills and an estimated twenty-eight (28) portable mills. The permanent mills have existed for some time and are located in industrially zoned areas which are surrounded by industrial and/or resource uses. The portable mills, while not

as transient as the timber harvesting activities, are somewhat mobile and tend to follow active logging operations. Also, these portable mills are generally situated on the resource land they are serving. No inventory is available for the portable mills at this time. As such information becomes available, it will be catalogued and included in the plan during its scheduled periodic updates. The six permanent are:

<u>Name</u>	<u>Location</u>
Bellingham Logging Company	Birkenfeld area
Beaver Quality Lumber Inc.	Clatskanie area
Boise Cascade Corporation	Clatskanie area
Evenson Contractor	Clatskanie area
Olympic Forest Products	Mist area
Multnomah Plywood Corporation	within St. Helens U.G.B.

Crown Zellerbach Corp. operates a pole yard on industrially zoned land within the Scappoose Urban Growth Boundary.

Columbia County supports two airport facilities. One is located about two miles southwest of the City of Vernonia and the other is located about one mile northeast of the City of Scappoose.

The Vernonia Airport is owned by the City of Vernonia and currently serves as a base for about ten (10) general aviation aircraft. There are no plans for any substantial improvements at this time. The airport facility is situated on public lands and is surrounded by resource uses.

The Scappoose Airport is owned by the Port of St. Helens. About one hundred (100) general aviation aircraft are currently based at the facility. A master plan was developed for the airport in 1975 which projected an increased usage to over two hundred (200) aircraft, including a small jet fleet by 1995. The diagram on the following page illustrates the current land use and day-night average sound levels (Ldn) surrounding the airport. This information was taken from the Scappoose Industrial Airpark Master Plan.

Major public highways within the County include U.S. Highways 30 and 26, and Oregon Highways 47 and 202. The Scappoose-Vernonia Highway, a county road, connects the City of Scappoose to Highway 47 about three (3) miles north of the City of Vernonia. Only Highway 26 and portions of Highway 30 exceed 5,000 ADT. The other major highways, although not handling large volumes of traffic, should be recognized as potential noise sources due to the resource related traffic utilizing them.

One active railroad exists in the County. This railroad parallels U.S. Highway 30 from the south county line to the City of Rainier. From Rainier, the railroad continues north, along the Columbia River, to Port Westward. From there it heads south to where it once again parallels U. S. Highway 30 to the west county line. An average of one train per day uses the right-of-way.

The DEQ has received complaints from residents in the vicinity of the Trojan Nuclear Power Plant, located south of Rainier, about noise from steam relief of the system and from the testing of the warning devices.

Columbia County does not have the staff, nor the resources, to carry out a comprehensive noise abatement program. Consequently, the County will have to rely heavily upon the DEQ for its assistance and direction.

NOISE

GOAL

To control and limit the adverse impacts of noise.

POLICIES

1. The County will comply with all applicable state and federal standards and regulations regarding noise pollution.
2. The County will consult with the DEQ prior to allowing any noise sensitive uses to develop within the probable impact range of recognized noise pollution sources.
3. The County will continually update its list of noise pollution sources and include this information in the Plan during scheduled periodic updates. This update shall include not only new sources but also noticeable expansions or deletions of existing sources.
4. Provisions will be included in the Zoning Ordinance to prohibit encroachment of noise pollution sources into noise sensitive areas and to prohibit the encroachment of noise sensitive uses into recognized noise pollution areas.

LAND

Septic Tank Disposal:

The problem of septic tank disposal systems and the location of those systems has long been a standing issue within Columbia County. A septic tank absorption system for sewage disposal is a subsurface tile or perforated pipe system laid in such a way that effluent from the septic tank is distributed with reasonable uniformity into the natural soil. Criteria used for rating soils are based upon the limitations of the soil to absorb effluent. Important features affecting this use are permeability, depth of seasonal water table, flooding, slope, depth to bedrock or hardpan, stoniness, and rockiness.

At the present time, the Columbia County Subsurface Sewage Department administers the septic tank approval program. The County by contract is an agent for the DEQ. Permits are issued by the Subsurface Sewage Department for the construction of on-site sewage disposal systems.

Permits for selected alternative systems (i.e. sand filter system), selected experimental systems, or variations of conventional systems where authorized by variance can be issued by the State Department of Environmental Quality.

Prior to development, the person proposing the development must secure land use clearance prior to an issuance of a permit, and suitable evidence of acceptable sewage disposal (either on-site permit or sewer system hookup) is required before a building permit is issued.

The denial rate for on-site disposal systems has been estimated to be approximately 5% within Columbia County. Soils that have poor drainage, high clay content, and high water tables have high potential for septic system failure. Some soils in which denials are frequent are Bashaw, Yoncalla Complex, Sutherlin Complex, Curtin, Climax, Waldo, Wapato, and Natroy. The list is not all-encompassing but only represents examples of soil types where denials and failures can be expected. Since soil types vary greatly and change within relatively short distances, on-site inspection by a registered sanitarian or soil scientist is needed for final and accurate determinations.

The State Legislature has approved an alternative to the conventional septic system which is expected to increase the areas which can be developed. This system is a "sand filter system" and those interested in such systems should contact the local DEQ office for details and requirements.

There are several identified problem areas in the County. The major problem with these areas is due to the high permanently and temporarily perched ground water. (See maps included in the Hazard section of the Plan).

Other characteristics associated with problem areas for septic systems are steep slopes (in excess of 20%), high annual rainfall (40-60 inches), depth to bedrock or hardpan, stoniness

and rockiness, and the large amount of land held by timber companies. (See maps included in the Hazard section of the Plan).

Problems due to inadequate sizing and improper construction are characteristics of septic systems installed in the past.

Columbia County has two incorporated cities, Prescott and Columbia City, which do not have sewer systems but use only septic systems.

