

**City of Cascade Locks  
Comprehensive Plan  
PART I**

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*May 2001*

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City of Cascade Locks  
**COMPREHENSIVE PLAN**  
and  
**COMMUNITY DEVELOPMENT CODE**  
*May 2001*

**City of Cascade Locks  
Comprehensive Plan  
PART I  
May 2001**

## **INTRODUCTION**

### **What the Plan Does**

The purpose of the Cascade Locks Comprehensive Plan is to provide an overall guide for future growth and development in the city. It establishes a framework to help city residents and businesses achieve common desires for the community. The city ordinances and programs should then be consistent with the policy direction given by this document.

### **Organization of the Plan**

The Cascade Locks Comprehensive Plan contains two parts which are:

**Part I *The Goals, Policies, and Implementation Strategies*** which explain the development of the plan followed by the city's goals, policies, and implementation strategies.

**Part II *The Background Information*** that includes the background information upon which the plan is based and the other supplemental elements of the plan. These additional plan elements are:

- Design Handbook for a Downtown Street Theme, 1992
- Economic Development Plan, 1996
- Cascade Locks Housing Study, 1997
- Cascade Locks Transportation Systems Plan, 1997

### **Oregon Statewide Planning Goals**

Comprehensive land use planning was required in Oregon beginning in 1973 with the passage of Senate Bill 100 (ORS Chapter 197). The new law created the Land Conservation and Development Commission (LCDC) to direct this effort. The Statewide Planning Goals and Guidelines were adopted by LCDC, and they became effective on January 1, 1975. Local governments are required to adopt and implement comprehensive plans that comply with these state-wide planning goals. Of the 19 goals, 14 apply to the city of Cascade Locks.

## GOAL 1: CITIZEN INVOLVEMENT

To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

## GOAL 2: LAND USE PLANNING

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

## GOAL 3: AGRICULTURAL LANDS

To preserve and maintain agricultural lands.

## GOAL 4: FOREST LANDS

To conserve forest land by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

## GOAL 5: OPEN SPACES, SCENIC AND HISTORIC AREAS, AND NATURAL RESOURCES

To conserve open space and protect natural and scenic resources.

## GOAL 6: AIR, WATER AND LAND RESOURCES QUALITY

To maintain and improve the quality of the air, water, and land resources of the state.

## GOAL 7: AREAS SUBJECT TO NATURAL DISASTERS AND HAZARDS

To protect life and property from natural disasters and hazards.

## GOAL 8: RECREATIONAL NEEDS

To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.

## GOAL 9: ECONOMIC DEVELOPMENT

To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

#### GOAL 10: HOUSING

To provide for the housing needs of citizens of the state.

#### GOAL 11: PUBLIC FACILITIES AND SERVICES

To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as framework for urban and rural development.

#### GOAL 12: TRANSPORTATION

To provide and encourage a safe, convenient and economic transportation system.

#### GOAL 13: ENERGY CONSERVATION

To conserve energy.

#### GOAL 14: URBANIZATION

To provide for an orderly and efficient transition from rural to urban land use.

### **The Cascade Locks Comprehensive Plan**

The Cascade Locks Comprehensive Plan was first adopted in 1977 to meet these goals and to better plan for the city's future. The plan was updated in 1987. It contains background information about the city and goals and objectives to guide future growth in the city.

### **REVISION OF THE COMPREHENSIVE PLAN**

#### **Comprehensive Plan Steering Committee**

Beginning in 1994, the city began work to update the Comprehensive Plan for the second time. For this effort, the City Council appointed citizens, the Cascade Locks Planning Commissioners, and several City Councilors to a Comprehensive Plan Steering Committee. The committee was responsible for directing the work on the Comprehensive Plan and implementing ordinances.

The Comprehensive Plan Steering Committee has held regular monthly meetings between November 1994 and May 1998 to revise the Comprehensive Plan and the related land use ordinances. The Committee reconvened in 2000 to consider Plan amendments to address issues raised by the Department of Land Conservation and

Development and the Land Conservation and Development Commission.

## **The Planning Process**

The planning process was guided by considering four basic questions about the community.

### ***Where are we now?***

The committee reviewed a variety of background information, such as the city's current Comprehensive Plan; the plans of other agencies that affect the city; city ordinances; existing land use; population trends; and the economy. The committee also listened to comments from citizens provided from a city-wide survey conducted in March 1996 and public meetings. This helped build a clearer understanding about aspects of the community are important to city residents. Using this information, the committee was able to develop a clearer picture of the community and the desires of its residents.

### ***Where are we going?***

Using the background information, the committee determined the likely future for the city if the past trends continued.

### ***Where do we want to be?***

Next, the committee discussed how the city's future, based on current trends, should be changed to better satisfy citizens' needs and desires. A wide range of ideas were presented in a preferred alternative planning concept. The preferred alternative included general maps and supporting text that described the city's overall planning strategy. It describes the nature and direction of future development for the city. The purpose of this planning concept was to serve as a tool for the committee and the public to articulate the important general issues to be addressed in the Comprehensive Plan and land use ordinances.

The planning concept map and text were reviewed by the committee and the public. An open house was held in September 1996 in addition to the committee's regular public meetings. Committee members also made presentations to community groups during the fall of 1996 to receive citizen comments about the concept. The concept was amended to reflect public and committee comments. It was then reviewed and accepted by the City Council in spring 1997.

The planning concept had three major elements:

- Key assumptions
- The vision statement
- The preferred planning concept

### Key Assumptions

The committee reviewed the background information about the community, and concluded that the comprehensive plan should be based upon several important assumptions:

- There is a potential for approximately 850 new households for a total of 1,290 households in the city.
- The city has the potential to increase from a present population of approximately 1,080 to 3,170.
- Approximately 150 acres of property owned by the Port of Cascade Locks will be available primarily for a combination of commercial and industrial development.
- The rate of development is very difficult to predict, and the city should monitor growth rates and initiate planning programs and actions based on actual population change.

### Vision Statement

An important element of community planning is to have a clear idea or vision of what the community should be like in the future. A community vision was recently developed as part of the *Economic Development Plan for the City of Cascade Locks*. The committee determined that this vision statement was equally appropriate to guide all planning activities in the city.

*Cascade Locks offers a beautiful unique setting for residential housing, recreation, employment, education, and business development opportunities. Growth embraces the aesthetics and quality of life in the city and compliments the surrounding forested mountainous setting in the heart of the Columbia River Gorge. The community provides a full range of services and reflects its citizens' involvement in civic, cultural, and social activities.*

The members felt that because of the significant changes which have occurred since the adoption of the revised Comprehensive Plan in 1987, the plan should be

extensively amended to reflect the changing character and needs of the community.

### Preferred Planning Concept

An overall planning concept was developed which identified important elements that should be considered in the Comprehensive Plan for the city generally and for specific areas of the community. This concept was used as a starting point for developing the goals, policies, and implementation strategies.

### ***How do we get there?***

The Comprehensive Plan Steering Committee, with involvement from other city residents, worked hard to develop the amended Comprehensive Plan to carry out the preferred planning concept. In addition, a Community Development Code was developed to take the place of the city's zoning and subdivisions ordinances. The procedures and requirements of the code are important tools for implementing many of the city's planning goals and policies.

## **GOALS, POLICIES, AND IMPLEMENTATION STRATEGIES**

The Goals, Policies, and Implementation Strategies provide a written framework for future development in the city. They are organized according to five major subject categories:

### **I. Natural Resources and Hazards**

- A. Water
- B. Land
- C. Air
- D. Energy

### **II. Infrastructure and Public Services**

- A. Public transit and special transportation needs
- B. Pedestrian and bicycle travel
- C. Streets
- D. Utilities and services
- E. Police, fire, and emergency services

### **III. Economy**



- A. Commercial and industrial revitalization and development
- B. Jobs creation

#### **IV. Planning**

- A. Citizen involvement
- B. Communication
- C. Agency coordination and cooperation
- D. Land use planning

#### **V. Quality of Life**

- A. Sense of place
- B. Housing opportunities
- C. Parks and recreation
- D. Education
- E. Social services

### **I. Natural Resources and Hazards**

#### **A. Water (Statewide Planning Goals 5 and 6)**

##### Goal

To protect water quality in the Cascade Locks area, with special attention being given to existing and potential domestic water resources.

##### Policies

The city shall:

1. Meet state and federal water quality standards.
2. Work with Hood River County and other agencies to protect groundwater from residential, commercial, and industrial sources of contamination.
3. Designate the Dry Creek watershed as an alternative domestic water source.
4. Develop water sources for irrigation purposes.

##### Implementation Strategies

1. Work with the Hood River County Sanitarian to ensure that existing and new septic systems function properly.
2. Develop specific standards for protecting the water quality of the city's wells located near Herman Creek.

3. Work with the U. S. Forest Service and other agencies to protect the Dry Creek watershed as a potential domestic water source.

## ***B. Land (Statewide Planning Goals 3, 4, 5, 6, 7 and 14)***

### Goals

1. To promote efficient use of land within the Urban Growth Boundary while being compatible with existing development and physical development limitations.
2. To support the proper management and conservation of agricultural and forest land outside of the Urban Growth Boundary.
3. To support the proper conservation of significant riparian and wetland areas and other environmentally sensitive areas.

### Policies

The city shall:

1. Limit development in areas that are subject to flooding or geologic hazards.
2. Work with other agencies to improve the quality of available natural hazard information.
3. Encourage development on land which is the most suitable.
4. Protect significant riparian and wetland areas in a manner consistent with state and federal requirements.

### Implementation Strategies

1. Enforce the geologic hazard (GH), flood plain (FP), and riparian and wetland provisions in the Community Development Code.
2. Work with the Federal Emergency Management Agency (FEMA) to obtain clearly identified 100-year flood plain boundaries for Dry and Herman Creeks.
3. Work with the Oregon Department of Geology and Mineral Industries (DOGAMI) to improve the quality of geologic hazard information and mitigation techniques.
4. Implement the “safe harbor” provisions in Oregon Administrative Rules OAR 660-023 with Chapter 8-6.128 of the Cascade Locks Community Development Code to protect riparian and wetland areas.
5. Comply with state and federal environmental requirements.

## ***C. Air (Statewide Planning Goal 6)***

### Goal

To maintain or improve the air quality in the gorge.

### Policies

The city shall:

1. Promote transportation alternatives to the automobile to help minimize air pollution in the area.
2. Work with the Port of Cascade Locks to promote businesses that will have minimal air quality impacts.

### Implementation Strategies

1. Develop land use designations and ordinance requirements that encourage non-polluting businesses.
2. Amend the zoning ordinance to allow a greater mixture of different land uses to encourage non-motorized forms of transportation.
3. Evaluate alternatives to burning debris and wood waste.

## **D. Energy (Statewide Planning Goals 5 and 13)**

### Goal

To promote efficient energy use.

### Policies

The city shall:

1. Encourage energy efficient buildings within the Urban Growth Boundary.
2. Encourage efficient forms of transportation including walking, bicycling, and transit.

### Implementation Strategies

1. Develop a capital improvement program that includes pedestrian and bicycle facility improvements.
2. Amend the land use designations to allow higher density/intensity development in areas that are best suited for such development.
3. Evaluate alternative and efficient energy sources such as natural gas and electricity generated by wind and water.

## **II. Infrastructure and Public Services**

**A. Public Transit and Special Transportation Needs (Statewide Planning Goal 12)**

Goal

To provide safe, convenient, and economical transportation opportunities for all Cascade Locks residents and businesses as provided in the Cascade Locks Transportation System Plan.

**B. Pedestrian and Bicycle Travel (Statewide Planning Goal 12)**

Goal

To encourage walking and bicycling as provided in the Cascade Locks Transportation System Plan.

**C. Streets (Statewide Planning Goal 12)**

Goal

To provide a street system that meets the needs of residents and businesses as provided in the Cascade Locks Transportation System Plan.

