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WAHKIAKUM COUNTY COMPREHENSIVE PLAN

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## GLOSSARY OF TERMS

For the purposes of this Comprehensive Plan, the following words and terms shall be defined and interpreted:

Comprehensive Plan

A document or series of documents prepared by a planning commission or department setting forth policies for the future of a community. It is normally the result of considerable study and analysis of existing physical, economic, and social conditions and a projection of future conditions. When adopted by a public body such as a planning commission or governing body, it serves as a guide for many public decisions, especially land-use changes and preparation of capital improvements programs, and the enactment of zoning and related growth management legislation. Enabling statutes of many states require zoning to be in accordance with a comprehensive plan.

Dwelling type

Refers to a type of housing unit: single family, apartment, mobile home, etc.

Goal

"An object or end that one strives to attain; aim."\* In a comprehensive plan, the goals are general statements of a desired condition or direction which the county's residents and leaders would like to see achieved through the implementation of specific tasks (objectives) and policies for decision-making.

Objective

"Something toward which effort is directed: an aim or end of action."\* In a comprehensive plan, objectives are specific tasks which, if undertaken and accomplished, will lead to partial or eventual fulfillment of the goals.

Policy

"A definite course or method of action selected ... to guide and determine present and future decisions; decisions designed to carry out a chosen course of action."\* A comprehensive plan's policies are guidelines and methods for handling both day-to-day and long-range decision making by the county planning commission, board of county commissioners, and staff.

\* Webster's New World Dictionary, Second College Edition, 1980.

<u>Shall</u>	"Used in law, regulations or directives to express what is mandatory; used to express determination."* A comprehensive plan's policies occasionally use "shall" to denote that the course or method of action is mandatory or backed by local determination.
<u>Should</u>	"Used in auxiliary function to express duty, obligation, necessity, propriety or expediency."* A comprehensive plan's policies commonly use "should" as a means to recommend a course of action but not to absolutely require that course of action.
<u>Organized Gillnet Drift Area</u>	Refers to a portion of the Columbia River identified and used for drift gillnet fishing. These areas are maintained by groups of fishermen organized into snag unions for the purpose of removing debris from these areas.
<u>Cottage Industries</u>	A family occupation usually involving a specialized craft such as pottery, boat building, woodcrafts, jewelery making, etc. "... 2. any relatively small-scale business operation carried on as from the home."
<u>The Boldt Decision</u>	Refers to U. S. District Judge George Hugo Boldt's ruling in 1974 on "Treaty Indian Fishing Rights" which states, in part, that treaty Indians shall have the opportunity to harvest 50% of all salmon stock under U.S. control or jurisdiction in addition to numbers taken for subsistence and ceremonial purposes. The treaty tribes must have access to this percentage at their "usual and accustomed fishing grounds and stations wherever located".
<u>Urban Develop- ment Areas</u>	Areas on the north, west and east fringes of of Cathlamet which are evolving from a rural to a more urban character. Such areas are logical for expansion of the town and are identified as such.
<u>Non-Urban Areas</u>	Areas of the county used for forestry and agriculture, unincorporated communities (i.e., Rosburg and Skamokawa) that provide basic services such as taverns, stores, gas stations, and outlying residential areas not dependent upon urban services (i.e., sewer and water lines).

\*Ibid.

Mobile/  
Manufactured  
Home

A factory assembled structure bearing the seal of the state Department of Labor and Industries (July 1968) or the Federal Department of Housing and Urban Development (June 1976) and intended for permanent occupancy.

Mobile Home  
Park

Any tract of land under a single ownership or unified control for the placement of mobile homes for residential purposes.

Mobile Home  
Subdivision

Any tract of land platted in accordance with platting and subdivision regulations of the State of Washington in which each parcel or lot is designed or intended to be owned fee simple by a permanent mobile home occupant.

Trollers

Salmon trolling is basically a multiple hook-and-line fishery in which numerous baits or lures are suspended at desired depths behind a moving vessel. Fish are brought on board individually, rather than in bulk, as in net fishing. Trollers harvest Chinook (*Onchoryncus tshawytscha*), Coho (*O. Kisutch*), and pink (*O. gorbusche*) salmon. Chum and sockeye salmon are not caught in any quantity by U.S. trollers.

Net Fishermen:  
Gillnet, Purse  
Seining and  
Reefnetting

Pacific coast non-Indian net fisheries include three gear types (gillnet, purse seine and reefnet) in five locations (Oregon and Washington sectors of the Columbia River, Willapa Bay, Grays Harbor, and Puget Sound). Purse seine and reefnet fisheries only occur in Puget Sound, while gillnetting occurs in all five locations.

Salmon gillnetting in Washington and Oregon is a driftnet method in which a boat lowers into shallow water a 200-300 fathom long by 14-20 foot deep net and allows it to drift. The net has floats at the top and weights at the bottom. The gillnet catches fish by entangling their gill covers in the mesh. The net is then hauled in and the fish are removed. In the lower Columbia region, two separate groups of gillnet fishermen, "floaters" and "drifters", employ different variations of this gear.

## INTRODUCTION

The Wahkiakum County Comprehensive Plan has been developed as a framework for achieving a balance between land development, maintenance of the natural resource base, and preservation of a lifestyle currently enjoyed by the county's residents. It does not seek to stifle development, but sets guidelines for reasonable and responsible growth throughout the county. It is the intent of this plan to establish the process for making land use decisions based on the stated goals, objectives and policies. The Comprehensive Plan is developed to achieve the following broad objectives:

1. To assure that public services and facilities can be provided as needed and in a manner that does not place an excessive burden on the general taxpayers or residents of the area.

2. To assure that future development whenever possible is compatible with existing uses. This is generally accomplished by requesting that future development mitigate any activity which will cause degradation or a sudden profound change in existing land uses or degrade the health, safety or welfare of current residents of the area.

The Wahkiakum County Comprehensive Plan is divided into two sections: Part I, Goals, Objectives, Policies, and Action Plan; and Part II, Background Information.

Part I is divided into nine separate chapters. These correspond to the chapters found in the text, which include: Land Use; Economic and Natural Resources; Housing; Public Facilities and Services; Transportation/Circulation; Parks and Recreation; Natural Environment; Energy; Historical Preservation. The Goals are general statements of the desired condition or direction the county's residents and leaders would like to see achieved. The Objectives are specific activities which, if undertaken and accomplished, will lead to the fulfillment of the goals. The Plan's Policies are guidelines for both day-to-day and long-range decision-making by the County Planning Com-

mission, County Commissioners and staff. Part II provides the background information upon which the goals and policies are based.

A Comprehensive Land Use Plan Map is also included. It provides a general, quick reference to areas that have existing or planned services (roads, power, septic tank and well water capacity, water lines, etc.) adequate to serve the indicated use. The map depicts the general areas where each use may be compatible with existing uses, such as forestry, agriculture, rural residential, low and high density residential development, rural service areas and the Cathlamet urban development area.

This Plan is not the final answer. The Plan is the means for making sound land use decisions; it does not make the decisions. The intent of this Plan is to define the process of making these decisions, not to be the end product.

#### Study Area

Wahkiakum County is located in southwestern Washington State. The county is bordered on the south by the Columbia River (which also serves as the common boundary between Washington State and Oregon), on the west by Pacific County, on the east by Cowlitz County, and on the north by Pacific and Lewis Counties.

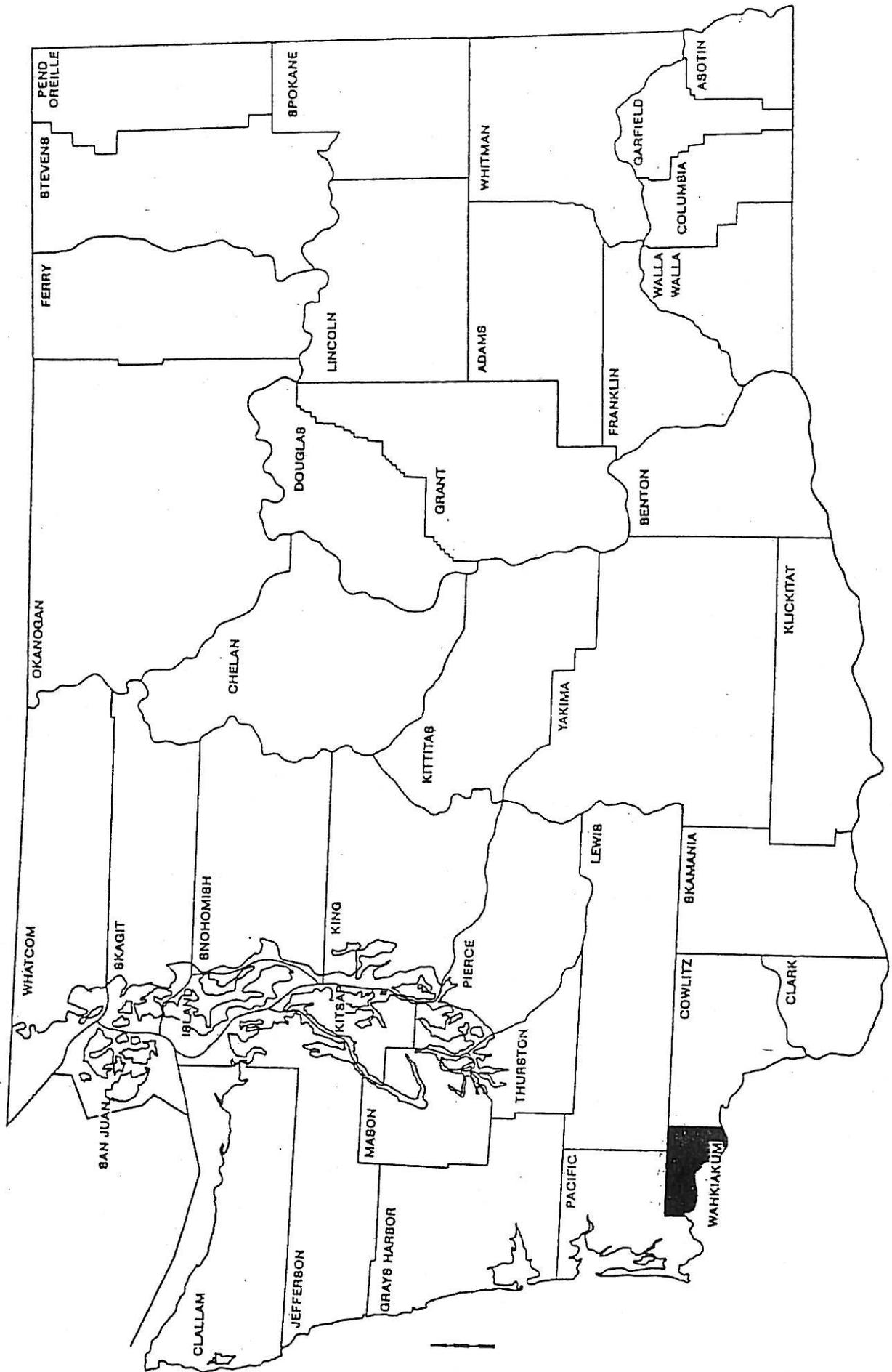
Wahkiakum County is the third smallest county in Washington State, slightly larger than San Juan and Island Counties. It encompasses a land area of 172,160 acres, or approximately 269 square miles. At its widest points the county measures 25 miles from east to west and 17 miles from north to south. It contains approximately 30 miles of the north bank of the Columbia River. The study area is shown in Figure i.

#### General Features

The dominant topographic features of Wahkiakum County are the broad, alluvial river valleys in the south and, in sharp contrast, the steep, rugged, northern hills. The Willapa Hills encompass approximately 83 percent of the county's land mass. The hills are densely forested and dissected by many small

FIGURE i

STUDY AREA/LOCATION MAP - WAHKIAKUM COUNTY 1982



streams and three major rivers, which flow from north to south into the Columbia River. The uses of the hill areas are commercial forestry, hunting, fishing, backpacking and camping.

The southern portion of the county consists largely of four broad alluvial valleys and two islands (Puget and Little Islands) located in the Columbia River. The valleys are formed by the Elochoman River in the eastern half of the county, Skamokawa Creek in the central portion of the county, and the Deep and Grays Rivers in the western half. The valleys and islands are used for agriculture, housing and industry, fishing and recreation.

The topographic and land use features are discussed further in the text.

#### Organization of the Plan

The most essential part of the Comprehensive Plan is Part I, the Goals, Objectives, Policies, Action Program, and Plan Maps. These are the result of the ideas and responses generated at eight community meetings and of research and discussion of the Planning Commission and staff. The Action Program is a selected list of specific objectives, or tasks, and identifies those who have major and minor responsibilities for carrying out the particular tasks. The Plan Maps are graphic information resources and complement the Goals, Objectives and Policies. They are intended to be used in conjunction with the Goals, Objectives and Policies. The Action Plan on page 39 is a partial list of the Objectives in Part I. Those listed were selected from areas needing action in the near future. They are not listed in order of priority. The action plan identifies various groups and their degree of responsibility relating to the items listed. The plan's policies and background section provide basic direction for the implementation of the various objectives. The official Land Use Plan Map is the large-scale map on display in the County Courthouse and will be the one on which future plan amendments will be shown.

Part II of the plan, Background Information, provides the supporting data and text upon which the Goals, Objectives, Policies and Plan Maps are based. Part II also serves as a reference source on the county.

Chapter XI, Effect, Implementation and Revision of the Plan, sets out the legal effect of the plan and parameters for carrying it out and revising it as changing conditions warrant. It should be emphasized here that the plan is a working document. Amendments will be appropriate and necessary to respond to changing conditions and to keep the plan operating as the central statement of county policy. But at the same time, amendments should be based on actual needs and supported by facts and rationale.

Appendix A, the Bibliography, lists written materials consulted and used in the development of the plan. Appendix B is a detailed description of the plan's development and public participation process.



PART I

GOALS, OBJECTIVES & POLICIES

## LAND USE

### Overall Land Development Subdivision Plat Review

#### GOALS

1. To protect and enhance the character and social and economic stability of the county through established standards of land subdivision and development.
2. To require the provision of public utilities as an integral part of the land subdivision and development process.
3. To insure that subdivision and associated public facilities, particularly for residential subdivisions, are designed and constructed to meet existing as well as forecasted future needs.
4. To insure that the subdivision of land will provide adequate light, air, privacy, and a variety of living environments.
5. To insure that the subdivision of land will be accomplished for the purposes of protecting public health, safety, and welfare.
6. To minimize the pollution of air, streams, ponds, and ground water during and after land clearing and development.

#### OBJECTIVES

1. To develop thorough, readily understandable short plat and regular subdivision ordinances by 1983 which provide standards and regulations in keeping with these goals and policies.
2. To develop and implement land clearing and grading standards to regulate the clearing and preparation of land for development. Such standards should be developed by and monitored by the County Engineer

#### POLICIES

1. If a preliminary plat represents a phased portion of a potentially larger development, the county shall require that a master plan for the entire potential development be

submitted concurrent with the preliminary plat of the first phase.

2. Future traffic circulation patterns should be considered during preliminary plat review.
3. Streets and roads within subdivisions should be layed out and designed so as to plan for future connection to adjoining subdivisions.
4. Intersection of local and collector streets with minor and major arterials should be minimized.
5. Direct driveway access to minor arterials and collector streets should be minimized. Driveway access onto major arterials should not be permitted.
- \*6. Curbs and gutters should be installed along arterials, collector and local streets to control surface water runoff.
7. Utilities shall be placed underground when and where possible.
8. All streets and roads in subdivisions should be designed and constructed according to the standards of the Wahkiakum County Subdivision Ordinance.
9. Streets should follow the more natural gradual contours of the land and avoid long stretches or sweeps of steep grade over ten percent.
10. Subdivisions shall insure that approved standards for water supplies and flow pressures are provided to and throughout the subdivision site. Such provisions should be designed and, if possible, sized to insure extension to later phases of subdivision development.
11. The design and layout of lots in subdivisions should be such that buildings are oriented to take appropriate advantage of solar influences and protection from adverse weather.
12. Subdivisions should be sited, designed, and constructed to preserve and enhance views, natural features and resources and be compatible with the aesthetic values of the area.
13. Innovative land development techniques such as planned unit developments, clustering of units, and townhouses at suitable locations, should be encouraged over traditional single-lot

subdivisions in order to more efficiently utilize land resources and public services, provide for diverse housing opportunities, and preserve unique or sensitive areas as open space.

14. Hillside and upland developments that would significantly increase runoff to lowland areas should be required to institute measures to collect, control, and properly phase the discharge of drainage from the development site.
15. Lowland developments in areas of seasonally high water tables, flood prone areas, or in areas where standing or ponding of drainage or flood waters is an annual problem will be required to participate in a flood control or diking district which handles such drainage problems.
16. Hillside and upland areas within identifiable drainage basins should be included along with lowland areas in comprehensive flood control programs.
17. If the development of land and its intended use activity adversely impacts adjacent and nearby private and public properties, facilities, and services, those responsible for such development and activity should bear a fair share of the cost of repair and improvement of these impacted properties, facilities, and services.\*
18. During the preliminary plat review process, the Planning Commission should consider the effects of a proposed subdivision on other public facilities and services such as existing parks, recreation facilities, schools, roads and transit facilities, and future capital improvements which may result from the development.
19. Soils data available in this plan through the local Soil Conservation Service Office and other professional sources should be utilized by County officials for reviewing all development proposals.
20. Soils data and information should be utilized by all builders and developers in the initial, investigative phase of development planning.