The Warren area, roughly the area along Highway 30 between Scappoose and St. Helens, faces special problems. It is seen as the major growth area of the County. In order to accommodate growth, a wastewater management program will be required. Presently, the County is studying the feasibility, as well as the desirability, of providing centralized treatment for this area. Other options would include an on-site wastewater management program. This area has already experienced contamination problems, and soil evaluation tests are generally negative due to a high seasonal water table.

To prevent further development of potential health hazards, subdivisions or land parcelization should be based upon the potential of the soil to absorb on-site sewage disposal. An initial screening procedure has been developed to assist in cursory examination and identification of designated rural and suburban development areas. The septic limitations are based upon SCS soils and has four (4) categories which are:

probable: A proposed system would be likely to meet State installment and performance standards and the system should not pose a health hazard.

possible: Chances for a location for installment would be less, and the health hazard of the system would be slightly increased.

unlikely: Indicates a high health hazard concern, and a strong possibility that the site could not handle septic disposal wastes.

severe: Indicates that on the basis of soil descriptions, the area will not usually meet current regulations for septic system approval.

These classifications should be initial indicators only, and prior to approval of development a thorough investigation must be made by a qualified sanitarian or soil scientist to determine the carrying capacity for the land in terms of supporting such on-site systems.

Solid Waste:

Finding an alternative solid waste disposal site for the County, and developing a program to encourage greater utilization of established solid waste disposal operations, are the two major solid waste problems facing Columbia County.

The incidence of uncollected solid waste is a serious problem in the County. Estimates are that 10,000 tons, or approximately 15% of the solid wastes end up uncollected. About 30% of all uncollected wastes are generated in the Clatskanie and Rainier sections of the County.

Since the time these figures were reported, the Clatskanie Sanitary Service's landfill has been closed. The solid waste now collected from the north county area is transported to the Longview area.

The only solid waste disposal site in Columbia County is the Vernonia landfill. In late 1972, the DEQ ordered Vernonia to close its open dump, forcing the operator to haul waste 30 miles over rough terrain and poor roads to the former Santosh site. The site was reopened as a landfill and serves the interior of the County. The majority of refuse collected in the County is currently hauled to the St. Johns landfill near Portland.

The other problem concerns the illicit dump sites located throughout the County. Interim action plans for site clean up and public education can be instituted immediately to close out the illegal dumps and encourage utilization of authorized disposal sites.

WATER

Introduction:

The two major sources of water in the County are surface water and ground water. Uses of these water resources may be categorized as consumptive and non-consumptive. Those uses, normally identified as consumptive, are irrigation, municipal, and industrial uses. Non-consumptive uses include, but are not limited to, recreation, hydro power generation, and fish and wildlife habitat.

Water Quality:

The Department of Environmental Quality has developed an overall Water Quality Management Plan for the State of Oregon on a basin-by-basin basis. Development of the Water Quality Management Plan satisfies the requirements of Section 303(e) of PL 92-500 (Federal Regulations) and in accordance with applicable provisions of Oregon Law (ORS Chapter 468). The Water Quality Management Plan for the North Coast-Lower Columbia River Basin and a portion of Willamette Basin are the two basins which affect Columbia County. The general objective of this plan is to preserve and enhance water quality in the water basins and to provide for the beneficial uses of the water resources while preserving the health and general welfare of the people and quality of the environment.

The Water Policy Review Board has established beneficial uses of waters of the State in broad categories for managing stream flows. The DEQ has expanded on these uses specifically for water quality management purposes. Existing water quality standards and plans delineate beneficial uses for all streams and basins.

Physical Setting:

The North Coast-Lower Columbia River Basin, an area of approximately 2,700 square miles, is located in the extreme northwestern part of the State of Oregon. Basin boundaries consist of the Pacific Ocean on the west, the Columbia River on the north, the Coast Range Divide on

the east, and the divide between Neskowin Creek and Salmon River on the south. The basin measures approximately eighty-five (85) miles in a north-south direction and sixty (60) miles in an east-west direction.

The general nature and topography of the North Coast Basin is in an area of contrasts ranging from coastal dunes to steep slopes of the coast range. The variations within the basin range from relatively flat level beaches at sea level to rugged crests and peaks having elevations of 3,300 feet.

The soils in the basin have developed under high rainfall and coniferous forest cover and are derived from rocks of sedimentary and volcanic origin. Moderately developed soils on the lower slopes are well adapted for cropland and respond well to irrigation. The soils from recent marine sediments are very unstable and erodable when the vegetation is removed. These soils are moderately stable under forested conditions, but subject to sliding on steep slopes when distributed.

The valley soils, adjacent to the Coast Range foot slopes, occupy nearly level terraces or sloping alluvial outwash fans from the mountains. These soils are acid, porous, and high in organic matter content. They are readily developed for irrigation and support most of the agriculture.

For convenience and clarity, the North Coast Columbia River Basin was divided into sub-basins for evaluation and discussion.

Stream Flows:

Stream flows are an important part of water quality. High stream flows are normally associated with land run-off, which may cause erosion and subsequent stream sedimentation. Low stream flows are usually associated with high stream temperatures. Both high and low stream flows are of concern in water quality management.

The North Coast-Lower Columbia River is abundantly supplied with water. However, precipitation is often low during the summer months. There are numerous rivers and large creeks which drain the area. The rivers flow westward to the Pacific Ocean or north to the Columbia River, are short in length, and have exceedingly steep gradients dropping up to 100 feet of elevation per mile until they reach tidewater. The majority of rivers do not flow directly into the ocean but empty into large bays and then into the ocean.

The headwaters of most of the rivers occur in the Coast Range at low elevations (3,000 feet or less) with relatively small snow pack to aid in the summer runoff. The stream flow of the rivers range from raging torrents in December through March, to trickles during August and September. Many of the rivers have less than one percent of their annual flow during the summer months when the water is needed for agricultural, recreational, domestic, and industrial uses.