**D. Utilities and Services (Statewide Planning Goal 11)**

Goal

To plan for and provide timely, orderly, and efficient maintenance and improvement of public facilities and services within the Urban Growth Boundary at a pace which keeps up with the city's growth rate and needs.

Policies

The city shall:

1. Phase utility improvements to support development in areas that can be most effectively served.
2. Encourage development in areas that have adequate facilities and services.
3. Work to provide sanitary sewer service to all properties within the Urban Growth Boundary.
4. Work to provide appropriate water service to all properties within the Urban Growth Boundary to satisfy residential, business, and fire fighting needs.
5. Coordinate with the Port of Cascade Locks to provide utilities and services to the proposed development on the port property.
6. Require new development to provide the utilities and services necessary to serve

the development.

#### Implementation Strategies

1. Develop and implement a capital improvement plan which provides improvement and expansion of public infrastructure in the most cost-effective manner possible.
2. Improve low water pressure in sections of town for improved service and fire fighting capability.
3. Obtain funding for utility line extensions and improvements for water, sanitary sewer, storm sewer, electricity, and TV.

### **E. Police, Fire, and Emergency Services (Statewide Planning Goal 11)**

#### Goal

To maintain and enhance the police, fire, and other emergency services available to city residents.

#### Policies

The city shall:

1. Work with Hood River County and the State Police to provide adequate law enforcement and security for the community.
2. Work with Hood River County to provide appropriate law enforcement services in the community.
3. Strive to provide sufficient emergency equipment, facilities, and personnel to improve the level of service for fire and emergency services.

#### Implementation Strategies

1. Upgrade fire and EMT facilities and equipment.
2. Purchase a more central location for fire station.
3. Provide full-time fire and EMT staff.
4. Create an incentive program for volunteers which provides financial, health insurance, and/or retirement benefits.
5. Secure funding for an adequate police force.

## **III. Economy**

### **A. Commercial and Industrial Revitalization and Development**

**(Statewide Planning Goal 9)**

Goal

To promote a diversified city economy.

Policies

The city shall:

1. Continue to work closely with the Port of Cascade Locks to implement the *Master Plan for the Industrial Park and Government Rock*.
2. Provide sufficient quantities of appropriately located and zoned land for new businesses in the community.
3. Provide facilities, services, and amenities to promote tourism.
4. Promote the downtown as the primary commercial and service center of the city.

Implementation Strategies

1. Implement the recommendations contained in the *Economic Development Plan for the city of Cascade Locks*.
2. Implement the Downtown Street Theme dated September 1992.
3. Establish Comprehensive Plan land use designations and zoning requirements that support the *Master Plan for the Industrial Park and Government Rock*.

**B. Jobs Creation (Statewide Planning Goal 9)**

Goal

To create family wage jobs for city residents by implementing the *Economic Development Plan for the city of Cascade Locks*.

Policies

The city shall:

1. Provide sufficient commercially and industrially zoned land to encourage the expansion of existing businesses and the establishment of new employment opportunities.
2. Coordinate efforts with the Port of Cascade Locks to implement the *Master Plan for the Industrial Park and Government Rock*.

Implementation Strategies

1. Create Comprehensive Plan and Zoning Ordinance land use designations and standards to help implement the *Master Plan for the Industrial Park and Government*

*Rock.*

2. Implement the recommendations contained in the *Economic Development Plan for the city of Cascade Locks*.
3. Work with the Port of Cascade Locks, Hood River School District, Columbia Gorge Community College, and Mt. Hood Community College to provide assistance with job training and retraining.
4. Provide incentives to existing or new businesses to provide employment and/or training opportunities to city residents.

## **IV. Planning**

### **A. Citizen Involvement (Statewide Planning Goal 1)**

#### Goal

To continue the city's citizen involvement program by improving the opportunity for citizens to actively participate in all phases of the planning process.

#### Policy

The city shall continue to use citizen committees to help resolve community issues.

#### Implementation Strategy

Provide notice of Comprehensive Plan, land use ordinance, and land development proposals.

### **B. Communication (Statewide Planning Goal 1)**

#### Goal

To provide public information about planning activities and city functions to enhance public understanding about the city and the services it provides.

#### Implementation Strategies

1. Town Hall meetings that are structured to provide public information about community issues and to receive citizen comments.
2. Continue to publish and distribute *The Locks Tender* quarterly newsletter.
3. Establish a home page on the Internet.

### **C. Agency Coordination and Cooperation (Statewide Planning Goal 2)**

#### Goal

To provide appropriate coordination of planning programs with other local, state, and federal agencies.

Policy

The city shall continue to work closely with local, state, and federal agencies to provide well coordinated planning programs.

Implementation Strategies

1. Provide timely notice of Comprehensive Plan, land use ordinance, and land development proposals to affected agencies.
2. Meet with other agencies on a regular basis (e.g., semi-annually).

**D. Land Use Planning (Statewide Planning Goal 2)**

Goal

The city shall develop a coordinated planning program including an overall vision for the community, clear goals, and implementation programs.

The city shall provide an orderly transition from rural to urban land uses.

Policy

The city shall continue to amend its Comprehensive Plan and zoning designations to reflect changes in the community and state planning requirements.

Implementation Strategy

Amend the Comprehensive Plan and zoning designations as necessary to address changing circumstances.

**V. Quality of Life**

**A. Sense of Place (Statewide Planning Goal 5)**

Goal



To maintain the historic, small town character and scenic beauty of the community.

Policy

The city shall conserve important open space and natural and scenic resources.

Implementation Strategies

1. Develop planned development ordinance provisions that encourage or require transfer of density within the area south of I-84 to concentrate development in the most suitable areas while providing common open space areas to protect the scenic qualities of the remaining land which is less suited for development.
2. Implement the Downtown Street Theme.

**B. Housing Opportunities (Statewide Planning Goal 10)**

Goal

To provide adequate housing opportunities.

Policies

The city shall:

1. Encourage a variety of housing types and prices.
2. Strive to make public infrastructure available to support new residential development.
3. Establish partnerships with other agencies and organizations to promote housing availability and affordability in the community.

Implementation Strategies

1. Implement the Housing Study
2. Streamline ordinance procedures to make it easier to provide new housing.

**C. Parks and Recreation (Statewide Planning Goal 8)**

Goal

To provide recreational opportunities for residents and visitors of all ages and income levels.

### Policies

The city shall:

1. Strive to obtain parks land and facilities to serve residential development.
2. Coordinate efforts with the school district and the port to enhance recreational opportunities for city residents.
3. Work with the U. S. Forest Service to improve access to trails and other recreational opportunities.
4. Look for opportunities to provide public access to the Columbia River.

### Implementation Strategies

1. Develop a path or route through the city that connects with the Columbia River Highway State Trail.
2. Continue to support the summer recreation program.
3. Work with the Port of Cascade Locks, ODOT, and Union Pacific RR to provide better access to the Columbia River.
4. Develop the Tooth Rock property for recreation.

## **D. Education (Statewide Planning Goal 11)**

### Goal

To provide the best educational opportunities possible for residents.

### Policies

The city shall:

1. Support keeping the elementary and high schools in the city.
2. Conduct cooperative planning activities with the Hood River School District.

### Implementation Strategies

1. Work with school district representatives regarding short and long range planning programs and facility needs.
2. Carry Ed Net broadcasts on the city TV cable.

## **E. Social Services (Statewide Planning Goal 11)**

### Goal

To provide the necessary health and social services for all ages and incomes groups in

the city.

Policies

The city shall:

1. Work to establish a health clinic in the city.
2. Work to provide a community center for city residents.

Implementation Strategy

Work with Hood River County and other agencies to ensure that the city obtains its fair share of social service assistance and funding.

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**City of Cascade Locks  
Comprehensive Plan  
Part II - Background Information**

*May 2001*

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**City of Cascade Locks  
Comprehensive Plan  
PART II  
BACKGROUND INFORMATION  
May 2001**

## **INTRODUCTION**

Part II of the City of Cascade Locks Comprehensive Plan provides a summary of the background information considered by the public, Comprehensive Plan Steering Committee, Planning Commission, and City Council in the development and adoption of the plan. Much of the information was first introduced in a background summary report dated April 11, 1996. In addition, the background information in the previous Comprehensive Plan was also available for review.

The information presented on the following pages represents a combination of these materials as well as updated information which has become available after 1996. The information is organized using the same outline as the plan goals, policies, and implementation strategies in Part I of the plan.

## **I. NATURAL RESOURCES AND HAZARDS**

Cascade Locks and the surrounding area provide a wide array of natural resources. The scenic quality of the Columbia Gorge is perhaps unsurpassed by any other area in the state. The primary natural resources described below are water, land, air, and energy.

### **A. WATER**

#### **Watersheds**

##### **Columbia River**

This magnificent river is the source of much of the recreation, the scenic beauty, the economic activity, and quality of life that the people of Cascade Locks enjoy. The original development of the City was due to the need to traverse the rapids of the river by land. Today, the river serves as a navigation corridor for barge traffic carrying goods and materials as far east as Lewiston, Idaho.

The completion of Bonneville Dam in 1938 created the Bonneville Reservoir adjacent to the City. Bonneville Reservoir has a tributary area of 240,000 square

miles, an area equal to about 8 percent of the continental United States. Regular flow measurements on the Columbia River in the Bonneville area are taken at The Dalles *to be* included in the official records of the U. S. Geological Survey. The annual discharge over the 91-year period of record (1878-1969), measured at The Dalles gauging station, has averaged 140,700,000 acre-feet per year.

### Herman Creek

This Columbia River tributary has good water quality, characteristic of streams found within relatively undisturbed watersheds. The stream has sufficient water quantity and quality to warrant the construction of a major fish hatchery. In the past, parts of the Herman Creek watershed have been logged. As a consequence, some sections of the stream lack large woody debris needed for ideal fish habitat. The lower reaches of Herman Creek also show signs of human alteration. Some channelization of the lower half-mile of Herman Creek has reduced its fish production potential. In some areas, most of the riparian vegetation has been eliminated as a result of the chronic stream channelization problem associated with the two highways and the water intake for the Oxbow Hatchery holding ponds. Industrial pollutants are also a potential threat to the mouth of Herman Creek.

### Dry Creek

Dry Creek flows down the Cascade Mountains through the Mt. Hood National Forest into the City limits of Cascade Locks. Shortly after entering the Cascade Locks area, it flows through a culvert underneath Interstate 84 near Wheeler Avenue. From Interstate 84, Dry Creek flows through residential areas until it reaches the Columbia River. Occasionally, during large storm events, the Interstate 84 culvert becomes blocked with debris, which potentially pose a threat to the residential area downstream. The City of Cascade Locks works with the Oregon Department of Transportation to resolve this problem when needed.

The U. S. Forest Service has recognized the watershed as a necessary water supply source for the City. The source was first developed in conjunction with the canal lock, which was hydraulically operated, and provided the necessary water to operate the locks when using the canal. The City at one time used this creek for its water supply but has since discontinued this practice because the creek was unable to meet newly implemented water quality standards for suspended sediment. The City could again use this as a City water source if a filtration facility is provided.



## Rudolph Creek

Rudolph Creek is a very small stream that flows out of the Cascade Mountains and through the City of Cascade Locks. The creek flows through the west end of town passing underneath Wa Na Pa Street and the Union Pacific Railroad tracks before reaching the Columbia River.

## **Ground Water**

### Ground Water Occurrence

The State of Oregon State Engineer's Office conducted a survey of the ground water resources of Hood River County in 1966. Pertinent parts of the study entitled "A Reconnaissance of the Ground Water Resources of the Hood River Valley and the Cascade Locks Area, Hood River County, Oregon", by Jack E. Sceva, is summarized below, to provide background information about ground water resources in the Cascade Locks planning area.