21. Approval from the Regional Health District signifying on-site sewage disposal capability of each individual lot shall be submitted prior to any preliminary plat approval.
22. Subdivisions in shoreline areas shall submit a shoreline erosion abatement program as determined and approved by the Wahkiakum County Engineer prior to preliminary plat approval.
23. Soils exhibiting moderate to severe erosion characteristics and limitations should be investigated by soil scientists, soil engineers and other professionals for determining their ultimate suitability for development.
24. In residential subdivisions or planned unit developments (PUDs), soils exhibiting moderate to severe erosion characteristics and limitations which are proven by investigation by qualified soil scientists or soil engineers to be hazardous to development should be used as open space and should help fulfill the requirement for open space in a planned unit development.
25. As the slope increases, larger lot sizes, fewer roads, and clustering of development on more appropriate building areas should be required where soils exhibit moderate to severe erosion characteristics and limitations, as documented by qualified geologists, soils scientists or engineers.

### Specific Land Use

#### **Specific Forest Use (SFU)**

The goals, objectives and policies addressing forestry concerns are located in the Economics and Natural Resources chapter of this plan.

#### **Specific Agricultural Use (SAU)**

The goals, objectives and policies addressing agriculture are located in the Economics and Natural Resources chapter of this plan.

## Rural Residential Areas

### GOAL

1. To provide for a variety of housing types and locations while maintaining the rural environment and lifestyle of the county.

### POLICIES

1. The density for rural residential areas shall be determined by size necessary to provide sewerage and water as per Health Department standards.
2. All new developments proposing to locate in existing rural residential areas shall be reviewed to insure that the new development will not conflict with the keeping of domestic animals on adjacent properties.
3. This plan endorses the residential rules and regulations as stated in the Wahkiakum County Shorelines Management Master Program.
4. Any rural residential subdivision proposing to locate adjacent to a Specific Agriculture or Specific Forest Use area shall be reviewed to assure that the proposal does not interfere with farming or forestry practices common to that area.
5. All housing and subdivisions should be designed and constructed to take the greatest possible advantage of wind and solar energy.
6. County-backed housing programs should place strong emphasis on encouraging rehabilitation of existing housing units over the construction of new units.
7. Opportunities for existing and proposed home occupations and cottage industries are encouraged if they can be provided without endangering the rural character of the area in which they are located.
8. Activities associated with a home or cottage industry should not generate nuisances which are detrimental to the health, welfare and lifestyle of the neighboring families.

## Rural Service Areas

### GOAL

1. To allow residential development in the rural service areas not served by community water and sewer without making a public commitment to support these areas by providing, in the future, extensive public facilities.

### POLICIES

1. Over-development in rural service areas on private wells and septic tank sewage disposal systems should be discouraged in the interest of public health and preserving the rural character of the service areas.
2. County-backed housing programs should place strong emphasis on encouraging residents to maintain and/or rehabilitate existing units over the construction of new units.
3. The impact on the existing and/or proposed water systems of new housing units or subdivision proposals shall be carefully reviewed.
4. Moorage of individual houseboats shall be permitted only after a public hearing is held by the County Planning Commission.
5. Special consideration should be given to encouraging an adequate number of retirement homes within the rural service area.
6. The housing density for rural service areas shall be determined by Health Department standards.
7. Vegetation or structural screening should be encouraged where multiple family developments are adjacent to single family dwellings.
8. Opportunities for businesses in the home are encouraged if they can be provided without conflicting with the residential character of the neighborhoods.
9. Businesses in the home should be incidental to the use of the dwelling for living purposes.

10. The activities associated with a home business should not generate nuisances which are detrimental to the health and welfare of persons residing in the immediate neighborhood.
11. New commercial and industrial proposals should be reviewed for consistency with the overall character of the community and their impact on the capacity of the wells and septic tank drainfields in the area.
12. Commercial signs should be regulated to limit unnecessary signs, insure adequate spacing to facilitate vision and public safety and to encourage aesthetic signs.

#### Urban Development Area

##### GOAL

1. To promote an orderly, efficient and economic pattern of growth within the Urban Development Area.

##### OBJECTIVE

1. To develop an urban growth management program jointly with the Town of Cathlamet, which will insure that public facilities and services are available and provided in a logical, cost-effective manner through the year 2000.

##### POLICIES

1. When joint county and town engineering studies of Cathlamet's water, sewer (the collection system), and storm drainage systems are completed and forecasts made for expansion and improvements, the urban development boundary should be re-examined in greater detail to determine appropriate adjustments, if necessary.
2. Future developments of urban density should occur only within the limits of the agreed-upon urban development boundary. Wahkiakum County and the Town of Cathlamet shall jointly develop and adopt specific land use policies related to the

urban development of land within the urban development area boundary.

- \* 3. Existing vacant lands contiguous to the town limits should be utilized in an efficient and logical manner.
4. There should be a well-defined division between urban and rural land uses.
5. Greater urban density through smaller lot sizes should occur within and contiguous to the town limits.
6. Public facilities and services, especially sewer, water, storm drainage, and road improvements should be logically phased outward from the town limits as the need is demonstrated and as funds and resources will allow.
7. The town should avoid annexing any properties not identified as being within the town's sewer and water service area.

#### Residential (Urban Development Area)

##### GOAL

1. To meet the future housing needs of Wahkiakum County through the provision of a variety of dwelling types, densities and costs.

##### POLICIES

1. During the review and update of the County's Subdivision Ordinance in 1983 provisions should be made for inclusion of Planned Unit Development standards.
2. Screening, landscaping and other physical means should be utilized to provide a buffer between low and high density developments and to minimize possible conflicts.
3. High density development should be located and designed so as to avoid direct access to major and minor arterials.
4. New residential developments should be compatible with existing housing in the area.

5. High-density residential development should be discouraged from concentrating in any one portion of the urban development area.
6. New development locating in an area having a minor drainage problem may be allowed subject to solving the drainage problem. An area having major drainage problems or subject to periodic flooding may be developed subject to the development and implementation of an areawide drainage plan.
7. The density for the Urban Development Area shall be:
  - a. Low density: 2 units per acre
  - b. High density: 5 to 10 units per acre, depending upon type and location of the proposal and presence of sewer and water facilities.

#### Commercial (Urban Development Area)

##### GOAL

1. To insure the development of uses which enhance the community.

##### POLICIES

1. New commercial developments should be designed and constructed to enhance public safety and access. Such considerations as lighting, information signing, access and special improvements to accommodate the handicapped should be included as part of commercial area development.
2. Commercial developments should be clustered whenever possible and provide for common off-street parking areas to reduce the amount of land used for parking. Off-street parking should be designed for maximum public safety.
3. Structures or landscaping should be provided between commercial areas and adjacent residential areas in order to provide buffering between these potentially incompatible land uses.

4. Unattractive commercial developments such as automobile junk yards and commercial storage yards should be sight screened.

#### Industrial (Urban Development Area)

##### GOAL

1. To provide for adequate land to accommodate a moderate level of economic growth in Wahkiakum County.

##### POLICIES

1. Undeveloped public lands with industrial potential should be reserved for a 10 to 15 year industrial growth period.
2. Encroachment by incompatible non-industrial land uses should be discouraged in those vacant areas banked for industrial use. Agricultural activities, forestry uses, or open space should be encouraged as the appropriate interim land use for areas banked for industrial use.
3. Development of the necessary supporting services and facilities for a moderate level of industrial growth consistent with the respective general service and facility plans for the area should be encouraged.
4. Planned industrial parks should be encouraged and assist in the provision of public and private facilities and services.
5. Industrial growth shall be planned and designed to enhance the overall image of the community.
6. Industrial developments shall be evaluated for environmental impacts. If adverse environmental impacts exceed beneficial impacts, the proposed activity shall be redesigned so that its impact is beneficial and not adverse.
7. Non-nuisance and non-hazardous industrial growth should be encouraged. A "nuisance" industry is one having a pollution problem including odor, noise, or visual pollution or other discharges which, because of the nature of the industrial activity, cannot be adequately controlled.

8. Industrial activities proposing to locate along the County's rivers shall be encouraged to provide public access to the shoreline in a manner which will not conflict with the industrial activity.
9. Public waterfront with industrial potential should be located and reserved for those industries requiring shoreline locations because of needed shipping or storage functions. Reserving industrial sites along the waterfront will assist in the County's overall effort to attract new industry.
10. Industries requiring a shoreline location shall be developed consistent with the Shorelines Management Master Program for Wahkiakum County.

## ECONOMICS AND NATURAL RESOURCES

### The Economy

#### GOALS

1. To develop a balanced economy which will insure stable and sustained economic growth.
2. To encourage the siting of a variety of small firms to help diversify the local employment base, create employment and business opportunities, and reduce county dependence upon the natural resource harvesting and associated seasonal activities.
3. To provide adequate public facilities and local governmental services to attract, support and complement a sustained rate of economic growth.
4. To attract industries and businesses that provide for the in-county processing of harvested natural resources.

#### OBJECTIVES

1. To create a functional economic development board or committee by 1983.
2. To establish by 1984, as a major function of the economic development board or committee, a data or information review process to review data as it is produced by various state and federal resource agencies.
3. To create a county office of development which will coordinate and enforce all county land use plans and ordinances in a responsive and professional manner.

#### POLICIES

1. The county should begin formation of a citizen economic development committee or board which will serve in an advisory capacity to the Planning Commission and Board of County Commissioners on all matters of economic need and problems of the county. The committee or board would also be responsible for actively seeking desirable industries and

businesses to locate in Wahkiakum County.

2. The county should assure that all county ordinances are implementable and enforced.
3. The county should work with the Departments of Fisheries, Agriculture and Natural Resources to establish an effective resource information program. This program should be geared towards the annual release of information which can be used by Wahkiakum County in its future planning programs.
4. Land use activities and development proposals should be closely reviewed for impacts on the natural renewable and non-renewable resources in the county.
5. Wahkiakum County should encourage in-county processing of all locally produced resources.

## Natural Resources

### GOALS

1. To conserve the County's natural resources and promote the best management practices.

### OBJECTIVES

1. Develop an active program for informing the citizens of Wahkiakum County about the value and nature of natural resource management activities in the County and how they can help encourage the effective management of the County's natural resource base.
2. Enact a natural resource alternative employment program through close coordination with Columbia-Pacific Resource Conservation and Development Commission (RC&D), U.S. Department of Agriculture and major timber producers.

### POLICIES

1. Increase public awareness of and involvement in the development of any major activity which could impact the natural resource base of the County.

2. To develop greater in-County employment through careful management of the natural resource base.

## Renewable Resources

### Agriculture (Renewable Resources)

#### GOALS

1. To identify and conserve the existing agricultural lands of Wahkiakum County.
2. To encourage good management practices on lands which are best suited for agricultural production.

#### OBJECTIVES

1. To develop a program which will encourage natural resource processors to locate in Wahkiakum County.

#### POLICIES

1. Future non-agricultural activities should be encouraged to locate where they will not interfere with accepted farming practices on adjacent lands devoted to farm use.<sup>1</sup>
2. All future public road development within or adjacent to agricultural areas should be reviewed for its impacts on the adjacent farm lands prior to construction.
3. The Open Spaces Taxation Law of 1970 should be used as a viable agricultural land use control for Wahkiakum County.

<sup>1</sup>"Farm Use" means the current employment of land including that portion of such lands under buildings supporting accepted farming practices for the purpose of obtaining a profit in money by raising, harvesting and selling crops or by the feeding, breeding, management and sale of, or the produce of, livestock, poultry, fur-bearing animals or honeybees or for dairying and the sale of dairy products or any other agricultural or horticultural use or animal husbandry or any combination thereof. "Farm Use" includes the preparation and storage of the products raised on such land for man's use and animal use and disposal by marketing or otherwise.

4. Proper farming practices should be encouraged to minimize sedimentation in streams, stream bed alteration, nutrient enrichment and toxicity.
5. In undiked areas, the county should encourage farmers to maintain a sufficiently wide vegetative buffer strip along their respective streams to stabilize the banks and provide a natural filter for surface runoff.
6. Wahkiakum County should encourage the establishment and maintenance of active diking districts.
7. The minimal lot size should meet Health Department minimum standards for water and sewerage systems.
8. Agricultural activities should be considered a reasonable use of land in areas subject to periodic flooding.

#### Timber (Renewable Resources)

##### GOAL

1. To protect and enhance the commercial forest areas of Wahkiakum County.

##### OBJECTIVES

1. To encourage in-county processing of forest products.
2. To stimulate greater use of those programs providing economic and scientific assistance to small lot timber owners.

##### POLICIES

1. This program endorses the rules and regulations by reference of the Washington State Forest Practices Act, 1975.
2. Mixed recreational uses of public and private timber lands serves as a viable resource use and as such is encouraged to continue.
3. Wahkiakum County Rural Fire Districts, private and public timber companies should encourage increased publicity of the DNR pamphlet outlining "Fire Safety in Forested Areas for Residential Development".

4. This program endorses by reference the "Timber Practices" section of the 1980 Wahkiakum County Shoreline Management Master Program, as amended.
5. Both public and private timber holders are strongly encouraged to develop a wood pellet fuel processing plant in Wahkiakum County.
6. Prior to granting subdivisions and short plats adjacent to and/or within the SFU areas there will be a review to assure that:
  - (a) The proposal does not interfere with accepted timber growing and harvesting practices on adjacent lands devoted to timber production and management use;
  - (b) Conflicting use of private roadways by private automobiles and log-hauling trucks is avoided; that the proposal will not interfere with, or cause interruption of, existing log transportation methods on adjacent waters and roadways;
  - (c) The proposal will not conflict with slash burning, use of herbicides and fertilizer application and clear cutting; and
  - (d) The proposal will not materially alter the land use and transportation pattern of the area.
7. Individual single family houses with original access to a public road or highway for a distance of 1,300 feet from existing road or highway will be allowed subject to compliance with health standards.
8. The county should continue to encourage all public and private timber managers to actively pursue control of toxic and noxious weeds such as tansy, ragwort, Canada thistle, and others.
9. The County should maintain a close relationship between private and public timber operators and adjacent local governments in order to develop a strong natural resource and economic diversification program.

## Fisheries (Renewable Resources)

### GOAL

1. To protect and enhance the fisheries resource base of Wahkiakum County.

### OBJECTIVES

1. To encourage the Washington State Department of Fisheries to reinstate by 1984 the Chum or Dog Salmon into the Elochoman and Grays Rivers and other streams of Wahkiakum County.
2. To identify and preserve active Columbia River commercial fishing and drift rights areas in the county by 1982.
3. To open by 1982 the Cathlamet channel for commercial fishing through such methods as removing the pile dikes at the upstream end of Puget Island and dredging.
4. To have a clearly marked channel system in the Grays Bay area heading into Deep and Grays Rivers by 1982.
5. To improve by 1982 small boat navigation access into tributaries of the Columbia River of Wahkiakum County (example: Netrack Slough at Puget Island).
6. To effectively control ship speeds on the Columbia River throughout the length of Wahkiakum County by 1983 in order to prevent fish strandings.
7. To increase streambed habitat quality of anadromous fish spawning grounds.

### POLICIES

1. Wahkiakum County shall require that an environmental assessment (expanded checklist) be presented to the Board of County Commissioners for review and possible public hearings prior to any local, state or federal agency or any private party attempting to replace any native fish stock or species with other than native stock or species.
2. Wahkiakum County should work with the Washington State Department of Ecology, Department of Game and Fisheries, and other local interests to develop an instream resource

protection measures program for all streams and rivers in the county.

3. This plan endorses by reference the Columbia River Estuary Regional Policies as adopted by Wahkiakum County.
4. This plan endorses by reference the goals, objectives, policies and use activities of the Shorelines Management Master Program for Wahkiakum County as they relate to aquacultural activities in the county.
5. The county should work closely with the U. S. Soil Conservation Service, local farmers and loggers to develop a program for erosion control and protection of stream banks.
6. Future subdivisions and individual homesite developments that border on or encompass migratory fish streams should be designed to prevent any adverse affect on known salmon and steelhead spawning grounds.
7. Wahkiakum County is encouraged to assist in program development for ways and means of alleviating siltation damage to downstream anadromous fish spawning areas as these areas are identified.

#### Wildlife (Renewable Resources)

##### GOAL

1. To protect and enhance the wildlife in Wahkiakum County.

##### OBJECTIVES

1. To develop a salmon-watch program along some of the more publicly accessible streams of the county.
2. To develop and publish by 1983 a local wildlife identification pamphlet.

##### POLICIES

1. The county should work closely with the Department of Game to identify unique fish and wildlife areas. These areas consist

of the following: eagle aeries and steelhead and salmon spawning grounds.

2. Future subdivisions and land use classifications should be examined for their potential impact upon the surrounding wildlife.
3. Wahkiakum County shall require that an environmental assessment (expanded checklist) be presented to the Board of County Commissioners for review and possible public hearings prior to any local, state or federal agency or private parties attempting to remove and/or replace any native wildlife species with other than native species. In the event that removal of any wildlife from or within Wahkiakum County is necessary, it should be to a location approved by the Board of Wahkiakum County Commissioners.
4. This plan endorses by reference the Columbia River Estuary Regional Policies as adopted by Wahkiakum County.
5. This plan endorses by reference the goals, objectives, policies and Use Activity Standards of the Shorelines Management Master Program for Wahkiakum County as they relate to aquaculture and wildlife.

### **Non-Renewable Resources**

#### **GOAL**

1. To provide for the conservation and wise use of non-renewable energy, mineral resources, and unique natural features.

#### **POLICIES**

Policies for this section are divided into two parts: minerals (sand, gravel, bauxite), and unique natural features (viewpoints and scenic river valleys).

### Minerals (Non-renewable Resources)

1. This plan endorses by reference the Wahkiakum County Shoreline Management Master Program Policies and Regulations for mining and mineral extraction.
2. Any mineral extraction program should have an accompanying site reclamation plan consistent with Department of Natural Resources regulations.
3. Wahkiakum County should develop and adopt a long-range dredge material disposal plan for all acceptable shoreline areas in the county.
4. All initial mining and mineral extraction activities should be reviewed for their impacts especially on fisheries, wildlife, required governmental services, traffic and adjacent land uses.