Waste Sources:

Waste sources fall into two broad categories: 1) point sources that generally issue from pipes or other relatively permanent channels, and 2) non-point sources that result from diffuse land runoff. Non-point sources are further broken down according to general area of origin such as agriculture, silviculture, urban runoff, mining, stream bank erosion, and construction.

Point sources of wastes are likewise divided into sub-groups, such as sewage (municipal), industrial, and other related types. Point sources are subject to regulation by waste discharge permit.

Under the provision of ORS 468.740, and administrative rules adopted by the Environmental Quality Commission, no wastes shall be discharged into waters of the State without a permit from the Director of the Department of Environmental Quality. The Department has the authority to permit or prohibit waste discharges; adopt, modify, and enforce water quality and waste treatment standards; develop, adopt, and implement basin water quality management strategy plans; monitor water quality and waste discharges; and enforce compliance with Oregon laws, standards, rules, and permits.

The DEQ also implements the National Pollutant Discharge Elimination System (NPDES) within the State of Oregon in compliance with the provisions of the Federal Water Pollution Control Act. The Federal Act requires NPDES permits to be issued in accordance with water quality standards, adopted river basin plans, adopted 208 plans, national effluent and performance standards, and minimum treatment requirements, as applicable.

Municipal Wastes:

The present minimum State standards for treatment and control of wastes in the North Coast-Lower Columbia River Basin are contained in OAR Chapter 340. The standard established for sewage or domestic waste treatment is summarized as follows:

Forty sewage treatment plants now operate in the North Coast-Lower Columbia River Basin. The domestic waste treatment plants in the North Coast-Lower Columbia River Basin are currently serving a population of about 33,905 (1976 figure). Of the forty (40) plants, all but three (3) additional unused capacity to accommodate a total of about 80,160 more people before reaching their design capacities. The three (3) plants without further capacity are Clatskanie, Crown Zellerbach (Wauna), and the Olney Elementary School; they currently serve 2115 people. The St. Helens sewage treatment facility actually includes wastes from a large pulp mill. Thus, its effluent characteristics are highly irregular for a "domestic" system.

The forty (40) sewage treatment plants in the North Coast-Lower Columbia River Basin are permitted to discharge a total monthly average of 14,693 lbs. of BOD and 21,981 lbs. of suspended solids per day during the dry weather period. Of this total, the St. Helens plant and inherent pulp mill is permitted 12,000 lbs. of the BOD and 18,000 lbs. of the SS. Astoria has the next highest allowance - 1,000 lbs. BOD and 2,100 lbs. SS. This leaves only 1,693 lbs. of BOD and 1,881 lbs. of SS distributed between the remaining thirty-eight (38) plants. The point of significance is that the two major plants discharge to the Columbia River where dilution is great.

The Department has not yet instituted a monitoring and surveillance program to adequately evaluate the impact of treated sewage effluent in the North Coast-Lower Columbia River Basin. However, Tillamook Bay, where commercial oysters are grown, has been studied extensively relative to coliform bacteria sources and their possible health significance.

Septic Tanks:

The issue of septic systems is more completely discussed in the Land Quality section.

Industrial and Related Waste Sources:

There are thirty-five (35) industries in the North Coast-Lower Columbia River Basin with a potential for waste production. As would be expected from this geographical area, fish hatcheries, seafood processing plants and wood products plants are the principal sources of waste.

Present industrial waste treatment requirements for the North Coast-Lower Columbia River Basin stem from the general standards, OAR 340, 41-240, adopted by the Department in 1967. In effect, the standards provide that waste treatment requirements shall be determined on an individual basis in accordance with 1) providing the highest and best practicable treatment and/or control; 2) the size and nature of the receiving stream; 3) water quality standards; and 4) the types of other recognized beneficial stream uses to be protected.

Fish Hatcheries: Seven (7) publicly owned fish hatcheries are operated in the basin, i.e., Big Creek, Clatskanie River, Gnat Creek, Cedar Creek, Trask River, East Fork Trask River, and North Fork Nehalem River. None provide waste treatment at present, but all are on schedule for facilitating primary settling by mid-1987. While the estimated remaining waste loads in solution (BOD) are numerically high, these loads are in such low concentrations in effluents as to be practicably untreatable. The average BOD load of hatchery water is about 0.5 lbs/day per 100 pounds of fish. Based upon current fish production at the seven (7) hatcheries, their average respective BOD loads would be about 350 lbs. per day. The hatchery waste impacts on the receiving streams in this basin have not yet been evaluated.

Seafood Processing Plants: There are eleven (11) seafood-processing plants under wastewater discharge permits in the basin, two (2) at Tillamook and nine (9) on the lower Columbia River. All provide fine screening of their wastes. The collected solids go to by-products processing or land disposal and other effluents are discharged to receiving streams. Compressor cooling waters and defrost unit cooling waters are sewerred to nearby streams.

Wood Products: There are six (6) wood products plants located in the basin, composed of lumber, plywood, and shake plants. Their waste types include veneer dryer wash-down waters, boiler blow-down waters, fire-control water, and log-pond effluent. For the most part, these waters are small in volume. The single log-pond is allowed to overflow in winter to compensate for rainfall accumulations.

Miscellaneous Wastes: Listed with the miscellaneous grouping of industries are the Crown Zellerbach Company pulp mill at Wauna; Portland General Electric Company's Trojan Nuclear Power Plant near Rainier; Reichhold Chemical Company's fertilizer plant near Columbia City;

and the Multnomah Plywood veneer plant on Scappoose Slough. Each of these is under rigid waste treatment and/or control programs.

Boise Cascade Corporations' pulp mill at St. Helens is also designated river basin, but its wastes are combined with the City of St. Helens municipal waste section.

Impact on Industrial Wastes on Water Quality: The Department has limited stream studies in the vicinity of the major industrial waste discharges of the basin. No resulting water quality standard violations were observed outside of the individually assigned mixing zones.