Much of the surface water flowing from the south wall of the Columbia Gorge near Cascade Locks disappears into the ground upon reaching the slide block area as shown in the above diagrammatic sketch on the following page (Figure 1). Dry Creek and Rudolph Creek both lose water or disappear entirely in crossing this area. The water reappears in a line of large springs that extend from Oxbow Springs on the east to Crystal Springs on the west. These springs occur several hundred feet above the level of the Columbia River. Crystal Springs, which is probably the re-emergence of Rudolph Creek, was the former municipal water source for Cascade Locks.

In order for the ground water to be forced to the surface in this line of springs, there must be an extensive layer of tight material underlying the area that prevent the downward movement of water. The nature of this tight layer is believed to be formed by a relatively impermeable layer of andesitic lava in the Eagle Creek formation. The andesitic lava knobs in Section 5, Township 2 North, Range 8, East, may be outliers of this tight layer.

The alluvial gravels along the Columbia River just west from the mouth of Herman Creek extend below river level and contain a body of ground water that is hydraulically connected with the river. This ground water resource now provides domestic water for the City of Cascade Locks.

Figure 1

## Ground Water Potential

Large amounts of ground water move north through the slide block area and discharge in the line of springs as depicted in Figure 1. The construction of wells in this area south of the line of springs would intercept some of this ground water. Problems of well construction in the broken material and the possibility of missing the main avenues of water movement create some risk in attempting to develop ground water in this area. Drilling wells in the spring area or to depths below the altitude of the springs is not advised because of the low potential for developing large supplies of ground water from the Eagle Creek formation. If sufficient water is not developed at an altitude above 240 feet, a new well site should be selected rather than deeper drilling into the Fogle Creek formation. Yields exceeding 500 gallons per minute can probably be developed in some parts of the slide block area where broken basalt materials extend below the water table.

Large capacity wells are developed in the alluvial gravels lying adjacent to the Columbia River immediately west from the mouth of Herman Creek in Section 6, Township 2 North, Range 7 East. These large capacity wells are currently operating at a depth of 100 feet. The current yields of 1,000 gallons per minute can probably be expanded as future needs require.

## Wetlands

The City currently has U. S. Fish and Wildlife Service wetland inventory maps as a source of local wetland information. These maps are included in Appendix A, and they are available upon request at City Hall. These maps show the existence of wetlands in the Cascade Locks vicinity. The City hopes to establish a more thorough and specific wetland inventory in the future.

There are three surface water impoundments in the planning area. One is located just west of Riverview Street along the railroad right-of-way. It is currently under private ownership. The second impoundment is located along Frontage Road, south of Interstate 84 and is under private ownership. It is known as the McGlone Pond and has been developed as a private pond. A third pond is known as Weaver Pond and is located just south of Interstate 84. Water flowing from this pond passes through a culvert located under the Interstate-84 on-ramp. It is fed by underground springs that are related to Dry Creek. It was created when beavers successfully dammed up the creek. Since then, the beavers have been removed.

## **Fish Habitat**

### **Columbia River**

In recent years, the valuable anadromous Salmonids in the Columbia River have been faced with increasing hazards. Juvenile Salmonids suffer excessive delays during their downstream migration through the numerous slow-moving Columbia River reservoirs. These juveniles are also faced with turbine intakes and supersaturation of nitrogen near the Columbia River dams. Another problem is the large predator population, including the native Northern Squawfish, and the Walleye Pike, which was introduced into the Columbia River.

Adult anadromous fish continue to face excessive delays while passing Columbia River dams. These delays can be critical to those fish that are exposed to warm water temperatures for an extended time period. The warming of water in the slow-moving Columbia River Reservoirs is favorable to bacterial and fungal infections, which can kill these valuable fish before they can spawn.

### **Herman Creek**

Herman Creek has the potential for becoming superior anadromous fish rearing habitat. In the near future, the U. S. Forest Service is planning to complete a Fish Habitat Enhancement project in the lower 2.7 miles of Herman Creek. Herman Creek currently supports naturally spawning Coho Salmon, Fall Chinook Salmon, Summer Steelhead, and Winter Steelhead. Populations of resident Cutthroat trout and Sculpin can also be found in Herman Creek.

### **Dry Creek and Rudolph Creek**

Dry Creek and Rudolph Creek are not known to support anadromous fish runs. Some resident trout are known to exist in the Dry Creek watershed.

### **Endangered Species**

As fish populations continue to decline, many anadromous fish species in the Columbia River Basin have been listed under the Endangered Species Act (Appendix B). Specific to the Cascade Locks planning area, the National Marine Fisheries Service has listed the Lower Columbia River Steelhead and the Lower Columbia River Fall Chinook Salmon as a threatened species under the Endangered Species Act.

### **Hatchery Production**

A major Oregon Department of Fish and Wildlife fish hatchery is located near the Cascade Locks Urban Growth Boundary (UGB). This hatchery provides fish for stocking in the lower Columbia and Willamette river systems.

Oxbow Hatchery is located adjacent to Herman Creek and Interstate 84. Oxbow Hatchery utilizes water from springs and Herman Creek. The facility employs five full-time and one seasonal employee.

### Fish Habitat Protection Recommendation

The Columbia River and tributaries within Cascade Locks are considered sensitive areas.

Oregon State Department of Fish and Wildlife goals for rivers and streams include retaining or restoring riparian vegetation, retaining channel integrity, meanders, and stable non-eroding banks that will protect water quality, preserve fish and wildlife habitat, and provide for a variety of recreational and aesthetic values.

1. The land classification most compatible with river and stream resources is open space.
  - A. Rivers and streams and the adjoining riparian vegetation should be managed by the stream corridor concepts that maintain stream integrity (pool-riffle, meander, etc.) and stream bank stability.
  - B. Residential development along streams should be low density and require appropriate setbacks.
2. The “streamway” and “flood plain” should be identified within this unit. A “streamway” is that area landward of a stream shoreline in which the stream will naturally wander or meander, seeking new channels by erosive action. A “flood plain” is the area subject to periodic flooding by a stream or drainageway. The boundary depends upon the frequency of the high flood levels. The 100-year flood plain should be identified.
  - A. Construction of vulnerable structures should be prohibited within the flood plain.
  - B. Compatible land use should maintain the riparian vegetation along streams.
3. Development or land use requiring channelization, excessive removal of streamside vegetation, alteration of stream banks, and filling into stream channels should be restricted in order to maintain stream integrity.

4. Public access should be maintained or secured to appropriate river and stream areas.
5. Minimum stream flows should be established on streams within this planning unit.

#### City Discussion of Foregoing Recommendations.

While the City supports the work of the Oregon State Department of Fish and Wildlife, it should be noted the City has no power to adopt or enforce all of the above recommendations.

## **B. LAND**

### **Soils**

The predominate soil of the planning area is the Wyeth Series. This well-drained soil is on steep to very steep north-facing slopes on mountainous uplands in the eastern part of the Columbia River Gorge. The soil is formed of loess, volcanic ash, and colluvium weathered from basalt. The depth to bedrock is more than 60 inches. It should be noted that the most recent soil survey for Hood River County does not include the Cascade Locks area.

### **Local Climate**

The City of Cascade Locks enjoys a temperate, seasonal climate with year round gardening and hiking. The City of Cascade Locks ranges from approximately 90 feet above sea level along the Columbia River to 350 feet at the Dry Creek water reservoir. The area receives between 70 and 80 inches of rainfall annually, mostly during the months of October through May. Light accumulations of snow occur in January, February, and March. The summers in Cascade Locks can be quite warm with temperatures reaching into the 80 -100 degree range. Wind is quite common in the Cascade Locks area because of its unique geography. The Columbia Gorge acts as a funnel for any difference in atmospheric pressure between the east and west sides of the Cascade Mountains.

### **Agricultural Land**

The Cascade Locks planning area has little acreage suitable for agricultural purposes. There is no known agricultural crop being harvested in the planning area. In the past, there have been attempts made to establish fruit orchards in the area. However, the remaining trees are no longer in agricultural use.

## **Forest Land**

The forestlands surrounding the Cascade Locks UGB are in the Hood River National Forest. Much of this land is also within the Columbia Gorge National Scenic Area. The area adjacent to the UGB is designated as a Special Management Area under the Columbia Gorge National Scenic Act. This area is not subject to the jurisdiction of the City. Because the Special Management Areas are generally the most environmentally or visually sensitive lands, activities are more restricted here than in other parts of the Scenic Area. In the future, it is not expected that timber harvest activities will take place in this area.

Within the Cascade Locks Urban Area there is currently one privately owned tract of land, totaling 20 acres, which has been designated by the Oregon State Department of Revenue as forest lands and is subject to the tax benefits of that designation.

## **Geology**

### **Geologic Setting**

The City lies in the Columbia River Gorge where it crosses the center of the Cascade Range. The Columbia River Gorge in this area is from 3,000 to 4,000 feet deep. It is a geologically complex area consisting of a number of formations and potential hazards. The area has been the subject of numerous studies dating back to the early 1900's. Perhaps the most recent report released in this general area is the "Geotechnical Report Dodson/Warrendale Debris Flows Columbia River Highway, #2 MP 34.5 to 37.5 Multnomah County", May 1996. The report provides general information about the geology of the Dodson/Warrendale area and the debris flows that occurred in February 1996. A copy is available at City Hall. A 1977 report published by the Oregon Department of Geology and Mineral Industries (DOGAMI) titled "Geologic Hazards of Parts of Northern Hood River, Wasco, and Sherman Counties, Oregon" was a primary source of information used by the City and Hood River County to develop geologic hazard regulations.

The City lies on a narrow terrace bordering the river, which is underlain with alluvial deposits of sand, gravel, and boulders. Projecting up through these alluvial deposits are some small hills and knobs of andesite, basalt, and volcanic agglomerate. Tuffaceous sandstone, containing some petrified wood, is exposed along the shore near the old mill located about one-half mile northeast of the locks. The sandstone, the agglomerate, and possibly some of the andesite are believed to be part of the Eagle Creek formation.

Adjacent to the Columbia River and immediately west from the mouth of Herman Creek are some young alluvial deposits of sand and gravel. These gravels,

which are being mined in several gravel pits, have an openwork texture and appear to be very permeable.

The higher slopes of the Gorge above and south of the UGB are composed of numerous lava flows that are part of the Columbia River basalt formation. Deep bedrock slides which may or may not be active are also found in this area. A diagrammatic map showing the general geologic setting of the Cascade Locks area is shown in Figure 2.

## Geologic Hazards

### Landslides

The least apparent yet most hazardous natural conditions occurring in the planning area are landslides. There are several active landslides on both sides of the Columbia River. Since the early 1900's, there have been over 25 published reports about landslides in the Cascade Locks area. While the reports generally agree on the location and occurrence of landslides, there is little agreement on the causes or magnitude of the landslides. The slope of the City rises in a series of steps that were formed when some large blocks slid into the Gorge. These blocks, which probably slid in the Gorge near the end of the Ice Age, have created a very complex geologic setting, because rocks of many types and ages have been moved and mixed together.

An active slide area, which was known as "Ruckel Slide", existed from just south of the "Bridge of the Gods" and west of the City for more than a mile along the Oregon shore. The Corps of Engineers arrested movement of this slide during the 1930's by the construction of more than 7,000 feet of drain tunnels. The longest tunnel extends more than 2,000 feet into the slide area. The tunnels now belong to the Union Pacific Railroad. Although the tunnels generally stabilized this slide area, some earth movement can still be detected.

Moving eastward, there is considerable evidence to indicate that the City of Cascade Locks is built on a landslide, which occurred approximately 700 years ago. The Ranger Station slide, located east of Herman Creek outside the UGB is not considered a major slide. However, evidence of earth movement can be noted in this area each spring during the runoff period.

The most serious and apparent landslide in the vicinity is the Fountain Slide, so named for the drinking fountain that was placed in that location along the original Columbia River Highway. This slide is located east of the City outside the UGB. The activity of this slide can be seen almost daily at the point where the freeway crosses it. The annual repairs to the freeway give testimony to the costs of building in areas of known natural hazards.