### Natural Features (Non-Renewable Resources)

1. View point areas should be identified and utilized for a mixture of single family, multifamily housing and various passive public uses.
2. Features recognized as unique should be identified and protected.

## HOUSING

### GOALS

1. To provide for the assurance of an adequate supply of safe and sanitary housing in price ranges affordable to all residents of Wahkiakum County.
2. To promote greater diversity of location of housing for residents throughout Wahkiakum County.
3. To provide a diversity of housing types (single family, duplexes, multifamily, mobile homes, etc.).
4. To maintain and improve the condition of the existing housing supply within Wahkiakum County, and to stimulate the revitalization of older developed areas within the county.
5. To stimulate senior citizen in-home residency through encouraging housing renovation projects specifically designed for retired and/or elderly persons.

### OBJECTIVE

1. To provide approximately 25 or more units of subsidized rental housing for lower income households in Wahkiakum County over the next 3 years and approximately 50 or more units over the next 6 years.
2. Approximately half of these units should be for elderly and handicapped households and half for families.

### POLICIES

1. Wahkiakum County should continue to actively participate in regional housing programs, including the Housing Advisory Committee (HAC) of the Cowlitz-Wahkiakum Governmental Conference.
2. The housing needs of young couples, low-income families, workers and senior citizens should be provided for through the encouragement of a variety of housing types and developments, with special emphasis on apartments and small-

scale multifamily dwellings at locations of relative convenience to arterials, shopping and employment centers.

3. Wahkiakum County should actively work with public and private sectors to develop innovative approaches to reduce or slow the increase in housing costs for all income levels of the county.
4. Wahkiakum County should adopt local administrative procedures that stimulate housing development in a manner coordinated with existing and anticipated services, such as road development and improvements and placement or extensions of water systems.
5. Wahkiakum County should actively pursue programs which would provide for adequate housing in urbanized areas such as the Cathlamet area, with existing public facilities at a price not demanding an excessive percentage of income from the following:
  - a. Elderly and/or handicapped
  - b. Families of four or less persons
  - c. Families of five or more persons
6. The elderly and very low income households should be identified as the priority target group most in need of subsidized housing in Wahkiakum County.
7. Wahkiakum County encourages homeowners to take advantage of any programs offering loans and grants for housing rehabilitation and weatherization.

## PUBLIC FACILITIES AND SERVICES

### Public Facilities

#### GOAL

To assure that all public facilities and services are developed, operated, and maintained in an efficient and effective manner.

### Educational Facilities

#### GOAL

To assure that the educational needs of the County are properly provided for in a timely, effective and efficient manner.

### Law Enforcement

#### GOAL

To provide for the safety of persons and property in Wahkiakum County.

### Fire and Emergencies

#### GOAL

To provide adequate manpower, equipment and facilities for fire and emergency services to meet potential growth needs of Wahkiakum County.

#### POLICIES

1. The County should encourage emergency training programs to maintain a high state of efficiency.

2. The County should solicit Fire District input on proposed subdivision layouts to insure efficient emergency access and sufficient fire flow capability.
3. Local officials should coordinate emergency planning with the Emergency Services Director.
4. Wahkiakum County should maintain and enhance the Central Communications System for emergency dispatching of all emergency personnel through the Sheriff's Office.
5. The County should be encouraged to develop a countywide medical service district.

## County Government

### GOALS

1. To insure greater quality control, higher standards, and better planning in public facility maintenance and development.
2. To create an identifiable, coherent policy and decision-making process by and for the elected officials, County departments, and staff.

### OBJECTIVE

Institute a management-by-objective system whereby each department and person has a clear understanding of its functions, goals, and direction.

## TRANSPORTATION/CIRCULATION

### GOAL

1. Develop a transportation service to provide the citizens of Wahkiakum County with an alternative to the automobile as a means of travel.

### OBJECTIVES

1. To develop by 1984 an accepted (shuttlebus) transportation system which will operate between Rosburg/Grays River and Cathlamet, Longview and Kelso in Cowlitz County, and Pacific County.
2. Improve Beaver Creek Road to the Wahkiakum-Cowlitz County line as an all-weather road.
3. To complete by 1990 the Grays River to Pe Ell road in order to provide easier access to the Tacoma/Seattle markets for local agricultural produce.
4. Develop a program by 1984 that will stimulate a greater awareness of the need for transportation and a housing program for the handicapped and elderly citizens of the county.

### POLICIES

1. The county and the State Department of Transportation should continue to coordinate road and street improvements along SR4, 407, 403, and 409.
2. Wahkiakum and Cowlitz Counties should maintain Beaver Creek Road as an alternative, all-weather route.
3. State and federal agencies should be encouraged to assist private property owners in shoreline stabilization projects along waterways of countywide significance.
4. Street and road developments in steep areas (those areas in excess of 12% slope) should be designed to avoid excessive street gradients.

5. Subdivision street patterns and designs should be coordinated with existing and planned streets of the surrounding area to assure effective and safe circulation.
6. All streets and roads should should be developed in accordance with the Washington State-County Minimum Design Standards for Rural Roads.
7. All street and road developments should be coordinated with other public utility purveyors to avoid unnecessary disruption of the county or community.
8. The County should encourage close coordination and cooperation between the various providers of transportation.
9. The County should maintain functional efficiency and safety of the county's roads through good road design and access control.
10. Wahkiakum County should continue to request that the State Department of Transportation widen and straighten Ocean Beach Highway throughout the county to include the following areas:
  - (a) Along the east and west sides of Abernathy and Mill Creek Crossings in Cowlitz County;
  - (b) The west side of Germany Creek in Cowlitz County;
  - (c) Throughout the Cape Horn and Nassa Point areas in Wahkiakum County;
  - (d) Along portions of Section 24, T10N, R7W, W.M.; and
  - (e) At Ocean Beach Highway's junction with Miller Point Road in Section 29, T10N, R8W, W.M.
11. The county should cooperate with the State Department of Transportation to keep the ferry Wahkiakum in service.
12. The county road department should cooperate with the state during all repair work on the Puget Island Bridge.

## PARKS AND RECREATION

### GOALS

1. To create and preserve park and recreation opportunities which help to meet the needs of and are readily accessible to all citizens of Wahkiakum County and the region.
2. To ensure that park and recreation opportunities of the county's recreational, scenic, education, cultural, historical, and other natural resources are fully considered.

### OBJECTIVES

1. To construct a natural wildlife, archeological and historical interpretive center in or adjacent to Skamokawa Park by 1989.
2. To encourage the Washington State Department of game to construct turnout areas and parking lots with restrooms and trash containers, where needed, in conjunction with the sports fishermen's trails along the Skamokawa Creek and the Elochoman and Grays Rivers by 1989.
3. To begin an active tourist attraction program for the county.

### POLICIES

1. To incorporate outdoor recreation as an essential element of the overall county environment.
2. To monitor current and projected recreational trends and needs of the county population.
3. To act positively to identify and preserve the valuable recreational, historical and cultural resources of the county.
4. To encourage the Washington State Department of Game to retain public access areas to freshwater shorelands within the county.
5. To cooperate with other appropriate agencies in the planning, acquisition, development and management of public recreation programs and facilities.
6. All future development proposals should be monitored and checked for impacts on the existing recreational facilities of the county.

7. To provide for adequate recreational and shoreline access areas during subdivision and short-plat review and approvals.
8. Location of parks and trail systems in the county should be in areas where they do not interfere materially or socially with the production, harvesting and processing of this county's forest, agricultural, fisheries and non-renewable natural resources.
9. The county should work closely with the state highway department to develop a bicycle lane (4' wide) along the upland edge of Ocean Beach Highway throughout the length of the county, wherever practical.
10. The Washington State Department of Game should begin work at the earliest possible date on the development of a sports fishing trail system in cooperation with the local land owners along the lower and middle reaches of Skamokawa Creek and the Elochoman and Grays Rivers.

## NATURAL ENVIRONMENT

### GOALS

1. To enhance, through education and administrative actions, continual awareness of the natural environment of Wahkiakum County.
2. To protect the future citizens of Wahkiakum County from loss of life and/or property.

### OBJECTIVES

1. Incorporate all pertinent natural environmental information into County-adopted plans and ordinances pertaining to environmental concerns.
2. Develop a Floodplain Management Ordinance for Wahkiakum County.
3. Establish and maintain a County Building Department through the consolidation of existing departments.

### POLICIES

1. This plan endorses by reference the Wahkiakum County Shorelines Management Master Program's goals, objectives, policies and regulations for Wahkiakum County.
2. Wahkiakum County should continue to play an active role in the Columbia-Pacific Resource Conservation and Development Area programs.
3. Non-resource development activities should be strongly discouraged from locating in or adjacent to known areas where damage could result from landslides, soil creep, earthquakes, flooding and compressible soils.

## ENERGY

### GOALS

1. To continue efforts to make energy conservation methods more effective and pursue development of energy alternatives.
2. To continue work towards closer coordination between the county, the State of Oregon, and the State of Washington on transportation of energy and related materials on the Columbia River.

### OBJECTIVE

1. To adopt and implement the latest Washington State Building and Energy Codes as soon as possible.

### POLICIES

1. Oil and gas exploration in Wahkiakum County should be encouraged if it can be done in ways that are not detrimental to human health, fish and wildlife.
2. The Board of Wahkiakum County Commissioners should continue to work for the location of petroleum and other hazardous materials spill cleanup and removal equipment in the lower Columbia River area.
3. Wahkiakum County should continue to encourage the states of Washington and Oregon to conduct a coal, petroleum and other hazardous material transport feasibility and risk analysis for that portion of the Columbia River from Portland, Oregon downstream to the Pacific Ocean. This study should be conducted with local involvement by elected representatives or their appointees.
4. Individuals constructing housing should be encouraged to take the greatest possible advantage of wind and solar energy.
5. The County should encourage the PUD to examine the feasibility of in-stream placement of small turbin generators for the production of electricity.

## HISTORICAL PRESERVATION

### GOALS

1. To identify and preserve sites and structures of archeological, architectural and historic significance to Wahkiakum County.

### OBJECTIVES

1. Complete a countywide Historical Preservation Plan.
2. Develop a publishable "Wahkiakum County Historical Guide" pamphlet, with map and historical information about the county's building and sites.

### POLICIES

1. All proposed subdivision applications should be reviewed by the Planning Commission for possible impacts on historical buildings and sites as identified in the Wahkiakum County Historical Structures Inventory.
2. The owners of historically significant buildings and residences should be encouraged to rehabilitate and otherwise maintain and enhance their properties in a manner which reflects their architectural and historic design.

WAHKIAKUM COUNTY ACTION PLAN  
(not in order of priority)

	Responsibility for Action				
	County Commissioners	Planning Commission	County Staff	Other Govern- ments*	Private Sector**
Develop & implement development review procedures for county staff	•	+	•		
Develop a capital improvement program	•	•	•		
Implement objectives of the transportation/circulation element of this plan through the capital improvement program	•	•	•		
Develop, adopt & implement floodplain development & short plat ordinances	•	•	•	+	
Implement the sports fishing trail & bicycle trail programs	•	•	•	•	•
Revise Subdivision Ordinance	•	•	•	+	
Maintain a high level of trained personnel & up-to-date equipment & facilities in the Sheriff's Office and County fire districts	•		•	•	
Hire or train a building inspector	•		•		
Update housing & population sections of Comp Plan soon after 1980 Census is declared official	+	•	+		

- - Primary responsibility
- + - Secondary responsibility
- \* - Port districts, public utility district, diking districts, rural fire districts, school districts, Town of Cathlamet, and various State and Federal government agencies.
- \*\* - Private businesses, clubs, granges, organizations and individuals.

PART II

BACKGROUND INFORMATION



Chapter I  
NATURAL ENVIRONMENT

Introduction

The natural environment of Wahkiakum County is and should remain its main attraction. The economy of the county comes directly from the very resources that make up the unique quality of its environment. Therefore, through careful management of its environment, the people of Wahkiakum County can insure the long-range continuation of the natural resource base of the county.

Evidence of neglect towards the natural environment is ever present in other areas shifting from rural to urban settings. This neglect is sometimes accompanied by natural disasters such as land and mudslides, floods and fire. In some locations various types of disasters have reached catastrophic proportions. In every case neglect for the natural elements has proven to be very costly, either in terms of lives or in loss of property. To illustrate this point, compare the following average annual losses in the United States from natural hazards:

TABLE 1

Floods	-	\$ 1,200 million
Earthquakes	-	100 million
Landslides	-	1,000 million
Coastal Erosion	-	300 million
Expansive Soils	-	2,200 million
Others	-	100 million

SOURCE: "Nature to be Commanded . . .", U. S. Geological Survey Professional Paper No. 950, 1978.

As the table shows, the least spectacular hazard, expansive soils, is by far the most costly in terms of economics alone. The "Others" category includes subsidence (sinking soils), soil movement or creep, fault displacement, liquefaction of sand and clay, and the like. Ignoring these environmental factors has resulted in flooded basements, houses and buildings, foundation and wall damage from expansive soils, failing septic systems, and damage to roads and public utilities. In the final analysis we, as property owners and taxpayers, pay directly for these damages and the resulting problems and inconveniences.

The purpose of this chapter is to provide the necessary environmental information to decision-makers (the Planning Commission, County Commissioners, developers, and citizens) to enable them to make sound land use decisions. Narrative descriptions of environmental factors and soil classes are presented to illustrate suitability and opportunities of the land for different uses. Decisions can be made to encourage or discourage future urban density developments and alert property owners and developers to special problems which need to be addressed before such development occurs.

Finally, it is advocated that land use plans and decisions should be made with the fullest possible knowledge of the natural environment and the processes which effect its use.

### Climate

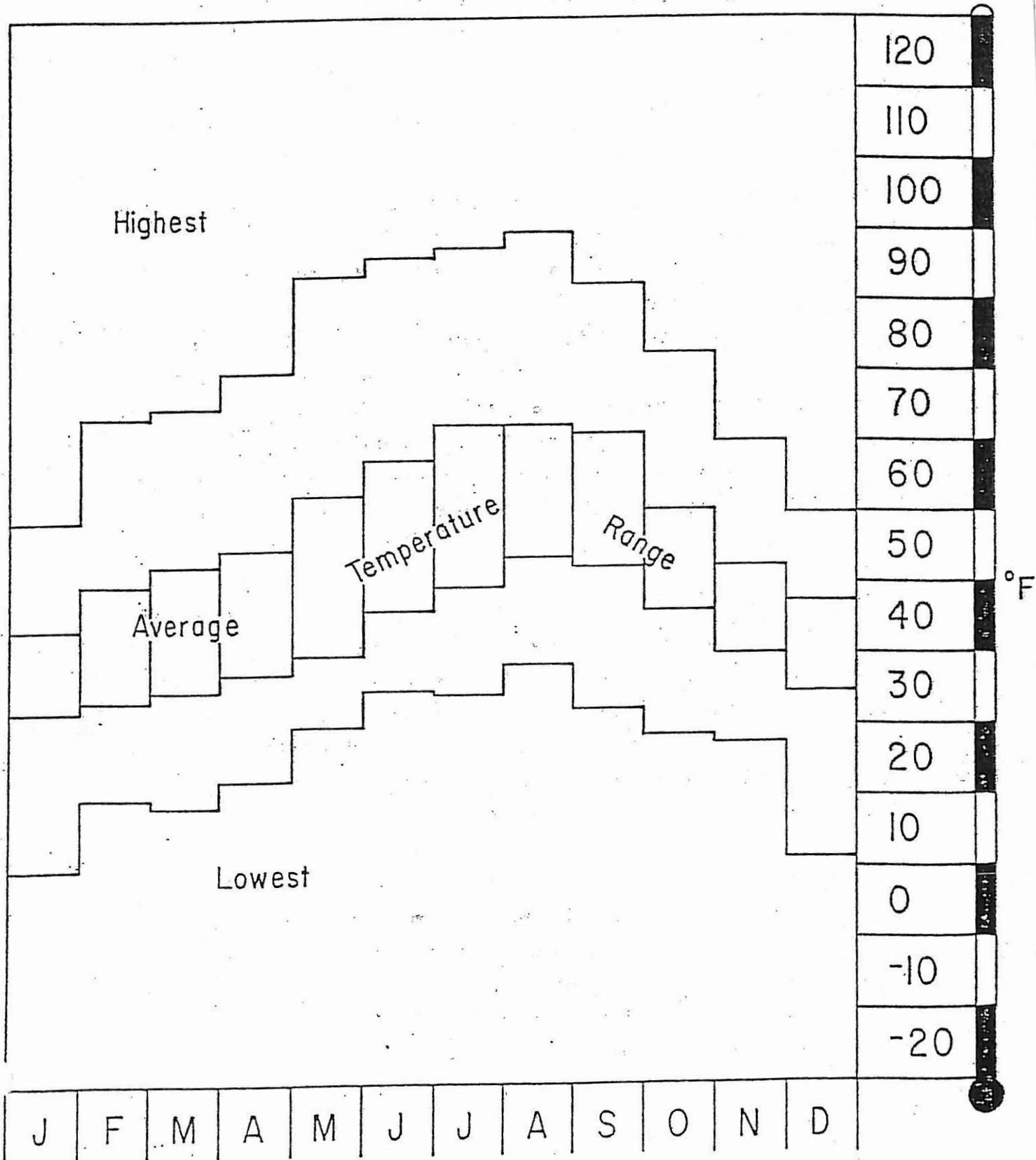
Climatic conditions in Wahkiakum County are predominantly a mid-latitude, west coast marine type, with prevailing westerly winds moving inland from the Pacific Ocean. Temperature variations are not extreme with winters being mild and wet and summers warm and dry.