The Department's basic statewide water quality monitoring program is designed to develop generalized quality information and does not document localized conditions in the vicinity of out-falls. Thus, further specific evaluations need to be conducted in conjunction with future routine source inspections. Likewise, the impacts of fish hatchery waste loads on the receiving streams need to be evaluated.

Non-point Source Waste:

Water quality monitoring in the North Coast-Lower Columbia River Basin has shown three (3) significant water quality aberrations of non-point source origin. They are seasonal increases in turbidity, coliform bacteria, and water temperature. The turbidity and bacteria result largely from diffuse land runoff sources. While it may be possible to reduce them, they probably cannot be entirely eliminated even under the best of control systems. Temperature rises are the result of solar heating on diminished flows.

Urban and agricultural runoff are suspected of carrying many more diverse containments than the two items of soil turbidity and coliform bacteria; e.g., metals, pesticides, petroleum products, and other industrial chemicals. However, the State's general water quality monitoring programs have not included sufficient analyses for these compounds to reveal whether a control program is needed.

Oil Spill Prevention:

As the population increases and pressure mounts to bring more oil products into the lower Columbia River System, there will be an increasing likelihood that oil spills will become more common.

Because of this possibility, and Oil Spill Protection Plan for the lower Columbia and Willamette Rivers was completed in July 1979.

The Columbia River bordering Columbia City has been mapped and charted. The areas included Clatskanie, Longview, Kalama, St. Helens, and parts of Cathlamet and Vancouver.

Each area's resources have been inventoried and divided into five (5) protection priorities:

Priority 1: Critical habitats importance for the preservation of a species. Endangered species as identified by the Endangered Species Act. Reproduction and rearing areas for all organisms.

Priority 2: Wildlife concentration areas, such as resting and feeding sites.

Priority 3: Private/governmental aquaculture facilities such as fish hatcheries and research stations. Domestic water supplies.

Priority 4: Recreational facilities, such as parks.

Priority 5: Water dependent industries

The four basic protection measures appropriate for the lower Columbia and Willamette Rivers include:

1. Containment of the oil at the spill site.
2. The use of boom to seal off an area from oil intrusion.
3. The use of boom to divert oil away from a sensitive area.
4. The use of exploding devices, horns, etc. to disperse organisms such as birds or seals who might be in the path of the oil.

Water:

While Columbia County contains an abundance of rivers, streams, and other water bodies within its bounds, the water is not always of a usable nature. Six problems affecting the quality and quantity of usable water in the County are cited below:

1. Stream bank erosion, the lateral movement of a stream channel that undercuts banks and removes soils and vegetation, occurs noticeably along about sixty-five (65) miles of river and stream banks in the County. These major rivers and streams 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.

Erosion protection is best accomplished through setback requirements in developments. Channel maintenance prevents erosion locally, but may cause greater stream flow and erosion downstream, especially during times of extended precipitation and runoff.

2. Sedimentation is the best presence of suspended or settled solids that interfere with beneficial uses of water. High amounts of sedimentation in the water are often caused by stream bank erosion. Sedimentation can affect a wide array of uses, including water supplies, irrigation, fish and aquatic species habitats, recreation and

aesthetics. In Columbia County, the streams and rivers that have sedimentation problems include Fishhawk Creek, Deep Creek, Deer Creek, Clear Creek, Milton Creek, South Scappoose Creek, Nehalem River, Clatskanie River downstream of the confluence with Carcus Creek, and the Multnomah Channel.

3. Debris, the presence of logs, slash, and other materials, becomes a problem when it is contained in amounts large enough to hinder fish passage and boating. It may also accumulate at critical points and cause damage to culverts and bridges, or result in flooding. Streams and rivers having a moderate excessive debris problem in the County includes Deep Creek, Deer Creek, Rock Creek, Beaver Creek, Scappoose Creek, and the Nehalem River.
4. The withdrawal of water for consumption at a point may have a negative impact on downstream uses, which are dependent on a certain flow, and fish and aquatic species.

Most of the water withdrawal problems occur in areas having natural low flows during the summer. The problems tend to be confined to moderate and large size tributaries since many of the small tributaries in affected areas will naturally go dry during the summer, and therefore are not suitable sources for water withdrawal. Both the Nehalem River and South Scappoose Creek are affected by water withdrawal.

5. Elevated water temperature is an increase in temperature that interferes with aquatic life and other uses of water. High temperatures commonly affect the rearing of salmonid fish and increase the occurrence of diseases for adult fish. Often it is related to low flows, high ambient air temperatures, and stream corridor management. Along the Nehalem River, elevated water temperatures have interfered substantially with the production of salmonid fish. Fish production has also been hindered along Milton Creek because of this problem.
6. Nuisance algae or aquatic plant growths can interfere with water supplies, fish rearing, recreation, and aesthetic quality. They are often associated with low flows, high water temperatures, and high nutrient concentrations. Beaver Creek, Nehalem River, Tide Creek, Milton Creek, and South Scappoose Creek have moderate nuisance algae or aquatic plant growth.

Further information regarding these problems may be found in the Goal 5 section.

AIR, LAND, AND WATER RESOURCES

GOAL:

To maintain and improve land resources and the quality of the air and water of the County.

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

1. Work with the appropriate State and Federal agencies to insure that State and Federal water, air, and land resource quality standards are met.
2. Comply with all applicable State and Federal standards and regulations regarding noise pollution.

NATURAL DISASTERS AND HAZARDS

SLOPES

Columbia County can best be characterized as mountainous, with 28% of the County having slopes of 30% or greater. These excessive slopes cause rapid surface water runoff, are prone to erosion and sliding, and usually have underdeveloped soil covers. They become unstable if left bare for any length of time and are generally considered unsuitable for development.