All the landslides in the area can be characterized as having a layer of clay-like material overlain by blocky lava rock and loose gravelly material. The porous upper layers of rock allow water to penetrate easily and allow passage to the clay material below. The porous lava rock becomes saturated with water and greatly increases its weight on the clay material. The clay material, in turn, is saturated and its characteristics are greatly modified. Slippage or earth movement can occur disrupting or damaging structures on the surface. It has been recorded in the Columbia Gorge since 1910 that the periods of the greatest earth movement occur during periods of the greatest rainfall.

### Other Potential Hazards

The most recent and significant property damage in the Columbia Gorge was caused by the previously mentioned 1996 debris flows in the Dodson/Warrendale area. I-84 and the Union Pacific Railroad tracks were closed and several homes were destroyed.

Other potential geologic hazards within the UGB are generally related to steep slopes. Development in these areas, if not carefully designed, can cause erosion, soil sliding associated with ground disturbance, or building damage due to improperly designed foundations. The DOGAMI study determined that the areas with the most potential for geologic hazards are generally above the 240-foot elevation or 400 feet east of Herman Creek (Figure 3).

### Hazard Mitigation

The Earth Sciences Department of Portland State University has recommended that prior to any major development in areas adjacent to known landslide areas, a competent Engineering Geologist conduct a full site investigation to assure the stability of the development site. The 1977 DOGAMI report noted above also supports this recommendation. In response to this information, the City and Hood River County have adopted geologic hazard protection measures, which are applied to new development and significant redevelopment. This will help preclude unnecessary costs to repair or replace the development in future years.

### Mineral and Aggregate Resources

There is one existing quarry site in the planning area that is actively being utilized. The 31-acre site lies north of the Union Pacific Railroad and adjacent to the Columbia River. The material being removed is sand and washed river rock. The material is used in a wide variety of construction projects. The site is provided with access by a county road to the Union Pacific Railroad tracks and by an exclusive easement north of the tracks to the site. A second site, which is presently inactive, is located on Government Rock.

Figure 2.

Figure 3

## **Flood Plains**

The threat of flooding during periods of heavy rainfall or rapid spring runoff is an apparent hazard in several areas within the UGB. The Columbia River, although tamed by a series of dams beginning with Bonneville Dam, still requires respect when considering shoreline development.

Herman Creek, dropping out of the Cascades through the east end of the City, has an established flood plain along the west bank of the mouth of the creek, continuing back slightly beyond Interstate 84. Dry Creek also has an identified floodplain in the stream reaches just above Interstate 84. During periods of heavy rain, excessive water runoff occurs through the Moody Street underpass creating hazardous driving conditions and potential damage to structures in the area.

A Flood Plain Map, provided by the Federal Emergency Management Agency (FEMA), identifies the 100-year flood plain for the Columbia River and the portion of Dry Creek north of Interstate 84. This information is very general, and flood elevations are not provided.

To supplement this information, the City has developed flood plain maps for Herman Creek and the upper portion of Dry Creek south of the freeway. According to the U. S. Army Corps of Engineers, the winter of 1996 produced local flooding on Herman and Dry Creeks, which was equal to a 100-year event. A public open house was held to allow residents to identify where water was observed during that winter or previous years. This resulted in maps which estimate the flood plains for Herman Creek and the upper portion of Dry Creek. The FEMA and City maps are adopted as part of the City's flood plain regulations. The general areas which are potentially prone to flooding are shown in Figure 3.

## **Wildlife Habitat**

The primary wildlife habitats found within the urban area are riparian (streamside and other vegetation associated with moist areas) and mixed conifer forest. The major riparian habitat that exists within the urban area includes Herman Creek and the Columbia River. These primary riparian areas provide a variety of streamside vegetation and associated organisms, which contribute to the diversity of wildlife species and numbers in the urban area. Wildlife needs such as food, cover, and water are satisfied partially or totally by the presence of riparian habitat. The riparian habitat and associated wildlife species of the urban area face possibilities of being reduced if appropriate protection measures are not taken.

The Bonneville Pool can fluctuate as much as 3 to 4 feet within a 24-hour period. This has been identified as a potential problem for fish and wildlife species. The following outline discusses some of the problems caused by fluctuating water.

1. Loss of streamside vegetation which:
  - A. Eliminates nesting cover for waterfowl and shorebirds.
  - B. Eliminates daily and seasonal food supplies for all wildlife.
  
2. Loss of stream bank habitat which causes:
  - A. Collapsing or filling of aquatic mammal dens.
  - B. Erosion of bank soils and subsequent loss of vegetation.

Another problem affecting the riparian habitat has been stream channelization. In the past years some uncontrolled channelization has reduced the riparian areas within the urban area. If this activity is not controlled, temporary or permanent loss of habitat may result.

Regardless of the cause, removal of food producing plants, vegetative cover, and surface water will result in the reduction and sometimes the elimination of wild bird and mammal populations. Wildlife species found using the riparian areas are quite diverse.

The mixed coniferous forest, which is typical of the Columbia Gorge from Hood River to Troutdale, comprises the largest land area associated with the urban area. This habitat, which is interspersed with natural openings, rock outcroppings, and meadows, rises from approximately 100 feet to above 4,000 feet in less than one mile. With this gradient and rough topography, wildlife species are relatively isolated and free of human encroachment.

The vegetative overstory includes Douglas fir, true fir, mountain hemlock, maple, and alder. Understory species include a variety of grasses and shrubs. With this vegetative cover and rugged terrain, a diverse food supply and escape cover provide wildlife with basic requirements. Big game such as black-tailed deer and Roosevelt elk are found using this habitat.

The bald eagle is found wintering near the urban area and utilizes the precipitous remote areas found there. Other raptors such as Redtail, Cooper's and Goshawks along with Osprey can be found as permanent residents. Canadian Geese can also be found feeding in open areas within the city.

Urban residential wildlife habitat is another important aspect of the overall available habitat within the area. The various species of ornamental shrubs,

shade and fruit trees provide a plant diversity which attracts a variety of non-game wildlife. This habitat is particularly important during the winter months as an alternate source of food and cover for small birds.

### Wildlife Habitat Protection Recommendation

The following Oregon Department of Fish and Wildlife recommendations should be considered for the protection and enhancement of wildlife habitat and related species:

1. At the present time the most compatible land use classification is Open Space. Topography and the narrow zone of suitable land will restrict development, which should be Low Density Residential.
2. All riparian habitat and immediately associated forest areas should be excluded from development.
3. All sensitive areas such as bogs, springs, marshes, and natural openings should be protected and managed for wildlife benefits.
4. Rock outcroppings and non-productive forest lands should be managed for wildlife.
5. The fluctuation of water levels of Bonneville Pool should be minimized to reduce the loss of riparian habitat.
6. Stream channelization and removal of riparian vegetation should be restricted to maintain stream integrity and provide adequate habitat for wildlife.
7. Timber harvest on the Columbia Gorge slopes should be restricted to maintain adequate cover for wildlife and preserve the natural aesthetics of the Gorge.
8. The rail and post center median should be maintained on Interstate 84 and concrete center dividers restricted, to allow for a reduced road kill of wildlife.
9. Access should be maintained on existing trail systems for wildlife viewing and educational purposes.
10. Public users, landowners, and agencies should work closely together for the protection and enhancement of wildlife habitat.

## City Discussion of Foregoing Recommendations

It should be noted that the City has no power to adopt or enforce all the above recommendations. The City also has no power to regulate the Bonneville pool fluctuations. The proposed recommendations that are applicable will be taken into consideration.

### **C. AIR**

The City of Cascade Locks, along with the entire Columbia Gorge area in the state of Oregon, is considered an air quality attainment area by the Oregon Department of Environmental Quality. An air quality attainment area is defined by having no air quality days in violation of nationally set standards. The nearest non-attainment area is located in the City of Portland, which occasionally violates set ozone standards. Occasionally, there are minor air quality issues related to local back-yard burning in Cascade Locks. Currently, there is some discussion about designating the Columbia Gorge National Scenic area as a Class I air quality attainment area. This would make air quality standards in the Columbia Gorge the same as those in national parks and wilderness areas. This could have a negative impact on future industrial development in the area.

### **D. ENERGY**

There are no known energy sources within the planning area. However, the planning area lies adjacent to the Bonneville Pool, the reservoir created by Bonneville Dam, which was built in 1936. The dam is a major electrical energy source to the Pacific Northwest. The City completed an alternative energy source study in 1981 and it is incorporated herein by reference. The major finding of the report is that energy conservation programs are the most effective measure in reducing energy costs.

## II. INFRASTRUCTURE

### A. PUBLIC TRANSIT & SPECIAL TRANSPORTATION NEEDS

The automobile is the primary mode of transportation in Cascade Locks, and alternatives to the automobile are limited. The City has improved sidewalks in the main business district and along portions of Forest Lane. Minimal sidewalk improvements are provided in the remainder of the City. Designated bike lanes or paths are not established in the city.

Transportation services include:

- **Bus Service.** Greyhound Bus service is available in Hood River three times a day. Public transportation to Hood River is available every Tuesday through Columbia Area Transit (CAT). The round trip cost is \$4.50.
- **Rail.** A main line of the Union Pacific Railroad is located north of the City center along the shoreline. Local businesses, such as the wood product industries, are the primary users of the rail line. The facility includes a main line switching track and spur lines. This line transports industrial goods from Cascade Locks to other locations in the region and the country. The closest passenger service is available in Portland, Oregon or Bingen, Washington. Currently, there are no plans to expand services to Cascade Locks. Although, there are passenger facilities adjacent to the Union Pacific facility, therefore if federal funding is reinstated, it would be easy to supply service.
- **Cascade Locks Airport.** The Cascade Locks Airport, located near the Columbia River, provides transportation for business industries and tourists commuting to and from Portland. The airstrip consists of a 1,800 by 30-foot black top runway with one telephone located on-site. The surrounding parcels are subject to height and development restrictions. The state of Oregon owns the airport and the majority of properties surrounding the airport site where development is severely limited.

The Cascade Locks Airport is a local area service that supports approximately 1100 flights per year (one-way travel is counted as one flight). It is strategically located for emergency or safety stops in the event of hazardous weather conditions. The airport is used to support emergency rescue and emergency medical evacuations and to fight local forest fires. Aircraft operate visually when traveling in the Gorge. Single or light twin propeller engines are the common aircraft used at the Cascade Locks Airport.



The growth of aircraft travel in Cascade Locks is modest with a significant portion of air traffic dedicated to business viability. The state is not considering any airport improvements at this time.

## **B. PEDESTRIAN AND BICYCLE TRAVEL**

The Oregon State Parks Department has recently completed a pedestrian-bicycle path along the former Historic Highway near the Bridge of the Gods. This newly created path creates an excellent pedestrian and bicycle linkage between Cascade Locks and Bonneville Dam. In the future, the City hopes to continue this trail through the downtown core and into the historic Marine Park. Currently, access to the Marine Park from Wa Na Pa Street is limited to a narrow two-lane automobile underpass.

### **Bicycle**

Once into Cascade Locks, bicyclists must share the roadway with motorists on most streets except on Wa Na Pa Street from Interstate 84 westbound off ramp to Forest Lane where shoulders are provided. An opportunity does exist to stripe bikes lanes along Wa Na Pa Street to better define a bicycle route. Apart from the downtown core of Cascade Locks, bicyclists share the roadways with motorists in areas where traffic volumes are low.

### **Pedestrian**

In most of Cascade Locks, pedestrians share the roadway with motor vehicles and bicycles by using roadway shoulders: except for portions of Wa Na Pa Street and Forest Lane. On Wa Na Pa Street, sidewalks are provided on both sides of the street from the foot of the Bridge of the Gods to Oneonta Street and on the north side of the roadway from Oneonta Street to Lakeside Drive. On Sidewalks are available on the south side of Forest Lane from Wa Na Pa Street to Wheeler Avenue.