### Temperature

As illustrated in Table 2 the temperatures in Wahkiakum County are mild, with January normally the coldest and July and August the warmest months. In the valleys of the Elochoman,

TABLE 2

# GRAYS RIVER MONTHLY TEMPERATURE VARIATIONS



MONTHS

Skamokawa Creek, Deep and Grays Rivers the temperature during the summer may exceed 90° F. on an average of seven days per year. Winter temperatures fall below freezing approximately 25 days per year. In the mountains, temperatures decrease about 3° F. for each 1,000 foot increase in altitude. Above 5,000 feet, below freezing temperatures are not unusual during winter.

### Precipitation

The average annual precipitation, as illustrated in Figure 1, varies from approximately 60 inches per year in the southeast portion of the county to approximately 120 inches per year in the north central portion.

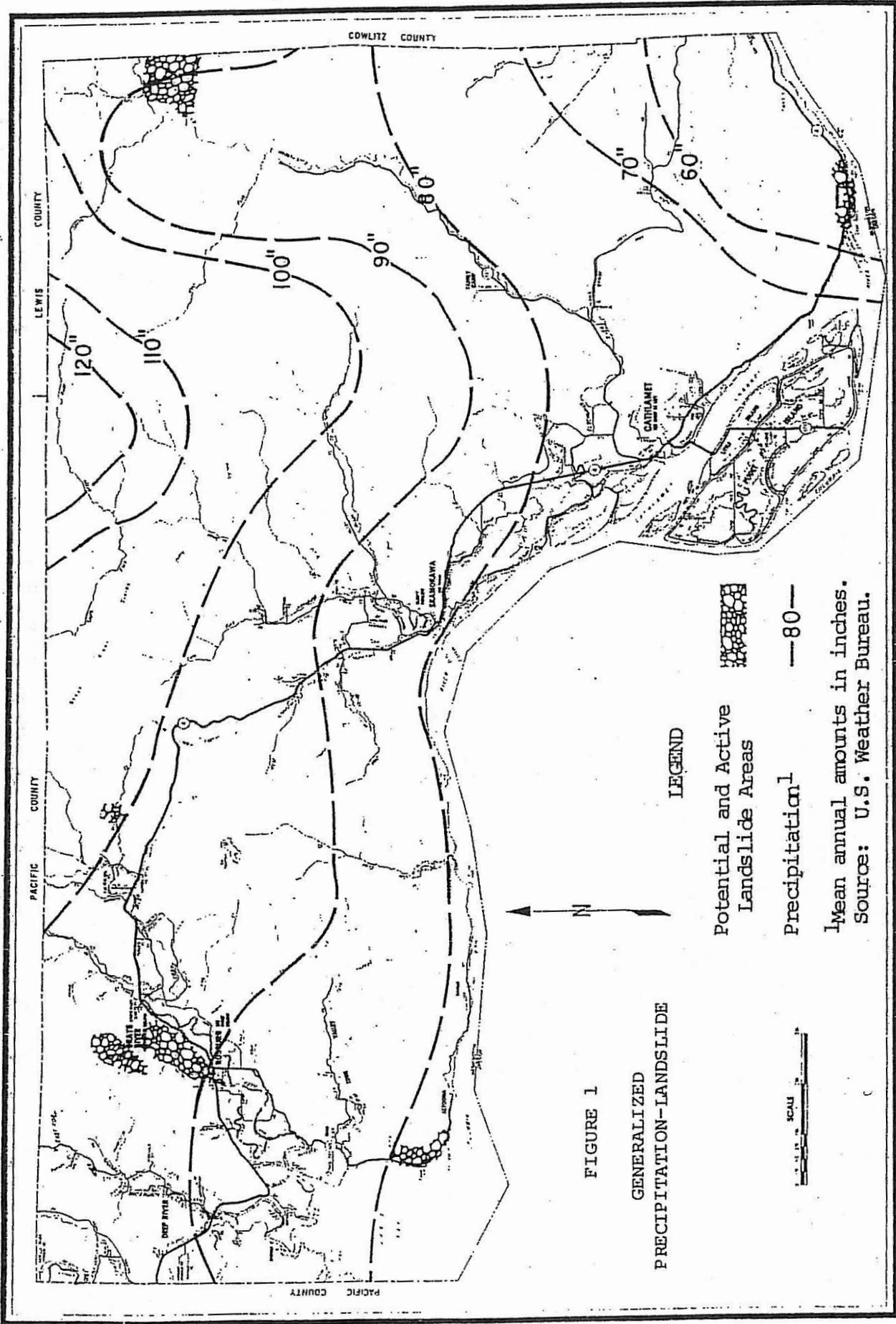
The rainy season begins in September or October and continues until March or April with 80 percent of the total annual precipitation occurring during this period. Reports show that rainfall of over 4 inches has occurred in a single day and that amount, coupled with the rugged topography and steep drainage patterns, creates a constant danger of flooding in the lower valley areas.

### Wind

The wind velocity in this area is generally moderate and follows the Columbia River. In the summer months, from approximately May to early September, prevailing winds are from the north, northwest and west. In the fall, winter and spring months the wind shifts to the east, southeast and south. The winds are greatly affected by the weather systems of the Pacific Ocean.

### Ambient Air Quality

Ambient air quality in Wahkiakum County is considered good according to the Southwest Washington Air Pollution Control Authority. However, under the right atmospheric conditions, odors from the liquidized fertilizer of local dairies do become strong but are not a health hazard.



### Cloudiness and Sunshine

Wahkiakum County has approximately 3 to 7 clear or partly cloudy days per month during the winter, 5 to 15 days per month in the spring and fall, and 20 or more during the summer.

In the past people were concerned about sunshine only in relation to farming or recreational activity. However, it is generally recognized today that solar power can, and probably will, play an ever more important role in the field of energy. Solar energy is used more and more in the heating of homes and other buildings in addition to its traditional role of providing recreational and aesthetic enjoyment.

### Geology

The role and understanding of the geologic make-up of a region has become more important for many land use planners and architects. Previously, the geologic characteristics were considered of interest only to the scientific and academic community. Geology was studied primarily to investigate sources for economic development such as oil, gas, coal and metal deposits. Over time geologic information became useful for the siting of large buildings and structures such as bridges and freeways.

Today, in addition to the above applications, geologic data and mapping are utilized to identify potential ground water sources and provide information on how they should or should not be developed. Geologic studies provide information on actual and potential instability and, where landslides and other types of earth movement have or may occur. Geologic mapping and research reveals a very thorough and complex sketch of how the present valleys, mountains, rivers, and rock structures were formed over millions of years. Knowing the past provides clues to what can be expected in the future and how land development can change or be impacted by geologic characteristics.

The general development of the topographic and geological features of Wahkiakum County has been traced back to the Tertiary Age.\* These geologic formations consist of basalt and basaltic sediments composed of shales, sandstones, volcanic and other conglomerate and cemented rocks. They were deposited across a broad northwest-southeast piedmont plain occupying most of western Washington during the Eocene times. Fluctuations in sea level caused some volcanic material to be deposited in marine waters. Following the calming of volcanic activity, thousands of feet of marine sedimentary rocks accumulated over the volcanic deposits up to and during early Miocene times.

The Olympic Mountains and hence, the Willapa Hills were formed during the late Miocene and throughout the Pliocene epochs through movements creating anticlinal and synclinal folds, erosions, and uplifting. Following the Pliocene times, the Pleistocene Ice Age occurred in which large glaciers alternately descended and receded from the Puget Sound area. Streams issuing from the fronts of the glaciers deposited great amounts of sand and gravel across the countryside and down the valleys. This material is composed primarily of coarse basalt and gravel, with minor quantities of sandstone and shale. During recent times, this material has been deposited on floodplains and lower valley reaches as alluvium. Table 3 shows a segment of geologic time from the Paleocene to the recent epoch.

The resultant topography of the county consists of the Willapa Hills with elevations of 2,000 feet in the northern two thirds of the county. Steep stream and river valleys cut these hills into rugged country with level floodplains bordering the Columbia River.

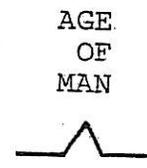
The topography is very illustrative of past flooding. The valley floors are flat, with little naturally-occurring topographic variations. These flat plains extend across the valleys to the toe of steeply-rising foothills. In addition, the valley's slopes ascend very slightly away from the Columbia

\*Source": VTN, Flood Damage Prevention - Wahkiakum County, 1975.

TABLE 3

GEOLOGIC HISTORY - PALEOCENE TO RECENT

ERA	PERIOD	EPOCH	YEARS BEFORE PRESENT
CENOZOIC	QUATERNARY	RECENT (HOLOCENE)	
		PLEISTOCENE	--10,000
	TERTIARY	PLIOCENE	--1,000,000
		MIOCENE	--13,000,000
		OLIGOCENE	--25,000,000
		EOCENE	--36,000,000
		PALEOCENE	--58,000,000
			--63,000,000



Source: Strahler, Arthur N., Introduction to Physical Geography, Second Addition, 1970.

River. As a result, runoff in the form of freshets regularly inundate the complete valley floors.

The availability of topographic information in the county is quite limited. The U. S. Geological Survey has published 15 minute series quadrangle maps for the county with contour intervals varying between two scales: 50 foot and 80 foot. One major lumber company in the county has generated its own topographic maps. The county has very limited resources for the generation of data required to produce accurate topographic information.

### Drainage

There are six major drainage basins in the county which are described in the following table:

TABLE 4

#### WAHKIAKUM COUNTY MAJOR DRAINAGE BASINS

<u>DRAINAGE BASIN</u>	<u>TRIBUTARY AREA</u>	
	<u>SQ. MILES</u>	<u>ACRES</u>
Elochoman River	73.3	46,900
Brooks Slough	10.8	6,900
Skamokawa Creek	50.6	32,400
Crooked Creek	12.0	7,700
Grays River	124.0	79,400
Deep River	12.5	8,000
TOTAL	283.2	181,300

SOURCE: Partial information supplied by Department of Ecology, from USGS sources.

The major drainage basins of the county consist of tributary watersheds which, in some cases, extend into bordering counties. The drainage basins studied were established by a detailed analysis of the topographic characteristics of the county. Tributary drainage areas, past records of rainfall and runoff, and areas of major flood hazard are included in this analysis. Drainage is rapid in the hills and slow in the lower valleys

where flooding of course is more common. This is discussed further in the Natural Hazards section of this chapter.

### Soils

Soils are mixtures in varying proportions of partly or completely decomposed rocks, minerals, and organic material. Soil development is characterized by distinct horizontal layers, or horizons, which are influenced by their environments.

The basic features that influence the soil are:

1. Topographic relief
2. Parent material
3. Biological activity
4. Climate, and
5. Time

These factors combine to give a soil a distinctive color, texture, structure, organic content and consistency. Each soil type can be identified by different combinations of these factors.

Soils of similar characteristics are grouped homogeneously (into a soil series) by the U. S. Soil Conservation Service (SCS). Each series is named after a community, town, river, or other geographical feature near the area where the soil was first mapped. A **soil type** is an individual soil; its name consists of the series name, plus the name of the texture of the surface horizon. **Soil associations** are groupings of soils that are geographically associated in a repeating pattern. An association consists of one or more major soils for which it is named, and usually one or more minor soils. The soils in one association may occur in another; they do differ in pattern and proportion. This information is used to develop general soil maps.

General soil maps are useful for determining the soils in a region, for comparing different parts of an area, or for finding large tracts that are suitable for a certain land use. A generalized soil map is too broad to be suitable for specific site planning such as farm management plans, park plans, or

designs for roadways or septic tank fields. These types of activities require use of detailed soil survey maps and information, plus on-site investigations. A soil association map for the Wahkiakum County region is shown in Figure 2. The table below indicates the soil associations and their component soil types for the county.

TABLE 5

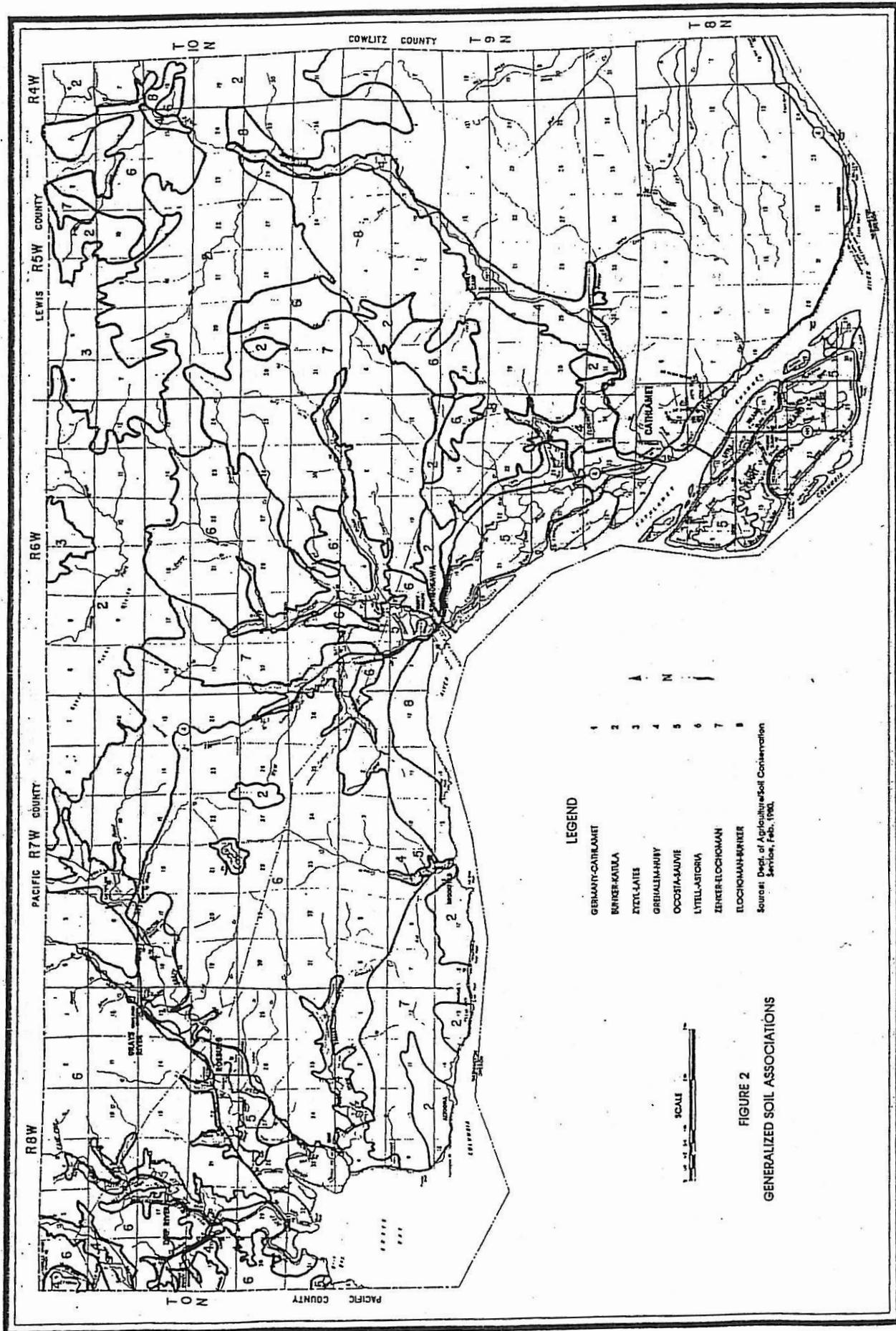
WAHKIAKUM COUNTY SOIL ASSOCIATIONS AND COMPONENTS<sup>1</sup>

- (1) Germany-Cathlamet Association
  - \*Germany silt loam, 0 to 9% slope
  - \*Germany silt loam, 10 to 30% slope
  - \*Germany silt loam, 31 to 65% slope
  - Cathlamet silt loam, 1 to 9% slope
  - Cathlamet silt loam, 10 to 30% slope
  - Cathlamet silt loam, 31 to 65% slope
  - Cathlamet silt loam, 65+ slope
  - Minor soils:
    - Stimson silt loam
    - Raught silt loam, 10 to 30% slope
    - Raught silt loam, 31 to 65% slope
- (2) Bunker-Katula Association
  - \*Bunker silt loam, 10 to 30% slope
  - \*Bunker silt loam, 31 to 65% slope
  - \*Bunker silt loam, 65+ slope
  - Katula silt loam, 0 to 9% slope
  - Katula silt loam, 10 to 30% slope
  - Katula silt loam, 31 to 65% slope
  - Katula silt loam, 65+ slope
  - Minor soils:
    - Squally gravelly silt loam, 5 to 30% slope
    - Squally gravelly silt loam, 31 to 65% slope
- (3) Murnen-Lutes Association
  - \*Murnen silt loam, 5 to 30% slope
  - Murnen silt loam, 31 to 65% slope
  - Lutes silt loam, 9 to 30% slope
  - Lutes silt loam, 31 to 65% slope
  - Lutes silt loam, 65+ slope

<sup>1</sup>In the following list, numbers in parentheses correspond to the association numbers in Figure 3. Soil series covering the largest area within the association are indicated by an asterisk (\*).