Much of the County has severe foundation limitations caused by the combination of excessive slopes and high water tables. The maps located at the end of this chapter reflect those areas of the County requiring review prior to the issuance of building permits. The County currently uses Chapter 70 of the Uniform Building Code as the mechanism for review of structures proposed within hazard areas. This method of review has worked successfully to date and, with updated hazard information now available, should continue to work in the future.

FLOOD PLAIN

Flood plains or flood prone areas are regions that are dry in some seasons of the year but inundated when heavy rain, streams, estuaries or other bodies of water overflow their shores.

Problems arise when attempts are made to convert flood hazards to urban uses. Not only are buildings and other improvements in such areas subject to damage, but their presence often impedes the normal flow of water through these plains and may result in an increase in the height of the flood water and the size of the area which is flooded.

There is generally a relationship between the frequency and the magnitude of floods, with more extensive floods occurring less frequently. By comparing the highest flood record in a given area, the areas inundated by recent floods for which there are more complete records, and the frequency of past floods of various levels, it is possible to estimate the area of flood hazard.

Based upon the flood date analysis, decisions should be made regarding suitable development for vacant areas, and redevelopment or preservation of existing land use. In a study of undeveloped areas, careful consideration should be given to location, topographic and drainage features, size of tracts, and availability of utility and transportation facilities. Types of development with relatively low damage potential may be permitted, such as open space, park lands, farming, and parking lots.

Public policies governing construction of bridges, streets, and sewers should be compatible with flood control. Urban renewal plans provide an opportunity for flood plain management, including the floodproofing of existing structures. If proper flood protection measures are assured, it may be possible to improve private financing opportunities in otherwise suspect areas.

Three (3) major tools for effective flood plain management are building codes, zoning, and subdivision regulations. Building codes may incorporate specific requirements for permitted construction within the flood plain areas. Floor elevations would ordinarily be above the predicted flood level. Design of substructures and structural members of buildings should provide sufficient strength to withstand the expected water pressures and velocities, and should be sufficiently anchored. Special flood proofing measures can be required, such as flood shields for doors, windows, and vents; valves for terminating entering utilities; and reinforcement or drainage of flow slabs, etc. Flood proofing standards should be applied to existing development as well as to proposed new construction.

Zoning restrictions can limit use of land to purposes which are compatible with flood conditions. Subdivision regulations a limit approval of subdivision proposals to areas high enough to be suitable for development. Connector and major street grades above flood height can be required to prevent isolation of areas. Minor streets can be somewhat below the controlling elevation, but a foot or two of inundation at design flood levels is probably the maximum which should be acceptable. The interrelationship of building grade, street elevations, sewer and water line design, and other factors may permit some type of urban development in those portions of the flooding fringe that are apt to experience infrequent flooding of minor depth.

Subdivision regulations have the advantage of controlling the development of the area from the beginning. Flood proofing of structures, limitations on land use, and installation of improvements tailored to the special needs of the area, can be tied to subdivision approval.

A 1966 report by the Secretary of Housing and Urban Development indicates that well over half of all flood damage to dwellings arises from less than 2% of all dwellings and that average annual flood damage to all residential properties was nearly \$4 per \$100 property value in the zone of highest flood risk, compared to four cents per \$100 property value in the zone of lowest flooding risk.

In an effort to compensate for losses and to correct the conditions which produce them, the National Flood Insurance Act of 1968 was passed authorizing the Department of Housing and Urban Development to cooperate with the insurance industry in establishing and carrying out a program making flood insurance available for real and personal property. Priority in the initiation of the program is given to flood insurance for residential properties in states which have undertaken some of the preliminary studies or programs for flood control or land use restrictions, as called for in the act.

The purpose of the Flood Insurance Act is to make it possible for owners of improved property subject to flooding to obtain insurance protection at rates substantially lower than it would be possible for the insurance companies to offer on a strict actuarial basis. The date inaugurating the program in an area is very important because the federally-subsidized flood insurance will not be available for property in the identified flood hazard area which is constructed or substantially improved after that date. By limiting the availability of low cost insurance to existing structures, the government seeks to avoid encouraging any further improvements in potential flood areas.

For purposes of administering the Flood Insurance Act, "flood plain" is defined as "the area, usually a relatively flat or lowland area adjoining a river, stream, watercourse, ocean, bay, or lake, which has been in the past, or can reasonably be expected to [be] in the future, covered temporarily by flood waters... Flood plain area having special flood hazards generally means the maximum area of the flood plain which is likely to be flooded at least once every 100 years." These flood plain areas are designated on the Flood Hazard Boundary Maps drafted by the Department of Housing and Urban Development in 1975 and updated in 1977. These maps will be further updated and refined as additional flood plain studies occur.

LANDSLIDE HAZARD AREAS

Land failures in the form of slumps, earth or mud flows, debris, rock-fall and soil-fall failures have occurred in Columbia County. These failure types are shown in Figure .[no table found]

Land failures are naturally caused by oversteepening due to erosion, deposition, previous land slippage, and tectonic activities. In addition, earthquake vibrations, volcanic activity, and over-saturation are known to contribute to or cause landslides.

The natural instability of hillside areas has been complicated and increased by the constructive and destructive activities of humans. The activities which most commonly cause land instability in climates like Western Oregon are:

1. Oversteepening and removal of support of slopes by excavating for roads and houses and by elevating of ground surface (i.e. filling);
2. Placement of weight (i.e. loading) such as fills and structures on a slope;
3. Development of ancient or active landslide areas;
4. Increased erosion caused by development, water works, and vegetation removal;
5. Oversaturation of soil by sprinkling, irrigation, uncontrolled road and residential concentration of runoff, changes in natural drainage, blockage, ground flow;
6. Vibratory loading caused by blasting and pile driving.

Columbia County has potentially dangerous landslide areas, according to a geologist with the State Department of Geology and Mineral Industries. At the present time, no information exists on landslide areas for Columbia County except for the known slide areas that are shown on map 50.