Downtown planning efforts have identified the need to establish a more pedestrian friendly environment on Wa Na Pa Street. Increasing sidewalks widths to 12 feet, adding areas for street trees and benches, narrowing pedestrian crossings, and developing numerous walking loops within the downtown and the historic locks area are proposed. An obstacle to creating a better pedestrian environment is the large number of dead-end streets in the City.

## **C. STREETS**

Cascade Locks is divided by I-84, which is the primary transportation link to other destinations. The major transportation routes in the City are Highway 30 (Wa Na Pa Street) and Forest Lane. Because of the constraints presented by the Columbia River, the mountains, Union Pacific railroad tracks, and I-84, traffic circulation is primarily limited to these two routes. The remainder of the street system is made up of dead-end or small loop streets which are generally linked to Wa Na Pa Street or Forest Lane. The Transportation System Plan provides a more detailed inventory of existing facilities as well as proposed transportation strategies.

## **D. UTILITIES AND SERVICES**

### **Water**

#### Water System

The City of Cascade Locks was incorporated in 1935. The locks for which the City is named were built by the Army Corps of Engineers in 1896. Much of the City's drinking water supply and distribution system was built by the Army Corps. The original water system, which remains today, includes a diversion dam and reservoir on Dry Creek and approximately 7,300 feet of 8-inch transmission main. This reservoir, with a capacity of 0.25 million gallons, is operated in conjunction with a second reservoir built in 1969 with a capacity of 0.35 million gallons. The Safe Drinking Water Act prohibits the use of Dry Creek for drinking water without filtration.

The City's existing water source is two wells developed on the northeast end of the City near the mouth of Herman Creek. These wells were drilled in 1969 and were constructed in conjunction with the Oxbow reservoir. This reservoir is located approximately 0.7 miles south of the well and 1 mile east of Dry Creek reservoir. Water is chlorinated at the wells and is pumped directly from the wells to the reservoirs.

Today, there are approximately 420 metered services in the City. Historically, water service was not metered and was provided at a flat rate. The installation of meters in 1993 has reduced the average daily demand in the City from 0.482 million gallons in 1988 to 0.380 million gallons in 1996. This reduction in water demand is also due in part to the work by City staff to improve and maintain the distribution system. Losses remain a serious concern in Cascade Locks however, accounting for 50 percent of the 1996 water production. Industrial and commercial consumption account for approximately 25 percent of the total consumption in the City. Per capita consumption is estimated to be 100 gallons per day.

## Water Quality

The City's wells have recently been found to be slightly influenced by surface water according to Safe Drinking Water Act standards. The amount of and timing of the surface water influence is such that filtration to the existing aquifer is not needed. Nevertheless, it is recommended that the City develop a wellhead protection program immediately. A failed septic system within 200 feet of the wells apparently caused a violation of total chloroform standards in January and February 1996 during heavy rains. This home was connected to the City sewer system in 1998. This type of action can be required in a Wellhead Protection Ordinance. The well water is currently chlorinated at the well site with a common chlorinator. A second chlorinator near the Dry Creek reservoir has been maintained. It was historically used for treatment of the surface source at Dry Creek. The water from the wells has consistently met all Federal and State water quality standards, with the exception of violations in January and February 1996.

## Water Supply

The City of Cascade Locks currently relies exclusively on the two wells near Herman Creek. The well water rights total 4.7 cubic feet per second or 3.04 million gallons per day. This supply is in excess of the City's projected water demand of 0.28 million gallons per day. The water supply should be protected by implementing a Wellhead Protection Program and a Water Conservation and Management Plan.

## Fire Flows

Fire protection for the City of Cascade Locks service area is provided by the Cascade Locks Fire Department. Fire flow demands are standardized by the Insurance Service Office (ISO), a national fire insurance rating organization. The ISO has developed a rating system for community fire protection systems, ranging from Class 9 for no protection, to Class 1 for the best possible protection. The ISO designates the community rating based upon several parameters, including the adequacy of the water system. This rating is the major criteria used to establish fire insurance premiums for individual buildings. The City's ISO rating improved from 7 to 5 in 1992. Areas in the City with limited fire flow are shown in Figure 4.

## Water Storage

The City has two reservoirs with a total storage volume of .596 million gallons (Dry Creek Reservoir - 246,000 gallons and Oxbow Reservoir - 350,000 gallons). Dry Creek Reservoir is the oldest storage facility built by the Army Corps of Engineers. Oxbow Reservoir was developed in 1968 to augment the Dry Creek Reservoir. As of 2000, additional water storage capacity is needed to help alleviate a low water pressure problem in the west side of town (Figure 4). Water

supply is not adequate for fire protection in all areas. There are five areas in the City that have limited water flow for domestic use and/or fire fighting. The City is currently seeking funds to construct an additional water reservoir and water system improvements shown in Figure 5.

### **Sanitary Sewer**

The City of Cascade Locks has just recently completed a \$5.5 million wastewater treatment facility. The facility is located on the West Herman Creek site, a 5-acre parcel on the eastern edge of the City. The wastewater treatment system was completed in 1998, and now serves the entire city. This new facility has the potential to service all of the future anticipated growth of Cascade Locks. Currently, there are approximately 462 accounts connected to the system. The planned improvements, which are partially completed, are shown in Figure 6.

### **Storm Drainage**

Storm drainage is primarily directed into natural drainage ways. There are a number of storm sewer lines in the City, which are shown in Figure 7.

Figure 4

Figure 5

Figure 6

Figure 7



## **Power**

Cascade Locks has operated the electric utility since 1938 and was the first customer of the Bonneville Power Administration. The City Light crews maintain approximately 55 miles of electric lines from Wyeth bench, about 7 miles east of town to approximately one mile west of Bridal Veil, Oregon. The Electrical System Long Range Planning Study and Protective Device Coordination Study, completed in March 1988 recommended that improvements be made to enhance the system's reliability and safety.

## **Solid Waste**

Solid waste disposal is provided by a private contractor. The desired service level in Cascade Locks does not require that this system be changed. The last long-range solid waste plan was produced in 1985.

## **E. POLICE, FIRE, AND EMERGENCY SERVICES**

### **Police Services**

Police services are provided by contract with Hood River County. Oregon State Police also provides service when in the area. The City plans to improve police coverage in the future.

### **Fire and Emergency Services**

Fire and ambulance emergency response is provided by a volunteer staff on a 24-hour basis. The Cascade Locks Volunteer Fire Department and Cascade Locks Volunteer Ambulance Department share the fire Hall at 505 NW Wa Na Pa Street. Besides servicing the City, both of these departments are the first emergency services to respond to accidents along I-84 from Multnomah Falls east to Viento State Park.

This section was amended by City Council on 8/24/09 (Ordinance 402), with the adoption of the “Economic Opportunity Analysis” dated August 24 2009, which supercedes this section on Economy. The document is available as a separate detailed element of the Comprehensive Plan.

### **III. ECONOMY**

#### **A. COMMERCIAL AND INDUSTRIAL REVITALIZATION AND DEVELOPMENT**

As of 1999, the City of Cascade Locks was designated as an Enterprise Zone area by the Oregon Economic and Community Development Department. This designation allows new and existing businesses to qualify for property tax exemptions for up to five years. This is an economic development tool that the City hopes to use to entice business investment within the City in order to create jobs for local residents.

#### **B. JOBS CREATION**

##### **Businesses in Cascade Locks**

The businesses in the City tend to be small; half of them employ 10 or fewer people. The number of businesses and the range of employees hired are noted below:

##### **Size of Businesses**

<b>Number of Businesses</b>	<b>Number of Employees</b>
12	0 - 5
1	6 - 10
4	11 - 15
4	16 - 20
1	21 - 25
4	30+

Source: Labor Demand Survey for the City of Cascade Locks, 1995

At least 53% of the privately-owned businesses in Cascade Locks are owned by people who do not live in the city. Additionally, over 50% of the publicly-owned businesses are managed by people who are not City residents.

##### **Employment Opportunities**

A labor demand survey conducted in the spring and summer of 1995 indicated that the 26 businesses operating in Cascade Locks hire 366 full-time and 121 part-time employees (primarily during tourist season). The public sector is the largest employer in Cascade Locks. There are four general business categories in the City, which are public agencies, motel and restaurant, retail and service, and industrial. The number of full-time and part-time jobs by business category is shown in the following table.

### Employment by Business Category

Business	Full-time jobs	% of Total	Part-time jobs	% of Total
Public	140	38%	81	67%
Motel/Restaurant	89	24%	22	18%
Retail/Service	53	15%	18	15%
Industrial	84	22%	0	0%
Total # of Jobs	366	100%	121	100%

Source: Labor Demand Survey for the City of Cascade Locks, 1995

### Work Force Characteristics

- The available jobs in Cascade Locks employ less than half of the city's working population. A majority of the city's employees reside in the surrounding areas of Stevenson/Carson, Hood River, and Portland.
- At least 78 out of the 366 available jobs in Cascade Locks require supervisory or professional training, but most jobs do not require high technical skills.
- The work force is composed of only 31% with seniority of five years or more. The public sector has the highest percentage of employee seniority (5+ years). The low percentage of individuals accumulating 5 years or more seniority is attributed to the job market's high turnover rate. The work force is relatively young with approximately 2% of the total employee population being close to retirement.

### Job Seniority

Business	Total Jobs	Over 5 Years
Public	140	57
Motel/Restaurant	89	32
Retail/Service	53	8
Industrial	84	17
Total	366	114

Source: Labor Demand Survey for the City of Cascade Locks, 1995

- Within the next 12 months, the market demand in Cascade Locks is not anticipated to alter the employment pattern dramatically. No job market forecasts have been established beyond 1996.

## **Unemployment**

Cascade Locks and Hood River County have experienced a high unemployment rate. As of 1997, Hood River County had a unemployment rate of 10.7% , which was above the statewide rate of 5.8%. The increase of unemployment is related largely to the decline of the forest products industry.

## **Economics**

Because of its high unemployment rate and low per capita income, the City of Cascade Locks is classified as a rural distressed community by the Oregon Economic and Community Development Department. The addition of job opportunities in Cascade Locks is affected by financial investment and seasonal fluctuations. Many businesses are dependent on the seasonal employment and tourist trade.

Future population and economic growth in the City is anticipated to increase. The development of a new sewer plant should stimulate residential development, particularly the eastern portion of the city, which is now beginning to have public sewer services. In addition, the Port of Cascade Locks owns developable industrial land in this area of the City.

The Labor Demand Survey indicates that to improve the economy and job market in Cascade Locks, a strong Chamber of Commerce organization, revolving loan fund for business improvements, and uniform marketing strategy is necessary. Furthermore, the government, citizen population, and Gorge Commission entities are encouraged to develop a plan to direct the growth of industrial and commercial development in Hood River County and Cascade Locks. By implementing these tools and strategies, Cascade Locks will improve its economic base and business opportunities.

## IV. PLANNING

### A. CITIZEN INVOLVEMENT

The City of Cascade Locks is committed to citizen involvement in all of its planning activities. The City makes every effort to afford opportunities for all citizens to participate in the development of long range planning policy as well as the implementation of the Comprehensive Plan and Community Development Code (CDC).