- (4) Grehalem-Nuby Association  
 \*Grehalem loam  
 Nuby silt loam  
 Minor soils:  
 Humptulips silt loam  
 Skamo silt loam  
 Riverwash
- (5) Ocosta-Sauvie Association  
 \*Ocosta silty clay loam  
 Sauvie silt loam  
 Minor soils:  
 Tidal marsh (fresh)  
 Udipsament, level  
 Riverwash
- (6) Lytell-Astoria Association  
 \*Lytell silt loam, 10 to 30% slope  
 \*Lytell silt loam, 31 to 65% slope  
 \*Lytell silt loam, 65+ slope  
 Astoria silt loam, 0 to 9% slope  
 Astoria silt loam, 10 to 30% slope  
 Astoria silt loam, 31 to 65% slope
- (7) Zenker-Elochoman Association  
 \*Zenker silt loam, 10 to 30% slope  
 \*Zenker silt loam, 31 to 65% slope  
 \*Zenker silt loam, 65+ slope  
 Elochoman silt loam, 0 to 9% slope  
 Elochoman silt loam, 10 to 30% slope  
 Elochoman silt loam, 31 to 65% slope  
 Elochoman silt loam, 65+ slope  
 Minor soils:  
 Skamo silt loam
- (8) Elochoman-Bunker Association  
 \*Elochoman silt loam, 0 to 9% slope  
 \*Elochoman silt loam, 10 to 30% slope  
 \*Elochoman silt loam, 31 to 65% slope  
 \*Elochoman silt loam, 65+ slope  
 Bunker silt loam, 0 to 9% slope  
 Bunker silt loam, 9 to 30% slope  
 Bunker silt loam, 31 to 65% slope  
 Bunker silt loam, 65+ slope  
 Minor soils:  
 Skamo silt loam

SOURCE: Wahkiakum County Soil Conservation Service



**LEGEND**

- 1 GERMANI-CATHLAMET
  - 2 BUNKER-KADULA
  - 3 IZET-LATES
  - 4 GREHALLAHURY
  - 5 OCCOPIA-SAUVIE
  - 6 LYELL-ASTORIA
  - 7 ZENKER-ELOCHOMAN
  - 8 ELOCHOMAN-BUNKER
- Source: Dept. of Agriculture/Soil Conservation Service, Feb. 1960.

**FIGURE 2**  
GENERALIZED SOIL ASSOCIATIONS

## A. Soil Characteristics

Nine soil characteristics were evaluated in an attempt to give a general picture of soil properties for individual soils. These characteristics are most commonly investigated to determine limitations to many of the activities related to development. The soil matrices in Table 6 outline these characteristics.

The following paragraphs provide a definition of each of the soil characteristics.

### 1. Depth of Seasonally High Water Table.

This category refers to the depth, in feet, of the seasonally high water table below the surface of the soil. A high water table may indicate a ponding problem or an impermeable layer of soil. Either condition affects the proper functioning of a septic tank filter field.

### 2. Permeability.

This quality refers to the ability of a soil to allow water or air to travel through the different soil horizons. For our purposes, we only considered the permeability of the upper layer of soil, as noted on the SCS interpretation sheets. Low permeability means that the water is able to flow through the soil horizons very slowly or not at all, and it will tend to move laterally. High permeability means that water can flow to deeper levels rapidly and may eventually reach a layer of deep ground water, commonly called an aquifer.

### 3. Percent of Slope.

Best described as the steepness of an area, percent of slope is determined by dividing vertical increase by horizontal distance. Slope is determined by the geologic characteristics of a region and in turn, influences other factors such as drainage, climate, and vegetation. In addition, the slope of the land surface partially determines the suitability of an area for development. Slope category and description are outlined further in Table 7.

### 4. Susceptibility to Flooding.

The susceptibility to flooding is determined by many factors such as water discharge from the drainage basin, soil



TABLE 7

SLOPE DESCRIPTION

<u>Slope Category</u>	<u>Description</u>
0-9% (Low) Good suitability for development	Nearly flat ground to moderately gentle slope. Alluvial surfaces throughout lowlands. These slopes generally present few problems to development.
9-24% (Moderate) Moderate suitability for development	Smooth slopes on steeper parts of isolated hills, gently inclined areas within mountains. Slopes should be considered carefully in design of any construction. These slopes include some that have good suitability for development and some that are poorly suited.
25+% (Steep) Poor suitability for development	Steep to precipitous slopes, cliffs, bluffs, and steep mountain slopes. Erosion is often active and landslide potential is high. Slopes pose significant problems to most types of land development and even preclude development along precipitous slopes.

slope, the elevation of that soil above the normal height of the water surface, and the occurrence and variability of tidal fluctuations. Areas most susceptible to flooding are along valley bottoms, stream and river beds, and at the mouths of rivers and streams. With proper planning, flood-prone areas can be used without posing a serious hazard. Recreational and agricultural uses are examples. Periodic flooding is sometimes beneficial, as it may renew soil nutrients on croplands.

5. Erosion potential.

Erosion Potential refers to the likelihood of the soil being washed away by rainfall and subsequent runoff, if suitable ground cover is not maintained. Other factors influencing erosion potential are the degree and length of the slope and type of ground cover.

6. Shrink-Swell Potential.

Shrink-Swell potential is the extent to which the soil swells (increases volume) when it gets wet and shrinks (decreases volume) when it dries out; It refers to the relative change in soil material volume to be expected with changes in moisture content. Shrinking and swelling of certain soils causes serious damage to building foundations, roads, and other structures. A high shrink-swell potential indicates a maintenance hazard for structures built in, on, or with such soil material.

7. Depth to Bedrock.

This characteristic refers to the depth, in feet, from the soil surface to bedrock. Bedrock prevents or restricts root and water penetration and represents the lower boundary of the soil horizon. For agricultural uses, deep bedrock is generally favorable, whereas for development, shallow bedrock is desirable for good foundations.

8. Hydrologic Group.

Hydrologic soil groups are used to characterize surface runoff from thoroughly wetted, bare soil, after rainfall. The influence of ground cover is treated independently from hydrologic soil groups. Soils are grouped from A to D, with group A

having the lowest surfact runoff potential and D having the highest runoff potential.

(a) GROUP A

Group A soils have low surface runoff potential and high infiltration rates, even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sands or gravel. These soils have a high rate of water transmission.

(b) GROUP B

Group B soils have moderately low surface runoff potential and moderate infiltration rates when thoroughly wetted. They consist chiefly of moderately deep to deep, moderately to well drained soils, with moderately rapid permeability. These soils have a moderate rate of water transmission.

(c) GROUP C

Group C soils have moderately high surface runoff potential and slow infiltration rates when thoroughly wetted. They consist chiefly of soils with a layer that impedes downward movement of water, soils with moderately fine to fine texture, soils with slow infiltration, or soils with moderate seasonal water tables. These soils may be somewhat poorly drained. They include well and moderately well drained soils, with slow to very slow permeability at twenty to forty inches. Thus, these soils have a slow rate of water transmission.

(d) GROUP D

Group D soils have high runoff potential and very slow infiltration rates when thoroughly wetted. They are chiefly shallow clay soils with a high swelling potential, a permanent high water table, very slow infiltration, and nearly impervious claypan or layer at, or near, the surface.

9. Agricultural Suitability.

Agricultural capability classes show, in a general way, the suitability of soils for most kinds of field crops. The classes are determined by soil limitations, potential hazards and risks of damages when used for field crops. The grouping does not consider major land reshaping that would change some characteristics of the soils. Nor does it take into consideration

possible major reclamation projects. In grouping the soils in Wahkiakum County, two levels were used, the capability class and the subclass.

The capability classes are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use.

(a) Class I soils have few limitations that restrict their use. They may be used safely for cultivated crops, pasture, range, woodland, or wildlife.

(b) Class II soils have moderate limitations that reduce the choice of plants or require moderate conservation practices. They are suited for cultivated crops, pasture, range, woodland, or wildlife.

(c) Class III soils have severe limitations that reduce the choice of plants, require special conservation practices, or both. They are best suited for cultivated crops, pasture, range, woodland, or wildlife.

(d) Class IV soils have very severe limitations that reduce the choice of plants, require very careful management, or both. Their soils are best suited for cultivated crops, pasture, range, woodland, or wildlife.

(e) Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife.

(f) Class VI soils have severe limitations that make them generally unsuited for cultivation. They are largely limited to less intensive pasture, range, recreation, woodland, or wildlife uses.

(g) Class VII soils and landforms have limitations that preclude their use for commercial plants, and restrict their use to recreation, wildlife, or water supply.

(h) Class VIII soils and landforms have limitations that preclude their use for commercial plants, and restrict their use to recreation, wildlife, or water supply.

#### 10. Capability Subclasses.

Capability subclasses are soil groups within one class. By adding a small letter e, w, s, or c to the class numeral, the primary limiting factor is designated. The letter "e" indicates that the main limitation is risk of erosion, unless close-growing plant cover is maintained. The letter "w" indicates that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage). The letter "s" indicates that the soil is limited, due to its shallow dry or stony nature. The letter "c", used in only some parts of the United States, shows that the chief limitation is climate that is too cold, too dry, or too cloudy for production of many crops.

#### B. Use of Map, Table, and Matrix

The soil association map, tables, and soil matrices can be used together to determine the general soil characteristics of an area. After locating an area on the map, consult the Table 5 for the appropriate soils association. The association numbers on the map correspond to the numbers on the tables. After determining the major soil in the association, the soil matrix can be consulted to determine the soil characteristics. It should be emphasized that this method provides a general indication of the soil characteristics. To determine specific features, a detailed map of soil types should be consulted or an on-site investigation should be performed. It should also be noted that soils are rated on the majority characteristic; however, a characteristic may occasionally include a range larger than the rating.

#### Natural Hazards

The soil hazard areas, as shown on Figure 1, indicate where there could be risk to human life or serious property loss. In these areas such risks could result from landslides, soil creep, earthquakes, and the presence of compressible soils. Much of the

information mapped is generalized. Exact boundaries of the hazards should be established by future detailed on-site studies.

#### A. Landslides

The erosion of slopes through any of a variety of processes results in slope retreat or "landsliding". One of the major forms of slope retreat is soil creep, the slow downslope movement of earth and rock under the influence of gravity. Variations of temperature and water content, and the influence of plant and animal activity are important factors in the rate of soil creep. A more rapid downslope movement similar to soil creep is called a debris slide or landslide.

The term "slump" is used when a more or less continuous mass of earth slips downhill. On nearly vertical slopes, masses of bedrock or earth may become detached and fall. This type of activity is termed "rockfall".

The various forms of landslides are directly related to the topography of an area. Massive land failure is caused primarily by high winter rainfall, which saturates the weathered and soft marine sedimentary rocks underlying a good portion of the study area. The areas noted in Figure 1 have landslide topography and are obvious hazard areas. However, stable areas could also be endangered when located below the landslide topography, such as the area commonly referred to as "Flandersville".

Landslide topography is a major feature of the uplands of the county. Much of Wahkiakum County's uplands may be prone to mass movement, should the vegetative cover be removed. The shoreline area between Cowlitz County and the town of Cathlamet is also subject to downslope movement if there is vegetation removal or an increase in the intensity of activity along the unprotected portion of the shoreline.

#### B. Floods

A flood is defined as a condition that prevails when the waters of a stream or river exceed the capacity of the normal channel and overflow into the adjacent land area or floodplain.

Flooding in Wahkiakum County is caused by heavy rainfall, high tides, and strong winds or a combination of these events. While the Columbia River is largely regulated except for tidal fluctuations, flooding does occur in its tributaries within the county area. This flooding may subsequently affect the immediate area at the mouth of the tributary where it joins the Columbia, but it will have little effect on the overall river height. The potential for flooding exists on almost all the county's lowlands. Construction of dikes, levees, or landfills can protect lands. However, such construction can also shift the water that would fill the floodplain downstream, to flood another area. This type of activity is common in the diked areas of Grays Bay and the sloughs around Skamokawa. Wahkiakum County is also unique in that water may be unable to drain because of high tides or winds, causing it to back up onto adjacent lands.

Another type of flooding, a tsunami (seismic wave), should also be mentioned. Tsunamis are sea waves caused by submarine earthquakes or volcanic eruptions. While the coastline is the area most commonly affected by this type of wave activity, it can also cause damage further inland. The tsunami generated by Alaska's Good Friday earthquake in March, 1964, caused \$20,000 worth of damage to the dock and log raft areas in Warrenton, Oregon. The Columbia River tide level at that location reached an unexpected high of about 11.5 feet above mean sea level.

The extent of damage caused by a tsunami in Wahkiakum County would be dependent on several factors: the source of the disturbance, the level of the tide (tidal height) and the strength of the tide (spring or neap). The most dangerous conditions would occur if a tsunami struck at high tide during the spring tides from a source that enabled the energy to travel directly into the mouth and up the river.

Flood frequency profiles on the Columbia River, completed by the U.S. Army Corps of Engineers, provide an estimated height of a 100-year, unregulated flood event. Table 8 shows these heights at selected points throughout the lower river area. Generalized flood hazard areas have also been mapped for Wahkiakum County by

TABLE 8  
100-YEAR FLOOD EVENT UNREGULATED<sup>1</sup>

<u>Location</u>	<u>Height<sup>2</sup></u>
Fort Stevens, Oregon	8.5
Astoria, Oregon	8.8
Tongue Point, Oregon	9.0
Harrington Point, Washington	9.1
Jim Crow Point, Washington	9.6
Skamokawa Creek, Washington	10.2
Lower End of Puget Island, Washington	11.0
Wauna, Oregon	11.9
Upper End of Puget Island, Washington	13.0

<sup>1</sup> United States Army Engineer District, Portland, Columbia River Flood Frequency Profiles, Fall and Winter Freshets, Drawing #CL-03-133/1, 1972.

<sup>2</sup> Height is the approximate height above mean sea level in feet.

the Federal Insurance Administration of the U.S. Department of Housing and Urban Development. These are being reviewed for use in the administration of the Flood Insurance Act of 1973 and the Flood Disaster Protection Act of 1973. Unfortunately, detailed flood elevation studies have not been completed for Wahkiakum County. True flood potential for the study area should be evaluated from future detailed studies including: flood frequency profiles, prepared by the U. S. Army Corps of Engineers; 100-year flood event approximation by diking and drainage districts; and information on soils with flooding potential.

### C. Stream Bank Erosion

Erosion of stream banks, while not a severe hazard in Wahkiakum County, often poses hazards to activities that may be present along the shoreline. It subsequently serves as a constraint or a threat to development. Erosion usually occurs along the islands where the river flow is constricted (therefore faster) and along many tributary streams, where the meandering course of the waterway results in erosion.

Most of the eroding areas within the county are along the Columbia River shoreline and its tributaries which are adjacent to low intensity land uses such as agriculture and forest areas. Therefore, there is no widespread danger to human life, but loss of property will continue unless measures are taken to slow the process. A more critical hazard exists where erosion is affecting dikes that protect low lying areas from flooding.

The residents of the county are taking action to minimize shoreline erosion damage to their properties. They have formed diking districts, and with cooperation from the County Engineer's Office, build and maintain dikes for flood and erosion control. In areas not in diking districts, individuals have installed rip-rap along the face of eroding stream banks.

Individual efforts to stop shoreline erosion may be successful for isolated upstream areas, but often in the lower valleys individual action only shifts the problem to neighboring shoreline properties. To establish a proper response to this

problem, the county and citizens in areas now experiencing erosion problems should form a district under the appropriate state statutes. Although residents are not currently paying taxes to a district for comprehensive erosion control, they may find that dividing the cost between all affected property owners is less expensive than financing their individual erosion abatement projects.

D. Compressible Soils

Compressible soils composed of peat and organic soils may not constitute a hazard to the degree of landslides and floods, but they certainly are a limitation to development. Peat and organic soils, generally found in the valleys and other low areas, are poor foundation material for many types of construction. They contain a high proportion of void space to solids and do not consolidate readily under natural conditions. Structural loads on peat, however, will cause consolidation, as water is forced out of the voids. Settlement, which is usually irregular, can amount to more than 50 percent of the thickness of the original layer.

Peat can also occur in the subsurface without any indications of its presence at the ground surface, particularly in tidal flats or other low lying areas of high ground water. Compressible soils situated as far as 50 feet below the surface can compress significantly under heavy loads. Therefore, it is recommended that any development proposing to locate in a floodplain area should conduct a detailed soil analysis prior to construction.

## Chapter II

### HISTORY

The entire length of Wahkiakum County along its southern edge is traversed by the Columbia River. The Columbia was the primary force in the discovery and settlement of the County.

In 1792 Captain Robert Gray of the British Navy dropped anchor in Grays Bay, approximately 21 river miles upstream from the Pacific Ocean. Thus an area that later was to be known as Wahkiakum County became open to the white man. A year later, Lieutenant Broughton, under Captain Gray's orders, sailed an additional 21 river miles up the Columbia to Puget Island and the vicinity of Cathlamet.

Fifty-three years later, in 1846, a fur trader named James Bernie established a fur trading post called Bernie's Retreat in the area now known as Cathlamet. Bernie's Retreat played a major role in the Hudson Bay Company's Pacific Northwest fur trading adventures along the Columbia.

On August 5, 1851 Chief Skamokawa and several Wahkiakum Indian tribesmen travelled to Tansey Point near Astoria, Oregon and sold the land comprising Wahkiakum County to Indian Agent Anson Dart for \$7,000. This sum was to be paid in installments comprising trade goods and cash over a ten-year period. Three days later James Bernie became an official U. S. Postmaster of Bernie's Retreat.

In 1866, a small group of enterprising California businessmen, hearing tales of abundant fish (salmon) in the Columbia River, decided to relocate. The brothers G. W. and William Hume and their partner, Andrew Hapgood, moved their cannery from the Sacramento River to the Columbia River bank below a heavily wooded cliff identified by G. W. Hume as Eagle Cliff, a name still used today. Within two years their gross receipts rose more than 400 percent from \$64,000 to \$288,000. Competitors soon moved in, for a "river of gold" had been discovered. Soon places with names of Eureka, Waterford, Altoona, Pillar Rock, Brookfield, Skamokawa, Puget Island and

Cathlamet were charted on maps and memorized by every river pilot. This quiet, scenic area along the Columbia was to attract fishermen from Norway, Sweden, Denmark, Italy, Finland, Germany, England and the East Coast of the United States. The Columbia River was to be the true life line of Wahkiakum County and southwest Washington, for it was the river's wealth that attracted the men and their families. Decendents of those early settlers still fish and reside in Wahkiakum County. In 1868 Skamokawa, named after the Chief of the Wahkiakum Indian tribe, was settled, and Crooked Creek in 1880.