EARTHQUAKE HAZARDS

To date, a definitive study of earthquake potential has not been conducted in Columbia County.

However, considerable analysis has been undertaken in various parts of the State, including the Portland metropolitan area. In those studies, historical earthquakes were viewed to ascertain future earthquake probabilities from known and inferred faults. There has been speculation that one of the Portland area faults, the so-called Portland Hills Fault, may extend into Columbia County.

There is one known fault in the County, located in the basalt and igneous area between Clatskanie and Rainier. Recent fault activity has not been recorded. St. Helens and Scappoose experienced nominal seismic activity in 1900 and 1963 respectively.

Earthquake hazards in the County appear nominal, and special precautions appear unnecessary.

It is apparent that detailed studies are needed for more accurate and current information concerning landslide, earthquake, and flood plain areas. Hopefully, in the near future, these studies will be made. Once completed, these studies will aid in improved and more accurate planning for residential areas, recreational sites, road systems, etc.

SLOPE HAZARD AREAS

(Slopes Greater Than 30%)

<u>SOIL</u>	<u>SLOPE</u>	<u>ACRES</u>
Alstony Gravelly Loam (North)	30 - 60%	5,383
Alstony Gravelly Loam (South)[North]*	60 - 90%	368
Alstony Gravelly Loam (North)[South]*	30 - 60%	8,347
Alstony Gravelly Loam (South)	60 - 90%	627
Braun-Scaponia Silt Loams (North)	60 - 90%	3,570
Braun-Scaponia Silt Loams (South)	60 - 90%	5,410
Caterl Gravelly Silt Loam (North)	30 - 60%	426
Caterl Gravelly Silt Loam (South)	30 - 60%	390
Dowde Silt Loam (North)	30 - 60%	4,262
Dowde Silt Loam (South)	30 - 60%	6,929
Hembre-Klickitat	30 - 60%	1,238
Murnen Silt Loam	30 - 60%	706
Rinearson Silt Loam	30 - 60%	3,930
Scaponia-Braun Silt Loams (North)	30 - 60%	26,451
Scaponia-Braun Silt Loams (South)	30 - 60%	35,924
Tolany Loam (North)	30 - 60%	2,187
Tolany Loam (South)	30 - 60%	2,008
Wauld Very Gravelly Loam	30 - 70%	2,754
Xerocrepts (Escarpments)	Steep	3,344

TOTAL, 28% total area of County 114,254

Most of this area is in timber production

Source: USDA-Soil Conservation Service Detailed Soil Survey, September 1983.

*[editorial corrections]

SOILS WITH LOW SHEAR STRENGTH

SOIL	ACRES
Bacona Silt Loam	60,568
Cornelius Silt Loam	5,595
Crims Silt Loam	1,855
Dayton Silt Loam	279
Delena Silt Loam	1,102
Goble Silt Loam	3,261
Goble Silt Loam (Warm)	44,799
Hembre-Klickitat Complex	1,530
Honeygrove Silty Clay Loam	2,091
Kenusky Silty Clay Loam	2,638
Locoda Silt Loam	655
Locoda Silt Loam (Protected)	3,867
Mayger Silt Loam	19,467
McBee Silt Loam	1,057
Moag Silty Clay Loam	434
Natal Silty Clay Loam	1,398
Rafton-Sauvie-Moag Complex	3,285
Sauvie Silt Loam	2,622
Sauvie Silt Loam (Protected)	2,986
Sauvie Silty Clay Loam	659
Sauvie Silty Clay Loam (Protected)	3,134
Tolke Silt Loam	2,255
Treharne Silt Loam	2,632
Vernonia Silt Loam	29,645
Wapato Silt Loam	417
Wauna-Locoda Silt Loam (Protected)	1,833
Wauna-Locoda Silt Loam	1,614
<hr/>	
Total, 50% of the County	201,678 Acres

SOURCE: SCS Detailed Soil Survey

SOILS RELATED TO MASS MOVEMENT

SOIL	SLOPE	ACRES
Alstony Gravelly Loam (North)	30 - 60%	5,383
Alstony Gravelly Loam (South)[North]*	60 - 90%	368
Alstony Gravelly Loam (North)[South]*	30 - 60%	8,347
Alstony Gravelly Loam (South)	60 - 90%	627
Braun-Scaponia Silt Loams (North)	60 - 90%	3,570
Braun-Scaponia Silt Loams (South)	60 - 90%	5,410
Cascade Silt Loam	15 - 30%	1,024
Caterl Gravelly Silt Loam (North)	30 - 60%	426
Caterl Gravelly Silt Loam (South)	30 - 60%	390
Cornelius Silt Loam	15 - 30%	3,008
Dowde Silt Loam (North)	30 - 60%	4,262
Dowde Silt Loam (South)	30 - 60%	6,929
Glohm Silt Loam	3 - 30%	9,877
Goble Silt Loam	3 - 30%	3,261
Goble Silt Loam (Warm)	3 - 30%	44,799
Hembre-Klickitat	30 - 60%	1,238
Mayger Silt Loam	3 - 30%	19,467
Murnen Silt Loam	30 - 60%	706
Rinearson Silt Loam	30 - 60%	3,930
Scaponia-Braun Silt Loam (North)	30 - 60%	26,451
Scaponia-Braun Silt Loam (South)	30 - 60%	35,924
Tolany Loam (North)	30 - 60%	2,187
Tolany Loam (South)	30 - 60%	2,008
Wauld Very Gravelly Loam	30 - 70%	2,754
Xerocepts (Escarpments)	Steep	3,344
TOTAL, 49% total area of County		195,690

Source: USDA-Soil Conservation Service Detailed Soil Survey, September 1983.