The citizen involvement program consists of the following major elements:

- Cascade Locks Planning Commission. The Planning Commission has five members who are appointed by the Mayor. The Planning Commission holds public meetings and hearings to consider City planning issues and to review land use applications that require public hearings. The Mayor makes an effort to appoint individuals who represent different community interests. Planning Commission hearings and meetings are publicized by a variety of means including the local newspaper, cable access television, mailed notice, and a bulletin board at the local Post Office.
- Cascade Locks Comprehensive Plan Committee. This committee was involved in the most recent revision of the Comprehensive Plan and the creation of the CDC. The committee members were appointed by the Mayor. It included the entire Planning Commission, three City Councilors, and eight City residents. The committee meetings were generally held once per month beginning in November 1995, with public notice and an invitation to attend. The format of the meetings allowed the public to participate in the committee discussions about the revisions to the Comprehensive Plan and the new CDC.
- Town Hall Meetings. The City Council sponsors "Town Hall" meetings when deemed necessary.
- Cascade Locks Action Team. This group is made up of state and federal agency people along with local citizens who represent various social, political, and economic sectors of the City. This group created a comprehensive economic development plan for the City in 1996 and works to carry out many of the goals identified in this plan and to update it periodically.
- Cascade Locks Business Association. The Business Association is made up of 19 dues paying members who's goal it is to be a forum for opinions, a source of information and a means of action for the betterment of the local community. The association does not require members to be business owners, only that members have an interest in business.

## **B. COMMUNICATION**

A successful planning program depends upon communication between the City and its citizens. The City conducts the following activities to foster communication:

- *The Locks Tender*. This City newsletter is sent to every City household quarterly. It contains articles about current events relating to City government, public facilities and services, and civic organization activities.
- *Channel 3*. A local cable access channel provides local information to citizens as well as providing local classified ads.
- *Local Newspapers*. Local newspaper coverage Cascade Locks news is occasionally provided by the Hood River News and the Skamania County Pioneer in Washington.

## **C. AGENCY COORDINATION AND COOPERATION**

During the recent periodic review effort, the City made appropriate efforts to maintain open communication with affected agencies. During the revision of the Comprehensive Plan and development of the CDC, the City worked with the following agencies as appropriate to coordinate planning efforts and for input:

- Port of Cascade Locks
- Hood River County
- Oregon State Police
- Oregon Department of Land Conservation and Development
- Oregon Department of Transportation
- Oregon Department of Fish and Wildlife
- Oregon Division of State Lands
- Oregon Department of Geology and Mineral Industries
- Oregon Department of Forestry
- U. S. Army Corps of Engineers
- Federal Emergency Management Agency
- U. S. Forest Service
- Columbia River Historic Highway Advisory Committee
- Confederated Tribes of the Warm Springs
- The Nez Perce Tribe
- The Confederated Tribes of the Umatilla Indian Reservation
- The Confederated Tribes and Bands of the Yakama Indian Reservation
- Columbia River Gorge Commission

During the review of land use applications, the City routinely informs affected or interested agencies of the application and requests comments as applicable.

## **D. LAND USE PLANNING**

### **The Planning Area**

The planning area includes the present incorporated City of Cascade Locks and a number of unincorporated properties that are within the Urban Growth Boundary (UGB). The planning area boundary includes 1,431 acres.

### **Land Use**

A land use inventory was completed for the city in 1996. Acreage figures are summarized in the following table for the four Comprehensive Plan land use designations, which are: residential; commercial; industrial; and open space land use designations. As indicated in the table and the map in Figure 8, there are significant amounts of vacant or partially developed land in the city.

Figure 8



**Land Use Summary - 1996  
By Comprehensive Plan Designation**

<i>Land Use Acreage</i>	<i>Total Acreage Acreage</i>	<i>Developed Acreage</i>	<i>Undeveloped</i>
Residential	820.25*	397.91	422.33*
Commercial	35.34	17.28	18.06
Industrial	452.52**	108.48	344.04**
Public	122.9	95.85	27.05
<b>Total</b>	<b>1,431.01</b>	<b>619.52</b>	<b>811.48</b>

\* Includes government land

\*\* Assessor appears to include water area as part of total acreage for some parcels

**Future Development**

The 1996 analysis of the vacant residential land in the UGB indicated that, based on existing zoning density requirements, there is an ample supply of land to accommodate future population growth. To estimate residential development potential, a theoretical maximum development potential for each residential zone was first calculated. It assumes that 75% of the total acreage will be available for development, with the remaining 25% being used for roads and other necessary public infrastructure. The development which occurs on the net acreage (75% of the total) is assumed to be the maximum density allowed by the applicable zone.

This analysis is followed by an estimate of a more likely full development outcome considering the characteristics of the properties in each zoning category. In all zones, the maximum possible density is reduced to account for a variety of factors including partially developed parcels that will not redevelop; physical constraints such as parcel size and configuration that will limit the development potential of some properties; natural hazards; and insufficient infrastructure. As a result of this review, it appears that development of 50% of the available residential land to the maximum density allowed represents a more realistic maximum development potential for the city.

Theoretically, approximately an additional 1,331 residential units are possible under the present zoning requirements. At a development rate of 50%, a more plausible maximum number of units possible is approximately 887. In addition, a master plan for the Port of Cascade Locks property calls for an unspecified

amount of residential development. An additional 40 units are assumed for a total of 927 new residencies. Assuming an average household size of 2.45, the potential appears to exist for housing 2,271 new residents for a total population of approximately 3,351. A more detailed description of the development potential for each of the city's residential zones is presented in the City of Cascade Locks Housing Study. A summary of the results is shown in Figure 9.

The City is updating this inventory to reflect development, which has occurred since 1996 and the land use designations in this plan. Because the amended land use designations and densities will generally continue to be similar in this updated plan, the City's development potential will not change significantly.

Figure 9

This section was amended by City Council on 1/26/09 (Ordinance 398), with the adoption of the “Hood River County Coordinated Population Forecast, 2008-2028” dated November 2008, which supercedes this section on Population Growth. The document is available as a separate detailed element of the Comprehensive Plan.

**Population Growth**

The population of Cascade Locks grew from 838 in 1980 to 930 in 1990, an average annual rate of 1.2%. Since 1990 the City has grown to an estimated 1,080 people, an annual rate of 2.3 %, which is greater than of Hood River County as a whole. County population grew at a rate of 0.7% per year between 1980 and 1990, and 2.0% per year since 1990. With a City as small as Cascade Locks, however, county growth rates can give an inflated impression of growth: at 2%, the City is growing by less than 10 households per year.

Past growth projections for the City have varied considerably. Planning projects in the City and Hood River County have relied upon different figures for planning purposes. These figures are summarized in the table below.

**Past Population Projections 1980 to 2000**

	<b>Average Annual Growth Rate*</b>	<b>2000 Population Low Estimate</b>	<b>2000 Population High Estimate</b>
Cascade Locks Comprehensive Plan (1985)	2.6 % to 6.08 %	1,400	2,730
Hood River County Comprehensive Plan (1984)	1.89 to 2.6%	1,195	1,400
Cascade Locks Wastewater Facility Plan (1993)	6.08%	NA	2,730
Water Study for the City of Cascade Locks (1984)	0.89% to 3.75%	1,000	1,750
Port of Cascade Locks Master Plan for the Industrial Park and Government Rock (1993)	2.95% to 4.45%	1,500	2,000

\*Based on growth from a 1980 population of 838.

With a current population of approximately 1,080, it is apparent that previous population projects were generally too high. The difficulty with creating population projections for a small City is the tremendous impact individual events can have on the rate of growth. For example, assume a large business opens in the City with 100 jobs to offer. Based on the current percentage of people who live and work in Cascade Locks of approximately 50%, 50 employees would at least be looking for housing in the city. With a current family size of 2.45 persons per household, and assuming 50 employees decided to live in Cascade Locks, the population could increase by 123 persons or over 11 percent in about one year.

Perhaps the best way to plan for the future is to have a number of different projects based on a variety of assumptions. Elements of the plan can then be prepared which have different responses or strategies depending upon which population growth track the City follows. The four population estimates in the table on the following page range from no growth to rapid growth over the next 20 years.

Hood River County has recently produced revised population estimates for the county. This information shows that in 1995 the estimated total county population was 18,700, and the Cascade Locks population was estimated to be 1,045 or 5.59 % of the county total. The county also developed “potential population” estimates for 2015. The total population 2015 estimates for the county and Cascade Locks respectively are 29,959 and 3,200. This figure for the City is essentially the same as the “rapid growth” scenario above. Based upon available information, a slower growth rate reflected in the “continuation of recent trends” or the “accelerated growth” scenarios appear to be more likely to occur.

### Population Estimates 1995 to 2016

	Average Annual Growth Rate*	2000 Population	2016 Population
<b>No growth</b> No growth or slight fluctuations with no net population gain.	0%	1,080	1,080
<b>Continuation of recent trends</b> Projects the approximate annual Growth rate between 1990 and 1995 for the next 20 years. Assumes proportional job growth in all sectors of the economy; continuation of 50% of all jobs being filled by City residents; 2.45 persons/household; and development	2%	1,192	1,605

of approximately 10 acres of the port property at 2 jobs per acre.

<p><b>Accelerated growth</b>          Projects 2 % growth annually until 2000 with growth accelerating slightly to 2.4% annually assuming a gradual increase in full-time jobs in the region; 2 % job growth annually in all non-industrial sectors of the City economy; 50% of all jobs being filled by City residents; 2.45/persons per household; and development of approximately 80 acres (consistent with the Port of Cascade Locks Master Plan) of the port Property at 5 jobs per acre.</p>	<p>2% between 1996 and 2000           2.4% between 2000 and 2016</p>	<p>1,192</p>	<p>1,735</p>
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<p><b>Rapid growth</b>          Projects 2% growth annually until 2000 with growth accelerating to 6.3% annually assuming a significant increase in full-time jobs in the region; 3 % job growth annually in all non-industrial sectors of the City economy between 2000 and 2016; 50% of all jobs being filled by City residents; 2.45 persons per household; and full development of the port property by 2016 (150 acres at 10 jobs per acre). Ten jobs per acre is a goal for new industries identified in the Economic Development Plan for the City of Cascade Locks, March 1996.</p>	<p>2% between 1996 and 2000 and 2016</p>	<p>1,192</p>	<p>3,170</p>
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**Related Planning Documents**

Port of Cascade Locks Master Plan for the Industrial Park and Government Rock, June 1993

Key Elements

- The plan serves as a guide for the Port of Cascade Locks.
- It is an update to the 1981 plan.
- The Port property in the east end of the City is available for development.

- A mixture of industrial, commercial, residential, and recreational uses is feasible.
- A marketing plan is advised.

The Port of Cascade Locks sponsored a study of the Government Cove and Government Rock properties, which total approximately 150 acres (Figure 10). The study provides information about:

- Physical Site Development Factors
- Economic Conditions and Trends
- Site Development Analysis
- General Plan and Implementation

#### Physical Site Development Factors

- The site is accessible from Interstate 84, the Columbia River, and Union Pacific Railway.
- The City provides water to the industrial park area, but not to Government Rock. Telephone and power are available to the site. The natural slope of the area will direct water runoff off of the site. Natural gas is not available to the site.
- The area is planned and zoned for industrial use by the city. The site is entirely within City limits and is subject to the City land use requirements. Though not mentioned in the report, regulations of other agencies, such as Columbia River Gorge Commission, U. S. Army Corps of Engineers and Division of State Lands may relate to development along shore or in the river such as docks and fill.

#### Economic Conditions and Trends

- Employment levels in agricultural and wood products industries continue to decline. For example, in 1990 at least twice the number of 1993 employees (57%) worked in the wood industry.
- The properties that once supported profitable lumber and wood product industries are likely to support small manufacturing, warehouse and distribution companies in addition to tourism. Government Rock provides a desirable location for a resort or retirement planned unit development.
- Development in Cascade Locks is negatively impacted by the lack of industrial growth, housing stock, and natural gas. Positive factors include available land to develop an industrial park, access provided by the I-84 and the Bridge of the Gods; close proximity to the Portland and Hood River areas; rail service; municipal water and power. There is also a

regional labor supply, which has access to the Mount Hood Community College for training.

- An average annual absorption rate of approximately 1 to 2 acres is projected.
- The plan assumes the City will have a population of 1,500 to 2,000 in 2000.
- The Port must develop a marketing plan and must decide whether to attempt to lease or sell the property.

#### Site Development Analysis

- The remainder of the plan introduces a variety of development options for the property.
- A mixture of industrial, commercial, residential and recreational activities is proposed.