While some men fished the river, others logged the cedar forests and helped turn what could have been a passing bonanza into permanent livelihoods. Logging camps sprang up. The county was first organized in 1854 and officially established under state law with Cathlamet as the County seat in 1889. It took the name "Wahkiakum" in honor of the Wahkiakum Indian tribe. In 1907 Cathlamet was incorporated. The importance of the Columbia River continued. Every thing came and left by the river, from mail to nails. The first regular mail service was started in 1883.

In 1924 the first road between the east and west ends of the county was completed. Overland travel was starting to take hold. In 1923 the K. M. Hill Road was officially opened. In 1939 Puget Island was linked to the mainland by a bridge to Cathlamet, generally still referred to as the "Puget Island Bridge".

Today many structures such as the Grays River Covered Bridge, the Redman Hall in Skamokawa, the Pillar Rock Cannery in Altoona, and the Pioneer Church in Cathlamet reflect the colorful era of development and opening of Wahkiakum County. Although the lumber camps have disappeared and full-time fishermen are few, their legacy remains in the structures and names of the communities they left behind.

## Historic Preservation

The preceding historical summary brings out the uniqueness of Wahkiakum County's origins. The review also brings out reasons for citizens to have pride in their community and to preserve sources of that pride.

Destruction and insensitive alteration of historically significant buildings has been a common tendency across the country in the process of growth and progress. The problem with this tendency is that it leads to a cultural amnesia. When landmarks are removed or unrecognizably altered, a community or nation loses tangible reminders of what it was, and thereby loses a sense of what it is, wants to be, and can be.

The tendency to tear down and insensitively alter landmarks has been turned around in the past 15 years. Upon realizing that the country was losing treasures from its past, the National Historic Preservation Act was passed by Congress in 1966. The act initiated a broad survey throughout the states to identify cultural resources and their value, to protect them where possible, and to aid their restoration. It established a National Register of Historic Places and a program for nominations and listings, provided grants to state and local agencies to survey resources and to individuals for restoration work. It also provided some protection for registered resources from destruction in federally funded or licensed projects. Tax incentives for restoration were added in 1976 and 1978. A 1981 law made tax incentives simpler and more generous. National and state trusts for historic preservation emerged around the country, and historic preservation became a field of specialized training.

In response to the federal act, Washington State adopted a law in 1967 creating a preservation program, State Register of Historic Places, and Washington State Advisory Council on Historic Preservation. The council acts as a review body to evaluate nominations to the State and National Registers. The State Office of Archaeology and Historic Preservation serves as staff to the council and administrative and information arm.

Since these acts and programs came into being, communities have found that historic preservation is not only culturally but economically valuable. Historic structures and districts generate tourism and attention. Historic preservation is frequently used in rehabilitating rundown residential areas and in providing a successful theme for community revitalization. Restored buildings provide an interesting setting for shops and restaurants. Restoration work snowballs with the recognition that comes from listing on the registers and with the inducements of tax credits and grants. Many communities have established strictly local registers and preservation programs, some of an honorary nature and some with "teeth". Whether it involves the National, State, or a local register and with or without controls, a recognition program raises community identity and pride. The Governmental Conference's preparation of the Historical Structures Inventory for Wahkiakum County has brought awareness of local resources but is only the first step for preservation activities. The document includes photographs and facts relevant to the structures of historical significance. Copies may be reviewed at the Cathlamet and Skamokawa Public Libraries or at the Wahkiakum County Courthouse, Cathlamet, Washington.

#### Nature of the State and National Historic Preservation Programs

Nominations to both the National and State Registers of Historic Places are made on a standard National Register Inventory - Nomination Form, available from the State Office of Archaeology and Historic Preservation. Completeness of documentation and clarity of writing are strictly required; qualifications in architecture, history, landscape architecture, archeology, or other fields are needed by the preparer depending on the property involved. The nomination document becomes the archival resource on the property.

All nominations originating in this state are first reviewed by the state office before being put before the State Advisory Council. The council may list the property (site, building, structure, object, district, or group of resources) in the State Register, recommend it to the National Register, or reject it. All properties recommended to the National Register are automatically considered State Register properties. The state council is the only body in the state that can make a recommendation to the National Register and the only body that can place a property on the State Register. Resources on either register that are later moved or altered are reviewed by the state council to determine whether they are still suitable. The National Park Service of the Interior Department is the agency that approves national listings and administers the national program. The Park Service and other federal agencies also initiate listings.

Established criteria are used by the state council and Park Service in evaluating nominations. State and National Register criteria are similar, the chief difference in listing being the absolute high quality of National Register resources. The National Register is intended to include not only those places of national significance but also places of state and local importance. The criteria are listed in the Wahkiakum County Inventory and are readily available from the State.

Under the 1981 Economic Recovery Act, federal investment tax credits for qualifying rehabilitation provide for deduction of 15 to 25 percent of the expenditure from the amount of taxes owed, not merely from income. This is available only to National Register properties (i.e., Skamokawa National Historic District). Washington State does not have a tax inducement program. Properties on either register are eligible for grants-in-aid, which often have been the actual means by which rehabilitation is accomplished. However, grants have "dried up" in recent years. (In fact, state offices are struggling to survive because of federal funding cuts.)

In order for the federal tax credit on rehabilitation of National Register properties to be claimed, the work must be certified by the Park Service (with initial review by the State) that it meets federal rehab standards and guidelines. Otherwise, there is no requirement that rehab of National or State Register properties meet standards, except that the state council may remove listings when work is deemed unsuitable. The standards and guidelines allow much leeway as to the remodeling that can be done. Generally it is the exterior of buildings that is significant and not the interior. The philosophy behind the standards is that they must be flexible enough to allow adaptive reuse; otherwise, historic buildings won't be preserved. There is absolutely no requirement, and no prohibition, that localities with registered properties have a local program ensuring their protection.

There are basically five types of nominations that can be made. The nomination types, as described in state and federal materials, are:

1. Archeological site.
2. Individual property: Notable resources are nominated individually at the move of the property owner.
3. District: An historic district is a geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects that are united by past event or aesthetically by plan or physical development. For this type of nomination to be valid in the case of buildings, generally a person should be able to walk down the street or area seeing a multitude of buildings of similar age, architecture, or background. Examples of Nationally Registered historic districts include the French Quarter of New Orleans, Pioneer Square in Seattle, and Skamokawa, Wahkiakum County, Washington.
4. Multiple resource: All resources in a community having potential individual eligibility for the National Register are nominated together at one time for individual listing. This requires a comprehensive survey. Usually the resources will be

within a definable geographic area, but the area has less continuity and more encroachment of unrelated buildings than a district.

5. Thematic group: This type of nomination is one that includes a finite number of resources related to one another in a clearly distinguishable way. They may be related to a single historical person, event, or development force; of one building type or use; or designed by a single architect. There is an organizing principle or thematic relationship among the properties. The properties generally will be more scattered than in a multiple resource nomination. The choice of geographic area is dictated in some cases by the choice of theme. Whatever the organizing principle or thematic relationship, the nomination should include all known related properties that are eligible for the National Register. Properties in a nationally approved thematic group are considered to be individually listed in the National Register and eligible for all benefits. Information required in the nomination document includes description of the chosen theme, explanation of how each property relates to the theme, statement of significance and inventory form for each property, map showing the spatial relationship of the resources, and photographs.

The County should encourage communities not currently identified on the National and State Historic Registers (i.e., Grays River, Deep River and Puget Island) to seek nomination and take advantage of the tax credit opportunities outlined above.

## Chapter III

### POPULATION

Planning is for people. It is a responsibility of local government and should not be taken lightly. In order to provide for the proper programs an understanding of the local population is necessary.

Population studies are not limited to the total head count. Understanding of the local population involves knowledge of geographical distributions, the number of people in each of the age brackets, how many males and females comprise each bracket, and what countywide population trends have been and what they are likely to be throughout the planning period.

#### Historical Growth and Projections

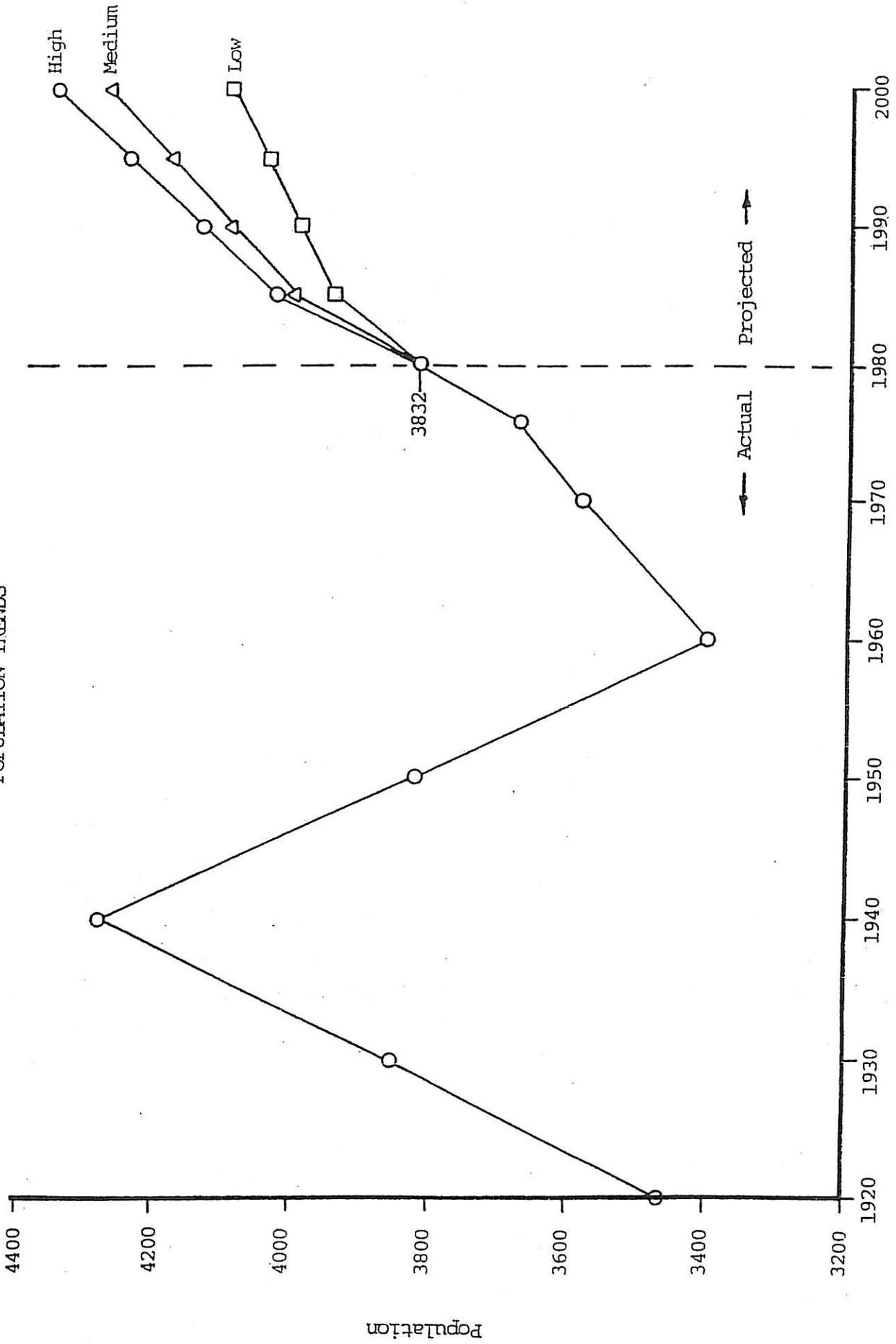
Knowledge of present and projected population characteristics is essential for anticipating basic community needs such as determining housing and education requirements, employment opportunities, recreation, and new road and utility construction. The basic characteristics of the population can be thought of as a constant upon which all other elements of the plan are dependent.

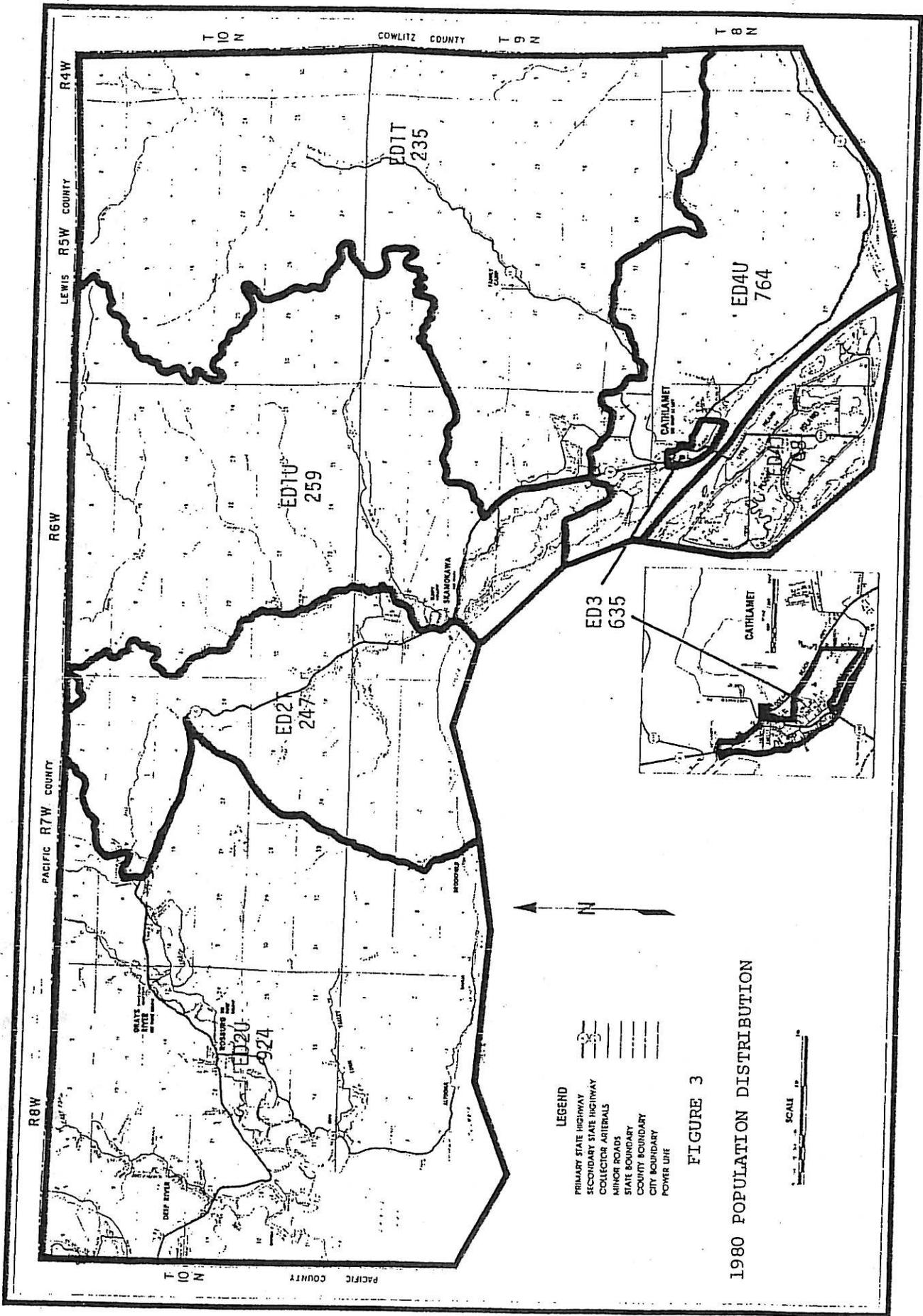
Table 9 shows the population from 1920 to 2000. The highest point in the table is 1940 and the lowest is 1960. From 1960 to 1981 the county's population has steadily increased. Should this trend continue over the next 20 years, the population will increase to approximately 4,300, which is the medium projected range.

#### Population Distribution

Figure 3 shows the population distribution in various sections of the county. This was accomplished by dividing the county into seven enumeration districts (ED's). The population is distributed as follows:

TABLE 9  
 WAHIAKUM COUNTY  
 POPULATION TRENDS





Elochoman/Cathlamet	-	ED1T + ED4U + ED3	=	1,634
Grays River	-	ED2U	=	924
Puget Island	-	ED4T	=	768
Skamokawa	-	ED1U + ED-2T	=	506

The areas with the highest population are the Elochoman/Cathlamet area at the east end of the county and Grays River on the west. This distribution is the result of the historical settlement pattern and limited migration into the county.

### Population Characteristics

Table 10 is a comparison of the general population by age and sex in the 1970's and 1980's. Examination of the table reveals:

- The percentage of youth of both sexes (0-19 years) has decreased 5.3%. This is down from 37.9% in 1970 to 32.6% in 1980.
- The percentage of those of working age (both sexes, 20-59 years) has increased 4.2%. This is up from 44.2% in 1970 to 48.4% in 1980.
- The percentage of elderly (both sexes, 60-80+) has increased 1.1%. This is up from 17.9% in 1970 to 19.0% in 1980.

While the numbers in the younger groups declined between 1970 and 1980, those of working age and over 60 increased enough to balance the increase/decrease ratio. This would indicate that Wahkiakum County has not lost its working age groups and that the elderly are not increasing at an alarming rate.