*[editorial corrections]

SOILS WITH HIGH WATER TABLES

SOIL	ACRES
Aloha Silt Loam	2,901
Aloha Silt Loam (Variant)	344
Cascade Silt Loam	2,493
Cornelius Silt Loam	5,595
Crims Silt Loam (Protected)	1,855
Dayton Silt Loam	279
Delena Silt Loam	1,102
Goble Silt Loam	3,261
Goble Silt Loam (Warm)	44,799
Glohm Silt Loam	9,877
Kenusky Silt Loam	2,638
Locoda Silt Loam	655
Locoda Silt Loam (Protected)	3,867
Mayger Silt Loam	19,467
McBee Silt Loam	1,057
Moag Silt Loam	434
Natal Silty Clay Loam	1,398
Natal Silty Clay Loam (Flooded)	329
Quafeno Loam	936
Quatama Silt Loam	5,184
Rafton Silt Loam	727
Rafton Silt Loam (Protected)	3,635
Rafton-Sauvie-Moag Complex	3,285
Sauvie Silt Loam	3,281
Treharne Silt Loam	2,632
Udipsamments	1,199
Wapato Silt Loam	417
Wauna Silt Loam (Protected)	4,423
Wauna-Locodo Silt Loams	1,614
Wauna-Locodo Silt Loams (Protected)	1,833
Wollent Silt Loam	686
<hr/>	
Total, 33% total area of County	132,203 Acres

SOURCE: USDA-Soil Conservation Service Detailed Soil Survey, September 1983

FLOOD PLAIN

GOAL:

Eliminate or reduce the economic and social costs created by flood-caused damages.

POLICIES:

1. Columbia County will participate in the National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA).
2. Any new development within the flood plain shall be designated to avoid damage from flooding and to minimize the damage potential to other developments or properties.
3. Open space uses such as recreation or agriculture shall be encouraged within identified flood plain areas.
4. Subdivisions proposed to be located within an identified flood plain area shall be encouraged to use lands outside of the flood plain through use of P.U.D.s and clustering.
5. Development in areas subject to flooding shall be permitted only in accordance with the provisions of the Flood Hazard (FH) Overlay Zone. The FH Overlay Zone shall be applied to all areas subject to periodic flooding at a frequency estimated to occur once every hundred years or more, as shown on FEMA's most recent Flood Hazard Boundary Maps for Columbia County. Columbia County's Flood Hazard Overlay Zone shall be based on and consistent with the applicable portions of Section 60.3 of FEMA regulations governing the National Flood Insurance Program.
6. Retain and restore natural or other suitable vegetation adjacent to waterways.
7. Emergency repairs involving roads and bridges within flood plain areas shall be allowed providing the repairs do not extend beyond the original bank line. Such emergency repairs shall be subject to the requirements outlined in OAR 141-85-280. Upon receipt of an approved emergency permit by the Division of State Lands, the County shall notify the local Citizen Planning Advisory Committee of the action to be undertaken.

HAZARDOUS AREAS

GOAL:

To protect life and property from natural disasters and hazards.

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

1. Require compliance with Chapter 70 of the Uniform Building Code for all construction:
 - A. Proposed on land with slopes exceeding 20%; or,
 - B. On lands mapped, otherwise noted in this element, as having severe limitations for building; or
 - C. On any land suspected of being unable to physically support the proposed structure.
 - D. In known slide hazard areas.
2. Periodically update the natural hazards inventory base.
3. Work with the Columbia County Soil and Water Conservation District to reduce soil erosion in the County.
4. Encourage the retention of as much vegetative cover as possible in critical mass movement areas, areas with over 20% slope, and in other slide or erosion prone areas.
5. Encourage "P.D." or cluster type development for projects proposed in areas identified as having limitations due to soil characteristics or excessive slope, so as to maximize the use of the most suitable building sites.

WILLAMETTE RIVER GREENWAY

The Willamette River Greenway represents a unique and unprecedented problem. The outlines of the problem are:

- 1) a legislative policy directing development and maintenance of a natural, scenic, historical, and recreational greenway along the Willamette River;
- 2) accomplishment of this purpose by the development and implementation of a "plan";
- 3) [maintenance of the plan] through the cooperative efforts of ~~the cooperative efforts of~~ the State and local units of government. [editorial correction]

The Greenway system includes all channels of the Willamette River from its confluence with the Columbia River upstream to Dexter Dam on the Middle Fork and to Cottage Grove Dam on the Coast Fork. More than 510 riverbank miles are included within this system. Columbia County contains 25 riverbank miles along both sides of the Multnomah Channel.

The lands bordering the Channel serve a number of purposes: agriculture, habitats for fish and wildlife, industrial uses, marine commercial uses, and recreation. There is a need to strike a balance among these uses to ensure that competing demands do not degrade the quality of the waterway. The Greenway Plan - consisting of ODOT's Greenway Program, Statewide Planning Goal 15, and local comprehensive plans - provide the framework for achieving this balance. Through coordinated comprehensive planning, the agricultural, natural, scenic, and economic areas and interests along the Multnomah Channel can be maintained and enhanced, and conflicts between its varied uses minimized.

These procedures apply to land within 150 feet of the low water mark within urban areas and within the Greenway Boundary in rural/unincorporated areas.

Lands within the Greenway are predominantly publicly owned open space; 58.4% of all properties are owned by the Oregon Department of Fish and Wildlife. Roughly 2,000 acres (48.1%) of this is in the Sauvie Island Wildlife Management area. Within the Greenway Boundary, agricultural uses account for about 5%, while 93.6% of the land is undeveloped and essentially in the natural state.

For the most part, existing agricultural acreage is incidental, forming a 150 foot strip bordering the Multnomah Channel. This land comes from surrounding farm properties abutting on the Greenway. The Scappoose Dikelands, adjacent to the Greenway, include some of the best farmland in the County.

Approximately 25 acres south of St. Helens at the mouth of Scappoose Bay are zoned for heavy industrial (M-1) use, and are part of the area earmarked for future industrial development by the Port of St. Helens. This site is inside the City Limits and is designated "urban" in the ODOT Greenway Plan. An additional 12.5 acres along the west bank of the Multnomah Channel are presently used by Crown Zellerbach for log storage and a log unloading facility.