#### General Plan and Implementation

The master plan features a conceptual site plan for the preferred option, which includes a mix of industrial, commercial, residential, and recreational uses for the property. The development schedule is recommended to follow four phases:

1. Entry and Central Access Road Work;
2. Utility Improvements;
3. Marketing and Sales; and
4. Site Improvements.

Figure 10



## Cascade Locks Design Handbook for a Downtown Street Theme, September 1992

### *Key Elements*

- The Design Theme was established to improve downtown's attractiveness.
- The historic character of Cascade Locks shall provide a basis for the downtown theme and design.

The Design Theme was adopted by the City Council in 1992. The intent was to improve the overall attractiveness of the downtown, in the hopes of stimulating economic growth and development through increased tourism.

The study concluded that the City contains two unique attributes; the natural environment and the historical character of the area. The historic character is to be emphasized by creating a stronger link between the downtown and the historic locks and other historic structures. The architectural design criteria were developed based on the historic Classical Revival architecture. A central plaza, located on WA Na Pa Street, is recommended to help create a town center.

The plan suggests that the program be made mandatory by amending the Comprehensive Plan to include design goals, guidelines, and procedures, particularly relating to Wa Na Pa Street. The City Zoning Ordinance should also be amended. These amendments should require decisions to be made based on a review procedure and criteria evaluation. The plan recommends that the Planning Commission be the decision making body for design review.

### *Recommendations*

The design recommendations are described in Section III, Design Elements, of the plan. This section is included in Appendix D.

## Oregon Downtown Development Association Resource Team Report for Cascade Locks, October 1998

### *Key Elements*

- Design of Public Spaces
- Business In-Fill and Mix
- Image and Marketing

On October 13, 1998, ODDA's Resource Team arrived in Cascade Locks for three days of on-site, intensive work on downtown issues and opportunities. The Resource Team consisted of Vicki D. Hilliard, Executive Director of ODDA;

Malcolm Johnstone, Main Street Specialist; and Edmund Hilliard, licensed Landscape Architect. The team met with the local Business Group and the Action Team, interviewed individuals and worked extensively with City Manager Mike Bridges and Public Works Supervisor Richard McCulley in their efforts to collect relevant information. A public presentation of the Resource Team's findings was presented at a joint meeting of the Cascade Locks City Council and Planning Commission on the evening of October 16. This report is a summary of information collected and synthesized by the ODDA Resource Team

### *Recommendations*

- Create better pedestrian and bike linkages through the community.
- Create entry features to improve visitors' first impressions.
- Develop a comprehensive marketing plan to improve the community's image.
- Provide public restrooms and visitor information kiosks in the downtown core area.
- Relocate City Hall to the downtown core area.

### Economic Development Plan for the City of Cascade Locks, March 1996

#### *Key Elements*

- The plan includes a vision statement which provided the basis for the plan. This vision statement also served as a guide for developing the Comprehensive Plan.
- The plan includes a series of goals and objectives to improve the city's strengths to improve the economic health of the city.
- A list of top priority projects are identified in the plan.
- Opportunities for assistance in attaining the plan goals and objectives are identified in the plan.

This plan was prepared by a group of community residents during the spring and summer of 1995. The group, called an Action Team, included 14 citizens representing the various social, political, and economic sectors of the city.

#### *Recommendations*

The plan recommended several top priority projects including:

- Emergency services building
- Water storage reservoir in the west end of the city
- Community health clinic
- Pedestrian interpretive trail connecting downtown with Marine Park
- Government Rock railroad crossing

## Cascade Locks Housing Study, September 1997

### *Key Elements*

This study was undertaken to:

1. Better understand the factors which affect housing supply and availability for all income levels in Cascade Locks; and
2. Develop a program to improve the quantity and quality of housing opportunities for City residents.

This study consisted of five primary steps:

1. The consulting team prepared a summary of background information related to housing issues in Cascade Locks;
2. The public and City Council commented on the background information and housing issues;
3. The City Council discussed housing strategy alternatives in the fall 1996;
4. The City Council reviewed a draft report, in July 1997; and
5. The consulting team completed a final report that outlines recommended priorities for City actions to implement a housing program.

### *Recommendation*

A six-element strategy was recommended to be adopted as part of the Cascade Locks Comprehensive Plan:

1. Work with community development corporations (CDCs) to facilitate housing programs and assistance for City residents;
2. Apply for federal and state assistance programs that focus on giving households a start towards home ownership or helping disadvantaged individuals;
3. Amend the Cascade Locks Comprehensive Plan to articulate the city's housing goals;
4. Improve land use standards and review procedures to ensure that a wide range of housing options are available and that the land use application review process encourages housing development in the city;

5. Promote existing and new programs to aid households with home maintenance using volunteer groups and other means; and
6. Consider housing needs when prioritizing public street and utility improvements.

### Cascade Locks Transportation System Plan – Draft

#### *Key Elements*

- Evaluate existing transportation system characteristics and operation for all modes of transportation.
- Develop transportation goals, objectives, and implementation actions to enable the transportation system to meet future needs.
- Develop street design and access management standards to help implement the plan goals and objectives.
- Develop transportation system priorities and funding strategies to help implement the plan.

#### *Recommendations*

The draft plan will be considered for adoption by the City in 2001.

### The Columbia River Gorge National Scenic Area Management Plan, September 1992

#### *Key Elements*

- Protect and enhance scenic, cultural, recreational, and natural resources along the Columbia River Gorge
- Protect the economy of the Columbia River Gorge Area
- The National Scenic Area Act lead to the development of a Management Plan consisting of three categories:
  1. Special Management Area (SMA);
  2. General Management Areas (GMA); and
  3. Urban Areas.

- Cascade Locks is within the Columbia River Gorge National Scenic Area, which was established by Congress in 1986. This program was designed for the following purposes:
  1. To establish a national scenic area to protect and provide for enhancement of the scenic, cultural, recreational and natural resources of the Columbia River Gorge; and
  2. To protect and support the economy of the Columbia River Gorge area by encouraging growth to occur in existing urban areas, and by allowing future economic development in a manner that is consistent with the act.
- The Scenic Area Act provides Oregon and Washington urban areas with \$10 million (\$5 million which is dedicated to Oregon) in federal loans and grants to promote economic development projects and infrastructure improvements.

#### *Special Management Area (SMA)*

The SMA area includes non-federal forest, federal forest, public recreation and open space lands outside the urban boundaries. The two SMA land uses adjacent to the Cascade Locks urban boundary are forest and open space lands (Figure 12). Adjacent forest lands located adjacent to the Cascade Locks east, south and southwest urban boundary shall require development plans to be reviewed by the U. S. Forest Service for compliance with the Management Plan. Open space lands are regulated to protect scenic, cultural, natural and recreation resources to prevent impacts from adjacent land use practices. Development on these lands also require review by the U. S. Forest Service.

#### *General Management Area (GMA)*

Other portions of the Gorge are in the GMA including the Columbia River, which is designated as open space (Figure 11). Development in the river or along the shore may require approval from the Gorge Commission. Additional communication and coordination is necessary with the Gorge Commission staff to clarify how shoreline development will be reviewed.

#### *Urban Area Designation*

The Urban Area Designation includes most of land within the City limits and the Urban Growth Boundary (UGB). The scenic and urban area boundary generally follows the BPA power line, which runs near the City urban growth boundary (UGB). The UGB includes properties, which are located on both sides of the power line, resulting in land within the City limits and/or urban growth boundary that is part of the SMA. This contradiction between the City and scenic area

urban boundary was presented to the Gorge Commission during the Management Plan adoption process, but the Commission stated that boundary amendments could only be acknowledged after the adoption process. This issue is currently unresolved.

### *Management Plan Update*

The Management Plan will be reviewed every five years after its adoption. In addition, the Management Plan allows the Gorge Commission to approve revisions of Urban Area boundaries. Requests for such amendments for Cascade Locks must be submitted by Hood River County. The Commission may revise the boundaries of an Urban Area that involves land within City limits or UGB only if it finds that all of the following conditions exist:

- A. A demonstrable need exists to accommodate long-range urban population growth requirements or economic needs consistent with Management Plan.
- B. Revision of Urban Area boundaries would be consistent with the purposes of the Scenic Area Act and the standards established in Section 6 of the Act (which calls for protecting or enhancing resource lands, scenic areas and recreation resources).
- C. Revision of Urban Area boundaries would result in maximum efficiency of land uses within and on the fringe of existing Urban Areas.
- D. Revision of Urban Area boundaries would not result in significant reduction of agricultural lands, forest lands, or open spaces.

In 1999, the Columbia River Gorge Commission approved an amendment to the scenic area boundary so it would coincide with the Cascade Locks Urban Growth Boundary. This decision has been appealed, and the City is presently working with the appellant and the Gorge Commission to resolve the issue.

Figure 11

## **V. QUALITY OF LIFE**

### **A. SENSE OF PLACE**

#### **Columbia Gorge**

The scenic quality of the entire Columbia River is surpassed by few, if any, areas in the country. Accounts of the spectacular beauty of the area are found in the writings of Lewis and Clark and of countless other authors since. The aesthetic quality of the Cascade Locks area is dominated by the natural setting of the Columbia River Gorge. The towering Gorge walls on each side of the river give the area an impressive sense of natural majesty. The entire area is heavily vegetated, including lush green trees and brush masses that in some areas are virtually impassible. Unquestionably, one of the major attractions to recreation and tourism in the area is the natural beauty that is found here.

#### **The People**

The population and growth in “The Locks” has been extremely variable. The 1990 Federal Census officially listed the population at 930. At one time, when the old locks were functioning and Bonneville Dam was under construction, the City had a population of more than 2,000 people. Presently, there are approximately 1,100 people living in the city. The people of Cascade Locks today are proud, resourceful, and energetic, and they are in love with the Columbia Gorge. They do not wish to see it overrun by urbanization and lose the livability of this unique and very special place.

The people are friendly to visitors who come by the thousands year-round to enjoy the beauty of the area. Visitors bring growth and the people desire growth--but sensible growth--the kind that respects and compliments the great beauty of the Gorge. In order to prepare for this growth and to make the community consistent with its mission, the people have developed an urban renewal program to free the City of its most blighted buildings, and in the process, to make space available for improved shopping and guest housing facilities.

The people of Cascade Locks are proud of their accomplishments and welcome visitors and new citizens. They ask only that those who join them in the enjoyment of their special place care as they do and that any new addition to the community be done with sensitivity and a respect for the environment.

#### **The Town and Its History**

The small, historic community of Cascade Locks is located 40 miles east of metropolitan Portland, amidst the beauty of the Columbia River Gorge. The area is rich in history. Predating the Lewis and Clark-expedition in 1805, the Native



American legend of “The Bridge of the Gods” is sensitively told by the people of Cascade Locks and the Northwest. The following excerpt is from the “Legend and History of the Columbia River Gorge”, by the Port of Cascade Locks.

Long before recorded history began, Indian legend says the Great Spirit built a bridge of stone that was a gift of great magnitude. Scientists say that about 29,000 years ago the mountain on the Oregon side of the Columbia River near what is now the Town of Cascade Locks, caved off, blocking the river. The natural dam was high enough to cause a great inland sea covering the inland prairies as far away as Idaho. For many years, natural erosion slowly weakened the dam and finally washed it out. The waters of the inland sea rushed out, tearing away more of the earth and rocks until a great tunnel was formed under the mountain range, leaving a natural bridge over the river. The bridge was called “The Great Cross Over” and is now named “The Bridge of the Gods”.

The present man-made Bridge of the Gods was built in 1926, and was raised in 1938 to provide clearance over the rising waters behind Bonneville Dam. The huge rocks of the legendary, ancient natural bridge lie beneath the waters of the river just upstream from the new bridge.