The percentage of males in the 30-39 year age group has increased 2.9%, up from 10.1% in 1970 to 13.0% in 1980. The percentage of females in this same age group has increased 4.0%, up from 11.4% in 1970 to 15.4% in 1980.

The percentage difference between the 10 to 19 age group (19.5% in 1970) and the 20 to 29 age group (13.8% in 1980) probably reflects the numbers of high school graduates who left the county for higher education or job opportunities.

TABLE 10  
AGE & SEX DISTRIBUTION, WAHIAKUM COUNTY, 1970 & 1980

AGE GROUP	1970						1980						1970-80 CHANGE BY AGE GROUP
	% OF MALES		% OF FEMALES		% OF TOTAL		% OF MALES		% OF FEMALES		% OF TOTAL		
	MALES	%	FEMALES	%	AGE GROUP TOTAL	%	MALES	%	FEMALES	%	AGE GROUP TOTAL	%	
0-4	154	8.2%	147	8.5%	301	8.4%	157	8.0%	151	8.0%	308	8.0%	0.3% decrease
5-9	192	10.3%	166	9.6%	358	10.0%	159	8.1%	142	7.6%	301	7.8%	2.2% decrease
10-19	399	21.4%	303	17.6%	702	19.5%	362	18.5%	280	14.9%	642	16.8%	2.7% decrease
20-29	198	10.6%	201	11.7%	399	11.1%	264	13.5%	262	14.0%	526	13.8%	2.7% increase
30-39	188	10.1%	197	11.4%	385	10.7%	252	13.0%	290	15.4%	542	14.1%	3.4% increase
40-49	188	10.1%	186	10.8%	374	10.4%	176	9.0%	169	9.0%	345	9.0%	1.4% decrease
50-59	220	12.0%	210	12.1%	430	12.0%	221	11.3%	219	11.7%	440	11.5%	0.5% decrease
60-69	105	10.0%	143	8.3%	328	9.1%	216	11.0%	173	9.2%	389	10.1%	1.0% increase
70-79	91	5.0%	119	7.0%	210	5.8%	98	5.0%	129	6.9%	227	5.9%	0.1% increase
80+	53	2.3%	52	3.0%	105	3.0%	50	2.6%	62	3.3%	112	3.0%	0.0%
TOTALS	1,868	100%	1,724	100%	3,592	100%	1,955	100%	1,877	100%	3,832	100%	0.94% increase

SOURCE: 1970 figures are from 1970 U.S. Census. 1980 figures are from Washington State Office of Financial Management. (County total is official OFM estimate and preliminary U.S. Census count).

Table 11 is a percentage comparison of Wahkiakum County's population by age group between the years 1970 and 1980. Also shown is an age group percentage comparison between Wahkiakum County and the State of Washington for 1980.

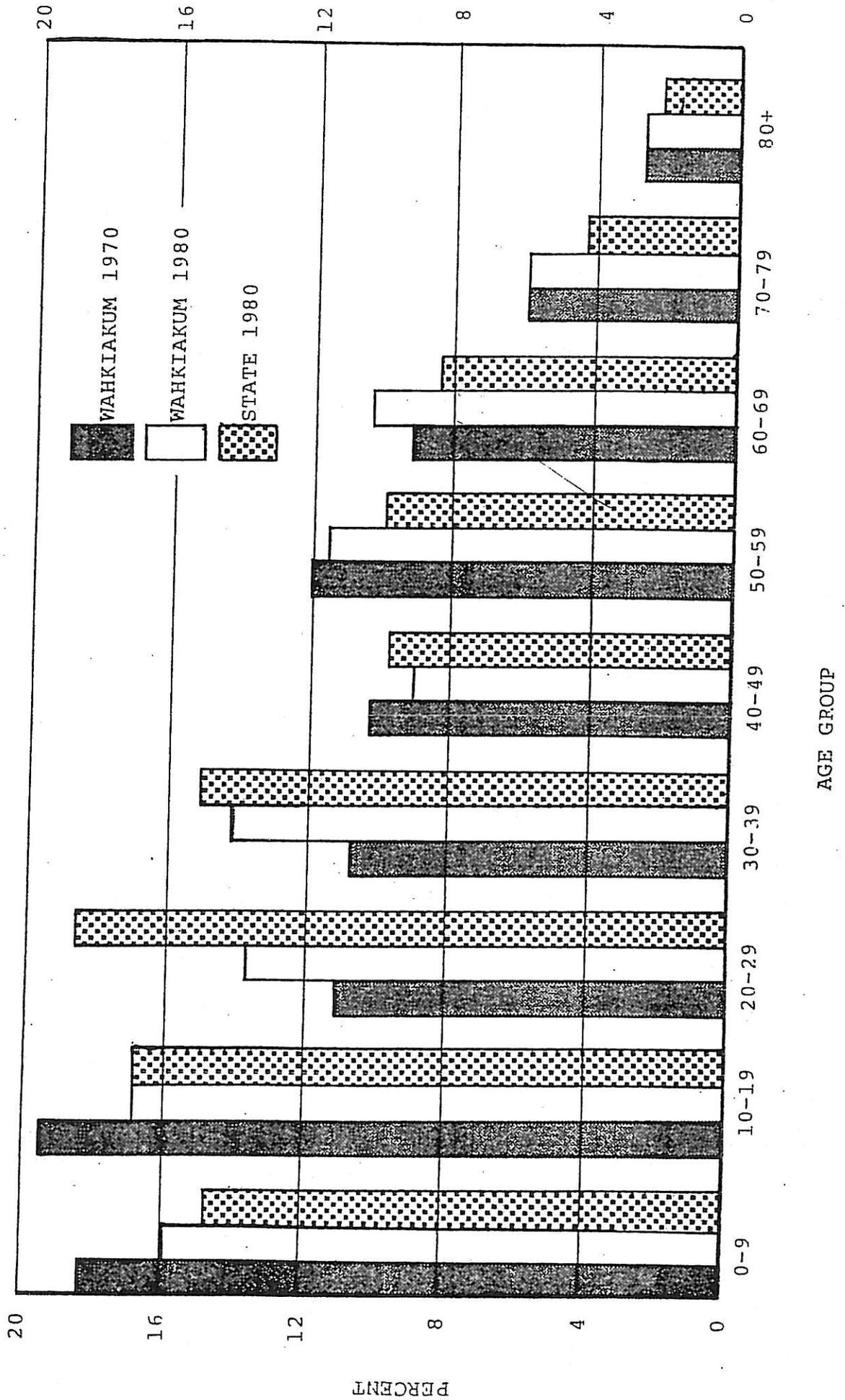
The percentages for the 60+ age group verify local opinion that there are more elderly living in Wahkiakum County in the 1980's than there were in the 1970's. However, this is only a one percent increase and is not at the expense of the working age groups. It is interesting to note that Wahkiakum County has maintained a higher percentage of elderly citizens over the last 10 year period than the statewide average. This should be of particular interest during the development of housing assistance programs or any associated capital improvement projects.

#### Conclusion and recommendation

Wahkiakum County has maintained its working age groups while at the same time showing an increase in the numbers of elderly. The figures indicate that the work force residing in the county is large enough to meet the requirements of expanded industrial and commercial development, assuming that technical skills needed are present. The figures also indicate that while the percentage of young people (20-29 years) leaving the county is not alarming, some type of employment and housing opportunities should be provided in order to retain more persons in this age group. The steady increase of elderly citizens in the county, even at the low level of one percent, does suggest that programs and policies in the area of housing, public services and medical care should be continuously monitored and updated.

TABLE 11

OVERALL POPULATION PERCENTAGE  
 COMPARISON COUNTY 1970 & 1980; COUNTY -  
 STATE 1980 - BY AGE GROUP



## Chapter IV

### LAND USE

This chapter examines land use from two angles, existing and proposed. "Land use" is what man uses any portion of land for. In other words, is he farming it, growing trees on it, building houses, factories, or stores?

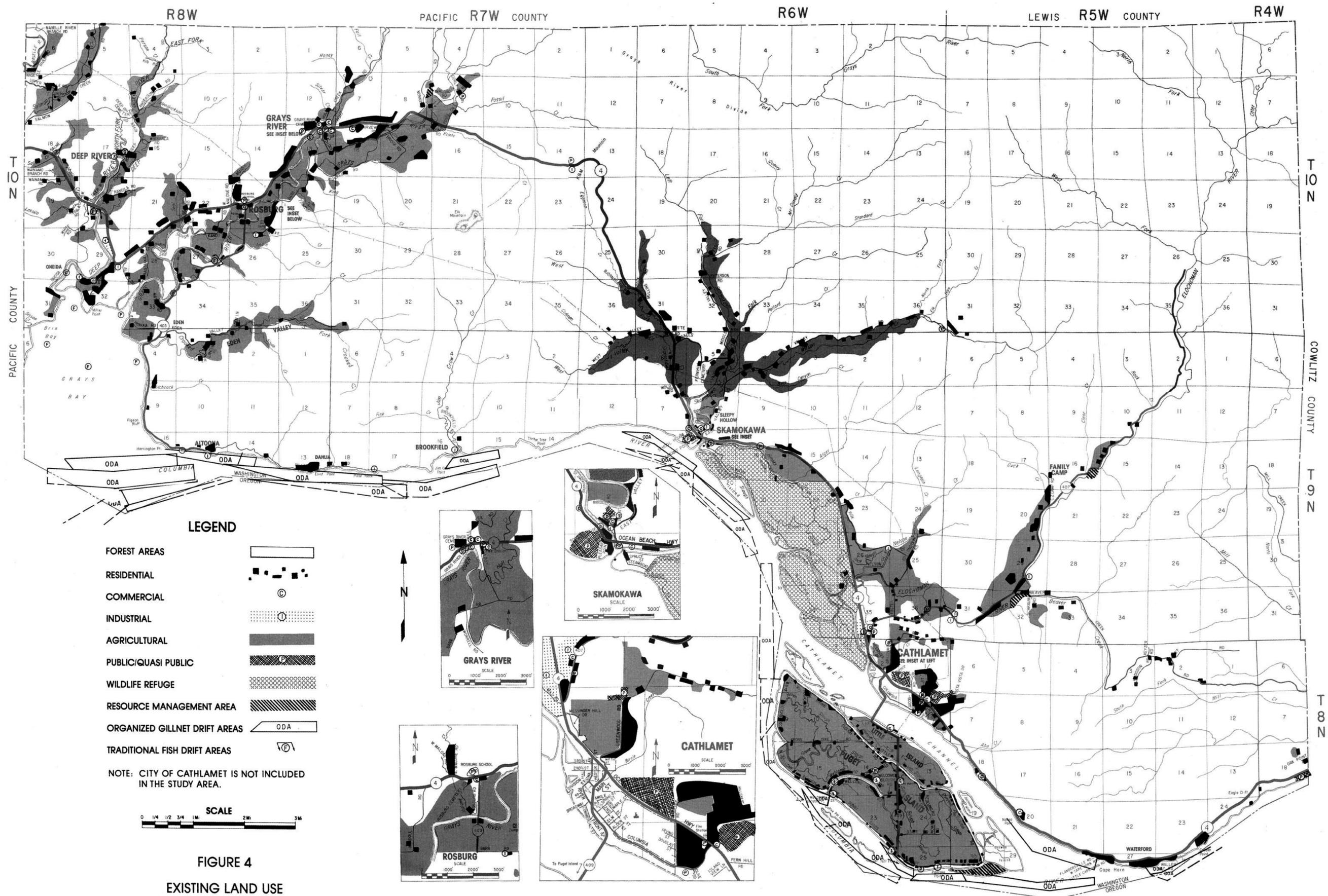
The more activities occurring in a given area, the greater are the chances for conflict. By examining existing land use patterns, dominant and conflicting activities can be identified and future development appropriately guided.

#### Existing Land Use

Wahkiakum County has a land area of 172,160 acres, or approximately 269 square miles, which accommodates the homes, businesses and working environments of 3,832 people.

This section will review the uses of those acres. From the examination of existing uses such as residential settlement patterns, the location of commerce and industry and rural services, future land use patterns may be projected with some degree of certainty.

Figure 4 illustrates the present settlement pattern in the county. Approximately 90 percent of the population has settled along the banks of the Columbia River (including Puget and Little Islands) and along the lower reaches of the Elochoman, Grays and Deep River valleys and Skamokawa Creek's west, middle and east valleys. Puget and Little Islands, Skamokawa and Altoona are the most prominent unincorporated communities fronting directly on the Columbia. The communities of Grays River, Rosburg and Deep River are located approximately four miles inland, but are closely associated with river activities. These communities serve as the rural service centers for the western half of the county. As stated in the chapter on the economy, Wahkiakum County is dependent on its natural resources. It was this dependency that created the existing communities (with the Town of



Cathlamet serving as the county seat and trade center) and the majority of the current development pattern.

Figure 5 shows a comparison of existing land uses by percentage and acreage. Forestry is the largest user, with approximately 88 percent, or 149,000 acres. Agriculture is second, using approximately 16,000 acres. The balance of 5,000 acres comprises all other uses. It should be noted that acreage figures are only approximate and not absolute.

Figure 5a provides a breakdown of the 5,000 acres in the other uses category. Although the Columbia Whitetailed Deer National Wildlife Refuge actually consists of over 5,000 acres, only 604 acres are excluded from agricultural use. The remaining 4,400 acres are used for agriculture, including corn and silage, hay and cattle grazing.

The rural residential category, totalling 1,100 acres, was calculated by allowing approximately one acre per dwelling unit in the unincorporated county areas.

The Town of Cathlamet and the communities of Skamokawa, Grays and Deep Rivers are service areas and occupy a combined total of approximately 2,000 acres. Puget and Little Islands are not considered as service areas because they currently lack a central economic and service focal point common to the other service areas of the county. They are within the market and service area of the Town of Cathlamet via the Puget Island Bridge.

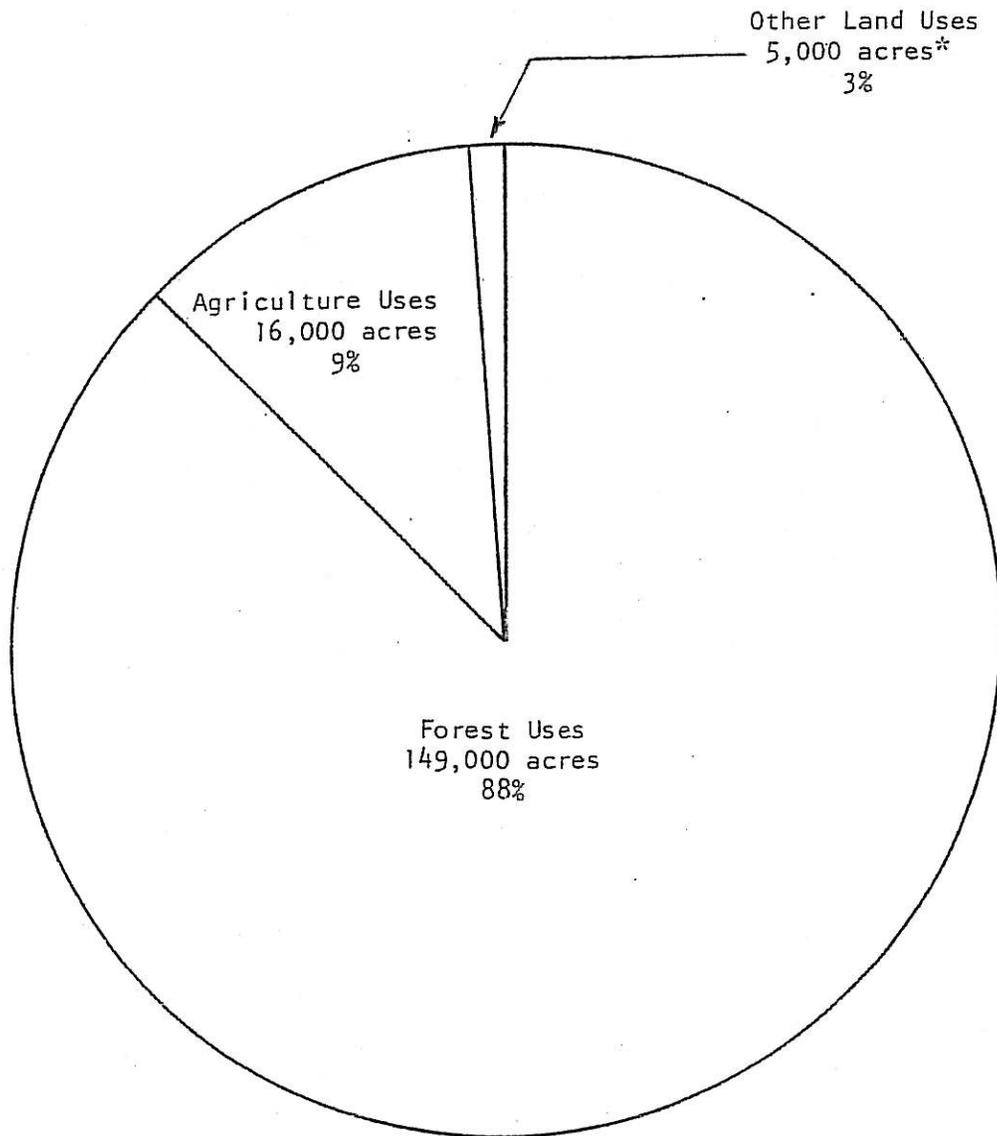
Park and recreation areas utilize approximately 100 acres countywide. This acreage includes the Erickson City Park, Julia Butler Hansen Swimming Pool and the Elochoman Slough Moorage Basin, all within the jurisdiction of the Town of Cathlamet. These facilities are used extensively by county residents and contribute significantly to fulfilling the recreational needs of the county.