Recreational activities are primarily boating, hunting, and fishing. The only public recreational area, apart from the boat launching facilities, is J. J. Collins Memorial Park on Coon Island owned and operated by the County.

Recreational need in the County is primarily for hiking, trails and overnight camping sites. Portions of the Greenway, as identified in the ODOT Revised Greenway Proposal may be suitable for primitive overnight camping, limited day use, and development of a hiking trail.

Portions of the Greenway are heavily used for boat angling, especially for spring Chinook. The steep face of the dike limits bank fishing as well as general access along much of the Channel. The Greenway also provides seasonal hunting opportunities, since much of the area is an important habitat for waterfowl and other wildlife.

It should be noted that there is no access across private lands except where easements (access rights) have been obtained through prior arrangement.

River access is provided by four (4) public and private boat launching facilities in the Greenway, in addition to public land access. These include one public and two private boat ramps and two additional hand-carried boat launching sites. Three (3) locations outside the Greenway boundary provide access to Multnomah Channel. Distances between these sites range from ½ to 4½ miles. Although the present number of sites appears to be adequate, the quality of the facilities is variable.

While much of the area receives heavy recreational use, there is a large percentage of the channel banks and their bordering habitat that receive little use because of various factors limiting access. A number of the banks on the channel and sloughs are characterized by almost vertical clay banks ranging from 6 to 15 feet in height, depending upon water levels in the Columbia River. Thick brush growing right up to the bank's edge, in addition, limits access from water to land and vice versa. A dike follows the channel on the west side for approximately eight (8) miles. The dike has a modest slope and permits easy access to the channel. However, the narrow, two-lane road below the dike has no parking facilities and potential users have to walk too far from their cars. Much of the land is in private ownership and the owners discourage trespassing. Lack of a public road to the North Unit confines access to boats. A good portion of the undiked lands is flooded in the spring. Man-made barriers such as log rafts, houseboats, and boat moorages also block access on a sizable portion of the channel.

The Multnomah Channel borders some of the best riparian and wetland habitat that can be found in the State. A conservative estimate would place up to 130,000 ducks, 12,000 geese, and 2,000 swans using the waterway and adjacent lands. Black-tailed deer, pheasants, quail, cranes, shorebirds, and many other small birds and animals live and winter in the area.

The sloughs, small lakes, and flood plains along the Columbia River are sensitive waterfowl habitat. There are numerous wetlands throughout the area utilized for nesting and wintering. Flooded lowland agricultural areas are the most important winter sites for waterfowl. Thousands of geese and ducks utilize food crops planted for waterfowl use in the winter. A network of canals diverts pumped water for flooding many acres of prime duck feeding areas. Controlled shooting sites and adequate refuge zones to provide protection for waterfowl has been a major factor for the success of the management program. Sauvie Island provides a

very popular recreational area in the State, both consumptive and non-consumptive uses of wildlife.

Sauvie Island is one example of a valuable non-game wildlife habitat that provides non-consumptive recreational opportunities. Numerous hours of bird watching, photography, and nature studies are spent on non-game wildlife. It has been estimated that two-thirds of all wildlife use is non-consumptive.

The Multnomah Channel is a major migration route for spring chinook [salmon and sea run cutthroat trout. Other primary species sought by anglers include coho salmon, summer and winter steelhead trout, and white sturgeon. Angler use is heaviest during the months of March, April, and May.

The ODOT recommends public acquisition of five (5) areas within the Greenway, totaling 500 acres. All these areas are either surrounded by or adjacent to State lands and are suggested for limited public day or overnight use. Soil limitations also point to restricted recreational development. A 1½ mile stretch of the southern-most section of the County's Greenway is recommended for acquisition because of its suitability as a trail connecting lands in public ownership. Acquisition and development of these areas would help to meet the County's recreation needs.

Warrior Rock at the southern tip of Sauvie Island is the only identified site of historical significance within the Greenway. It was sighted on October 28, 1792 by the crew of the "Chatham" under the command of Lt. Broughton of the Royal British Navy. This was the first recorded siting of the Willamette River by a European.

There are no commercial timber resources within the Greenway, nor are there any known mineral or aggregate deposits or extraction sites.

WILLAMETTE RIVER GREENWAY

GOAL:

To develop and maintain a natural, scenic, historical and recreational greenway along both banks of the Multnomah Channel as part of the statewide Willamette River Greenway system.

POLICIES:

1. Agricultural lands within the greenway shall be protected consistent with the Statewide Planning Goals & Guidelines.
2. Identified significant fish and wildlife habitats shall be protected consistent with the Statewide Planning Goals & Guidelines.
3. Identified areas of ecological, scientific, historical, or archeological significance shall be protected, preserved, restored, and enhanced to the maximum extent practicable.
4. The natural vegetative fringe along the river shall be enhanced and protected to the maximum extent practicable.
5. Developments shall be directed away from the river to the greatest possible degree and consistent with the Statewide Planning Goals & Guidelines.
6. Any proposed development, intensification, or change in use must be consistent with the Statewide Planning Goals & Guidelines.
7. Public safety and protection of public and private property shall be provided to the maximum extent practicable and shall be considered when reviewing any proposal for development, intensification, or change in use.
8. Public access points shall be encouraged when reviewing any proposal for development, intensification, or change in use.
9. Identified scenic qualities and viewpoints shall be preserved.
10. Local, regional, and state recreational needs shall be provided for when it can be shown that adequate measures have been provided for which will protect adjacent property to the greatest extent practicable.
11. A setback will be established to assure structures are separated from the river in order to carry out the intent of the Willamette [River] Greenway Goal.
12. The County shall cooperate with the Willamette River Greenway Commission in the joint management of county owned lands within the rural portion of the greenway.
13. The County shall continue to improve its inventory of resources located within the Greenway Boundary.