The rapids or cascades that blocked the Columbia River near the present site of Cascade Locks were a serious hazard to early pioneers because they were difficult to travel through by boat or raft. Many Oregon Trail travelers managed to survive the grueling overland route from Missouri only to be dashed to death on the rocks or drowned in the cascading waters. For many years it was necessary for river traffic to portage around the hazard.

Finally, the government decided to construct a canal and locks at this site to enable river traffic to move easily upriver. The necessary money was appropriated, and in November of 1878, Ball and Black contractors began construction. However, it was not until November 1896, that the locks were dedicated and opened for use. Delays in construction included reduction of appropriations by Congress, winter storms, high water, deep snows, and delays in receiving materials.

During this time, the community grew from a small settlement of Native Americans and three white families to a booming construction town with all the flavor of the wild west. By 1893, there were about 1,000 inhabitants, many living in tents, shacks, and other temporary buildings. There were many saloons established, and it was during this time that the community was frequently called “Whiskey Flat”. After the construction of the locks, the town became Cascade Locks.

In 1937, the U. S. Army Corps of Engineers opened the newly constructed locks at Bonneville Dam, just 3 miles down river from Cascade Locks, and the old locks were no longer needed. Shortly after World War II, several of the large steel gates at the locks were removed, but the old canal with its fine example of the nearly lost art of stone masonry can still be seen.

### **Historic Areas and Structures**

Cascade Locks Marine Park, a National Historic Site, contains five separate structures that have been listed on the National Historic Register, including: the old lock and canal and three locks tender homes. There were originally four buildings, but one was destroyed by fire in the 1940's. Of the three remaining buildings on the site, one is currently used as the City's Historical Museum and contains Native American artifacts and examples of historically significant early Oregon pioneer articles. The second house has been renovated and restored to its original 1910 conditions. This house is maintained as a living museum furnished with the furniture and decorations of the period. It is also where the Port of Cascade Locks Administration offices are located. The third unit has been converted to a community center. Also located at Marine Park is Oregon's first locomotive, named the "Oregon Pony", which was used for early land portages around the Cascade rapids.

In the Cascade Locks planning area outside the UGB, the county road between Wyeth and Herman Creek is presently constructed on or near the right-of-way lines of the old Dalles-Sandy Wagon Road, which was the first road built up the Gorge by the State of Oregon. The road was built in 1872 to provide a thoroughfare for travelers to and from the Dalles and Sandy and into Portland. The road was built almost to Cascade Locks from the Dalles, and started from Sandy, but never reached Cascade Locks due to the tremendous barriers of the terrain of the Columbia Gorge. The road was originally a toll road until taken over by the State. Portions of the Old Columbia River Highway, including that which passed through Cascade Locks, is on the National Register of Historic Places. The road is now known as Wa Na Pa Street and Forest Lane.

### **Cultural Areas**

The old canal and locks at Marine Park still serve as Native American fishing grounds. During the fishing season, Native Americans from the Warm Springs, Yakima, Nez Perce, and Umatilla tribes use long-handled dip nets in the tradition of their forefathers to capture salmon migrating upstream. In addition, the Bureau of Indian Affairs has acquired and maintained a site adjacent to Marine Park, which is designated as a Native American fishing and camping site. This site is used extensively by the three tribes.

## B. HOUSING OPPORTUNITIES

According to the 1990 census, Cascade Locks provides 5.44% of the housing stock in Hood River County. The following is an account of available housing units as recorded in the 1990 Census and Cascade Locks Income Survey conducted in February 1994. There are approximately 435 total housing units in the city. The vacancy rate in the City is approximately 10 percent.

Between 1980 and 1990 the housing inventory in Cascade Locks increased from 357 to 420 units, an average increase of about 6 units, or 1.6% per year. Seasonal units totaled 30 in 1990. From 1990 to February 1996 housing units in Cascade Locks are estimated to have grown to 448, an average increase of about 5 units, or 1.1% per year. The growth came from the addition of 10 single-family homes and 19 manufactured homes (there was one demolition of a single family unit).

The 1990 Census reports that 61 units in Cascade Locks were multi-family, about 15% of all housing units. Tenure for all units in 1990 was 61.5% owner-occupied and 38.5% rentals. The vacancy rate for owner-occupied units was 0.4% and 5.3% for rental units, indicating a tight housing market. In general there is not much housing available for sale or for rent in Cascade Locks.

### Housing Summary

Types	1980 Census (Planning Area)	1990 Census (City Limits)	1990 Census (Planning Area)	1994 Cascade Locks (Income Survey)
Single-family Units	249	260	265	-
Multi-family Units	54	61	62	-
Mobile Home Units	54	91	95	-
Total Housing Units	357	412	422	435
Total Occupied Units		373	380	397
Total Vacant Units		39	43	38*
Total Households		373		
Family Households		249		
Non family Households		124		
Persons per Household		2.49		

\* Includes households where the occupant(s) could not be contacted.

## **C. PARKS AND RECREATION**

### **City Facilities and Opportunities**

A limited number of recreational facilities are available in Cascade Locks. Additional opportunities and facilities are located within Hood River County and the Columbia River Gorge, and are within close proximity to Cascade Locks. Recreational provisions offered in Cascade Locks include:

- Marine Park
  - Overnight Camping
  - Picnicking
  - Museums
  - Pleasure boat marina
  - Port of the Columbia Gorge
  - Sternwheeler Riverboat moorage
- Toll House Park
- Cascade Locks Airport baseball field (with ODOT permission)
- Private campground (KOA)
- Tooth Rock (undeveloped) and Skateboard Park
- The recently completed Overlook Park
- Gorge Center plazas
- City Hall gymnasium
- School Grounds
  - Tennis
  - Field sports
  - Basketball

### **Local Opportunities**

The City of Cascade Locks is fortunate to have a wide variety of recreational opportunities in the surrounding area. A sample of these opportunities is listed below.

- Many recreation-hiking trails begin in the City and are maintained by the Mt. Hood National Forest, the most famous of which is the Pacific Crest National Scenic Trail. The Bridge of the Gods Toll House Park is the beginning point for the Pacific Crest Trail in both Oregon and Washington.

Other trails include: the Eagle Creek Trail, the Ruckel Trail, a newly completed trail from Toll House Park to Ruckel Trail, the Nick Eaton Trail, the Gorton Creek Trail, the Herman Creek Trail, and the Wyeth Trail.

- The Federal Highway Administration developed a bike and walking path between the Bonneville Dam and Cascade Locks using the existing historic Columbia River Highway. Trailheads start at the Bonneville Dam and under the Bridge of the Gods.
- The Bridge of the Gods Toll Bridge connects the Oregon and Washington Columbia Gorge shorelines, thus creating additional tourist traffic from both states and influencing and strengthening the tourist trade in Cascade Locks.
- The historic Bonneville Dam is located five miles west of Cascade Locks off of exit #40. The dam is admission free and provides a fish hatchery and fish-view window for visitor viewing.
- Wahclella Falls Trailhead is located approximately five miles from Cascade Locks off of exit #40. This facility provides hiking trails for the general public.
- Eagle Creek is located approximately four miles west of Cascade Locks and is noted as the most scenic hiking trail in the Gorge. This facility provides family picnic, overnight camping and hiking and the Eagle Creek Overlook.
- Dry Creek falls is located north of the City.
- Wyeth Campground is located east of Cascade Locks along I-84. This recreation area offers campground, picnic, and hiking. A variety of other campgrounds and historic sites along the Columbia River provide additional tourist activity in Cascade Locks.
- North Bonneville is located on the Washington side of the Bonneville Dam. This area offers 7 miles of biking and walking trails.
- Skamania Lodge Rock Creek Park is located in Stevenson north of Cascade Locks and the Columbia River. This facility is the new location of the scenic grand lodge and conference center and U. S. Forest Service Information Center.
- Skamania County Historical Museum is located in Stevenson north of Cascade Locks and the Columbia River. This facility showcases Native American artifacts and the largest rosary collection.

- Skamania Historical Outdoor Museum is located in Stevenson, north of Cascade Locks. This facility showcases the Corliss steam engine and SP&S Caboose.
- Rock Creek Park is located in Stevenson, north of Cascade Locks and the Columbia River. This facility provides a community center, fairgrounds, picnic area, playground, bird watching, and wildlife refuge on Hegewald Pond.
- Beacon Rock is located north of Cascade Locks and the Columbia River. This location provides camping, hiking, golfing, and marina recreation.
- Hamilton Island is located north of Cascade Locks and the Columbia River. This location provides historic interpretive trails of settlers and Native Americans.
- Carson Hot Springs are located northeast of Cascade Locks along the Wind River near the town of Carson, Washington.

## **Open Space**

The general area of Cascade Locks, when including the Mt. Hood National Forest lands within the boundaries of the planning area, consists mainly of open space. Of the 26,000 plus acres of land lying along the Columbia Gorge from the Hood River County line to Wyeth, some 24,000 acres are in the Mt. Hood National Forest boundaries and must be considered as open space and undevelopable land for planning purposes. Within the incorporated lands of the planning area, the Port of Cascade Locks owns and maintains the Marina Park complex. The City also owns an undeveloped 3-acre tract known locally as "Tooth Rock", which is home to the City's skateboard park.

In addition, there are other lands that are unsuitable for development within the City and can be maintained as open space. There are many tracts of land in public and private ownership, which have not been developed substantially and may not be developed in the foreseeable future. These include the land of the Oregon State Aeronautics Division adjacent to the airport, lands along the Columbia River, which are subject to flowage easements, and lands along Herman Creek which are considered as flood plain.

## D. EDUCATION

Cascade Locks is within the Hood River County School District, which accommodates grade levels from K to 12, and the Mt. Hood Community College Educational District. In 1999, the number of students enrolled at Cascade Locks elementary and high schools was 219. The future capacity of the school is estimated to be approximately 400 students. The 1995 enrollment level for all grades ranged from 8 to 25 students. The 1995 enrollment level for each grade is summarized on the following page.

Grade	Grade
K - 16	7 - 25
1 - 12	8 - 8
2 - 15	9 - 14
3 - 16	10 - 13
4 - 8	11 - 20
5 - 22	12 - 15
6 - 19	

School enrollment has remained relatively constant. The following list is the past enrollment figures for the Cascade Locks School.

1960 - 227	1980 - 216
1965 - 211	1985 - 207
1970 - 185	1990 - 185
1973 - 168	1993 - 216
1974 - 182	1994 - 221
1975 - 159	1995 - 203
1976 - 200	1999 - 219

## E. SOCIAL SERVICES

Currently, there is not a hospital or health center within the City of Cascade Locks. Nearby medical centers include the Hood River Memorial Hospital, located 20 miles to the east in the City of Hood River, and La Clinica Family Health Care Center, also in Hood River. There is also a smaller Skyline Hospital, located across the Columbia River in White Salmon, Washington. There is a weekly bus service that provides transportation to Hood River.

Hood River County Health Department offers services weekly to Cascade Locks School, as well as monthly services to Senior Citizens at the Pioneer Potlatch meal site. Women, Infant, Children (WIC) services are provided monthly to preschool children and mothers by the County Health Department. Other state agencies providing social services, i.e. Adult and Family Services, Employment

Department, Department of Motor Vehicles and Senior and Disabled Services are located in Hood River. All Hood River County Services are located at the Hood River County Courthouse in the City of Hood River.

The city of Cascade Locks lacks a general community center for city residents. Most community events often take place in the gymnasium of the current City Hall building. The city has identified the need to provide a designated community center for its residents in the future.



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ABANDONED WASTEWATER  
TREATMENT PLANT  
NEW PUMP STATION  
(0.80 MGD)

PROPOSED PUMP  
STATION

WEST HERMAN CREEK  
WASTEWATER TREATMENT  
PLANT

PROPOSED BURIED  
AND SUBMERGED PIPE  
IN THIS SECTION

PROPOSED PUMP  
STATION

PROPOSED PUMP  
STATION

PROPOSED PUMP  
STATION