County roads and waterways utilize approximately 1,200 acres.

It should be noted that six percent of the forest lands is roads and inaccessible terrain such as landslide areas and swamp.

FIGURE NO. 5

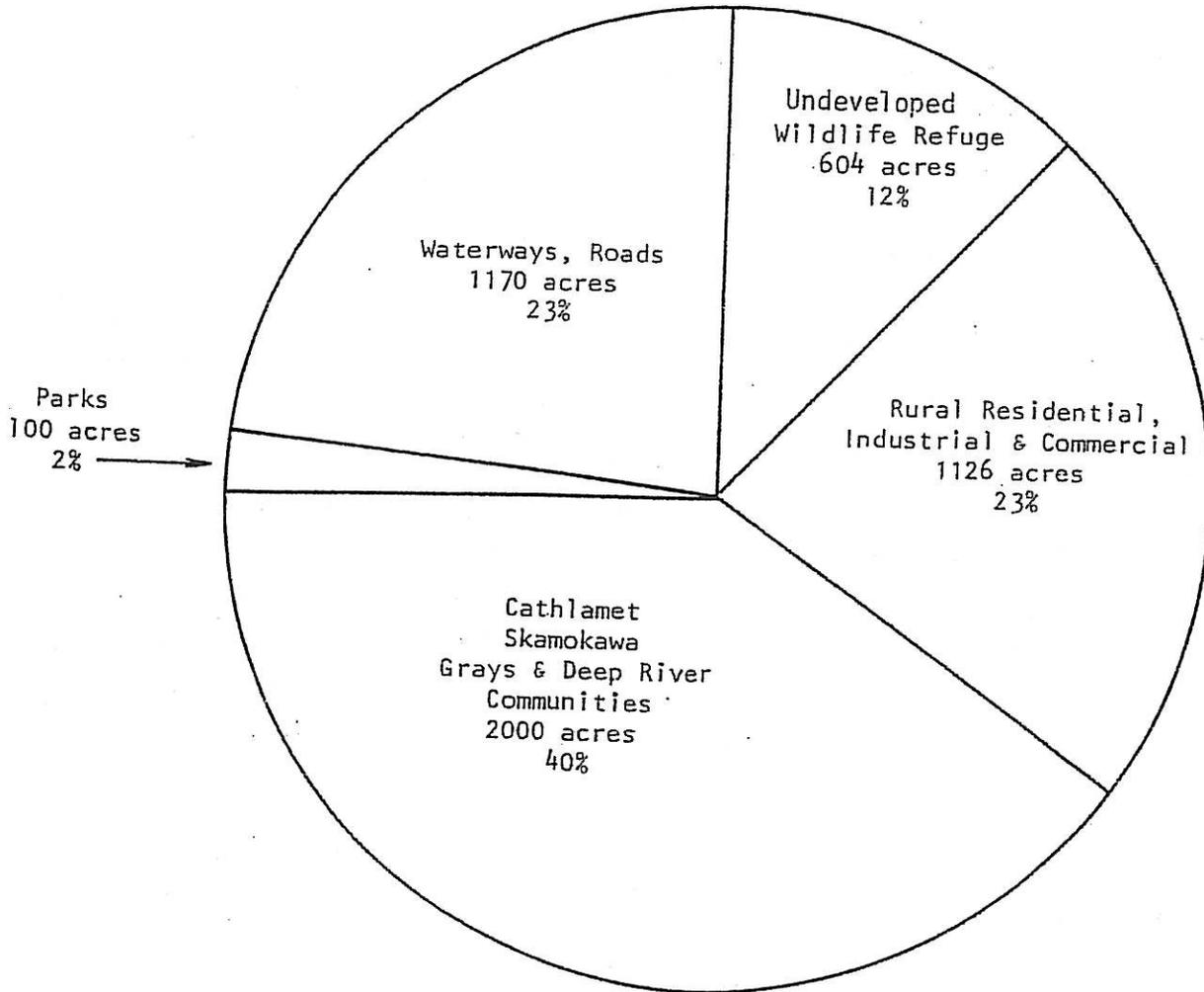
WAHKIAKUM COUNTY - 1981  
EXISTING LAND USE - 170,000 acres = 100%



\* See FIGURE NO. 5a for breakdown

FIGURE NO. 5a

WAHIAKUM COUNTY EXISTING LAND USE  
OTHER USES - 1981  
5,000 acres = 100%



Thus, approximately 9,000 acres are not considered commercial forest land but are included in the Forest Land Use classification.

### Proposed Land Use

The proposed land use categories discussed in the text and indicated in Figure 6 are intended to give order to the various classes of use to which land is put and to aid in the identification, preservation and enhancement of each of these. Assigned land use classifications are not intended to preclude unforeseen uses, but to define the settlement pattern of the county. Densities or units per acre, where applied, reflect the current and expected intensity of uses in the county. Table 12 summarizes the various land use classifications, uses within them, and recommended densities.

### Land Use Categories

#### 1. Specific Forest Use Classification (SFU)

Approximately 88 percent, or 149,000 acres, of Wahkiakum County's land area is commercial forest land and is classified for Specific Forest Use. The SFU classification includes forest lands for the growing and harvesting of trees and those uses which are directly related to timber management, or recreational uses which do not conflict with tree production and harvesting. This category is applied because timber management is of primary importance to the economy of the county. Table 12 shows the uses that are permitted. See Part I, Economics and Natural Resources, for Timber Goals, Objectives and Policies. These pages should be reviewed by the Planning Commission prior to approval of any proposed development.

#### 2. Specific Agricultural Use Classification (SAU)

Approximately 16,000 acres of Wahkiakum County's land area is farm land and is designated for Specific Agricultural Use. The SAU classification identifies agricultural land which produces crops and supports livestock.

Table 12 shows the types of uses that are encouraged in Specific Agricultural Use areas. See also Part I of this document: Economics and Natural Resources for Agriculture Goals, Objectives and Policies. These pages should be reviewed by the Planning Commission prior to the approval of any proposed development.

### 3. Urban Development Area (UDA)

The Urban Development Area encompasses those areas on the north, west and east fringes of the Town of Cathlamet. These areas either are in the process of evolving from rural to urban, or soon will be.

The criteria for identifying the urban development area are: existing trends, probability of urban services being provided (police, fire, water and sewer), and areas logical for future expansion of the Town of Cathlamet.

The uses identified within the Urban Development Area and their general locations are:

- A. Industrial - Heavy and light industrial activities are encouraged to locate in that area east of Ocean Beach Highway along the north side of the Elochoman River Road. This area, indicated in Figure 6, encompasses approximately 43 acres and can be utilized for all types of industrial activities.

Those activities identified as industrial, such as heavy to light manufacturing, heavy equipment repair, log and lumber handling, and storage and shipping facilities should be encouraged to locate in this area.

- B. Commercial - Approximately 12 acres are identified in Figure 6 along both sides of Ocean Beach Highway at the east end of Cathlamet, starting at North Jacobson Road east to Boege Street and continuing for approximately 700 feet east of Boege Street along the northern edge of Ocean Beach Highway. This area is approximately 100 feet in depth along the southern edge of Ocean Beach Highway and about 250 feet deep along the northern edge.

TABLE 12

LAND USE CLASSIFICATIONS AND RECOMMENDATIONS  
(Page 1 of 2)

CLASSIFICATION	RECOMMENDED USE	DISCOURAGED USE	RECOMMENDED DENSITY
SPECIFIC FOREST USE (SFU)	Timber growth, management and harvest; log truck & logging equipment repair shops & shake mills; recreation facilities not conflicting with timber management activities	All development not required for forestry activity.	Not applicable
SPECIFIC AGRICULTURAL USE (SAU)	Livestock & crop raising; farm management activities;		Must meet minimum health standards for water and sewerage
RURAL RESIDENTIAL (RR)	Single family & mobile homes		1 dwelling per acre
LOW DENSITY RESIDENTIAL	Single family & mobile homes; duplexes		2 dwellings per acre
RURAL SERVICE AREA (RSA):			
A. Industrial and Commercial	Light manufacturing; light equipment repair shops; cafes, restaurants, auto service stations; neighborhood retail services, highway oriented developments	Heavy machine and equipment repair shops; log storage & shipping facilities; warehousing	To be determined by type and location of proposal plus presence of sewer or water facilities
B. Residential			
1. Low Density	Single family, mobile homes & duplexes	All other uses	2 units per acre
2. High Density	Single family, duplexes and triplexes	Apartments and mobile home parks	5 units per acre

(Continued.....)

TABLE 12  
(Page 2 of 2)

CLASSIFICATION	RECOMMENDED USE	DISCOURAGED USE	RECOMMENDED DENSITY
URBAN DEVELOPMENT AREA (UDA):			
A. Industrial (This category applies to all areas except the Rural Services Area)	Heavy and light manufacturing; log & lumber, handling, storage & shipping facilities; machine & equipment repair shops; supportive commercial outlets; warehousing	Residential developments; commercial developments not serving the industrial sector directly	To be determined by type & location of proposal plus presence of sewer or water facilities
B. Commercial (This category applies countywide)	Highway oriented developments; cafes; restaurants, auto service stations, shopping centers, retail service centers	Residential development; industrial	Shopping centers - minimum 3-4 acres. All other uses to be determined upon type & location of proposal & presence of sewer & water facilities
C. Residential			
1. low density	Single family, mobile homes and duplexes; neighborhood retail services	Industrial and intensive commercial	2 units per acre
2. high density	All low density residential uses; mobile home parks; triplexes, fourplexes & apartments	Industrial and intensive commercial	Single family units - 5 per acre; mobile home parks - duplex, triplex, fourplex - 8 units per acre; apartments - 10 units per acre

Those commercial activities such as retail service centers, mini-shopping centers, cafes and restaurants, and auto service stations are typical uses in this category.

C. Residential

- a. Low Density - This classification is primarily for the development of single family units such as on-site constructed houses, manufactured houses (mobile homes) and duplexes. The recommended density is two units per acre. Low density residential development does not require the intensity of urban services that is generally required for higher density developments. Also, separation of single family areas from intensive commercial and industrial developments is encouraged. Separation is advised because of the basic incompatibility of intensive commercial and industrial activities with residential development. In addition, commercial and industrial developments have different utility and service needs.
- b. High Density - This classification is for the development of triplexes and larger units. Mobile home parks and subdivisions are also included in the high density category at a recommended density of 8 units per acre. The recommended housing density is 5 units per acre, apartments 10 units per acre, and duplexes, triplexes and fourplexes 8 units per acre.

In keeping with the residential character of these areas, industrial and intensive commercial development should be discouraged. However, small neighborhood commercial establishments may locate in this area.

The recommended densities are optimum and dependent upon the availability of sewer and water services.

- c. Planned Unit Development (PUD) - The "Planned Unit Development" approach allows certain unconventional mixes of land uses under defined conditions. This has proven to be a practical method of providing the needed flexibility in the regulatory process to assure that new ideas will be encouraged.

In the Urban Development Area, certain mixes of residential land uses may be permitted if the proposal provides certain amenities such as special screening, aesthetic landscaping, common open spaces or recreation areas, additional off-street parking, and unique or innovative site design. Such special features should produce a development which would be as good or better than that resulting from the application of conventional regulations and traditional lot development while fulfilling the housing objectives of the Comprehensive Plan. This approach should not be used solely to circumvent conventional land use regulations. Amenities and special features beyond the normal requirements shall be provided in lieu of some normal land development regulations.

Goals, Objectives and Policies for Planned Unit development are addressed in Part I: Overall Land Development and Subdivision Plat Review and Urban Development Area - Residential.

#### 4. Rural Service Area (RSA)

The rural service areas are those areas in and around the unincorporated communities of the county. The RSA provides basic services for the immediate locality. Services include such activities as convenience stores, taverns, auto service stations, cafes, post office, schools, churches, light industry (truck, car and boat repair), small hotel or motels and single family residences.

Activities that are proposed to locate in the Rural Service Area should not detract from the rural character of the area and should not create a sudden demand for an increase in services such as sewers, water, roads, and police and fire protection. The density for commercial and industrial proposals should be determined according to the type and location of the use and the presence of sewer and water facilities.

The recommended residential types and densities for the Rural Service Areas are: Low Density (single family) - 2 units per acre; High Density - single family unit, duplexes, triplexes - 5 units per acre. Mobile home parks and subdivisions should be discouraged from locating within the Rural Service Area.

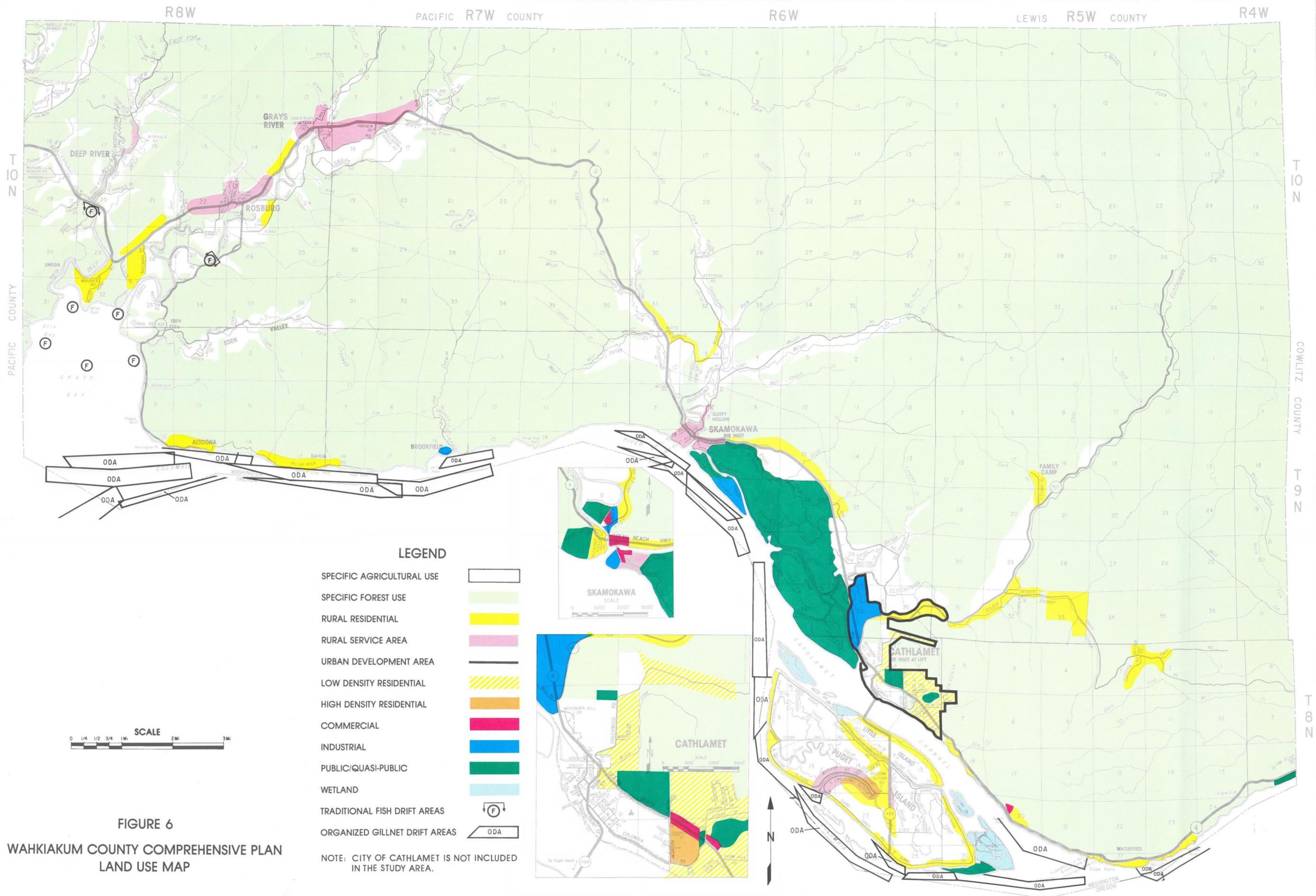
The Goals, Objectives and Policies of Part I: Land Use - Rural Services Areas; and Economics and Natural Resources should be followed when reviewing development proposed for the RSA.

#### 5. Rural Residential (RR)

This classification is primarily for small lot, single family units (1 to 5 acres) located adjacent to active agricultural and/or forestry management areas. Most rural residential lots average 2.5 acres and can support domestic stock. Rural residential areas generally do not require facilities such as water or sewer lines. Roads are generally typical country roads which are gravel base with oil cap. The basic requirements of these areas are the availability of electric power, telephone service, well water, on-site sewage disposal and roadway access. The overall cost of services to rural residential areas, when compared to the more populated areas, is relatively low.

The recommended density for the Rural Residential area is a minimum lot size of one acre per dwelling unit. The recommended uses are single family units and duplexes.

Part I of this document, the goals, objectives and policies for "Land Use" and "Economics and Natural Resources", should be followed when reviewing subdivision proposals for rural residential developments.



**FIGURE 6**  
**WAHKIAKUM COUNTY COMPREHENSIVE PLAN**  
**LAND USE MAP**

- LEGEND**
- SPECIFIC AGRICULTURAL USE
  - SPECIFIC FOREST USE
  - RURAL RESIDENTIAL
  - RURAL SERVICE AREA
  - URBAN DEVELOPMENT AREA
  - LOW DENSITY RESIDENTIAL
  - HIGH DENSITY RESIDENTIAL
  - COMMERCIAL
  - INDUSTRIAL
  - PUBLIC/QUASI-PUBLIC
  - WETLAND
  - TRADITIONAL FISH DRIFT AREAS F
  - ORGANIZED GILLNET DRIFT AREAS
- NOTE: CITY OF CATHLAMET IS NOT INCLUDED IN THE STUDY AREA.

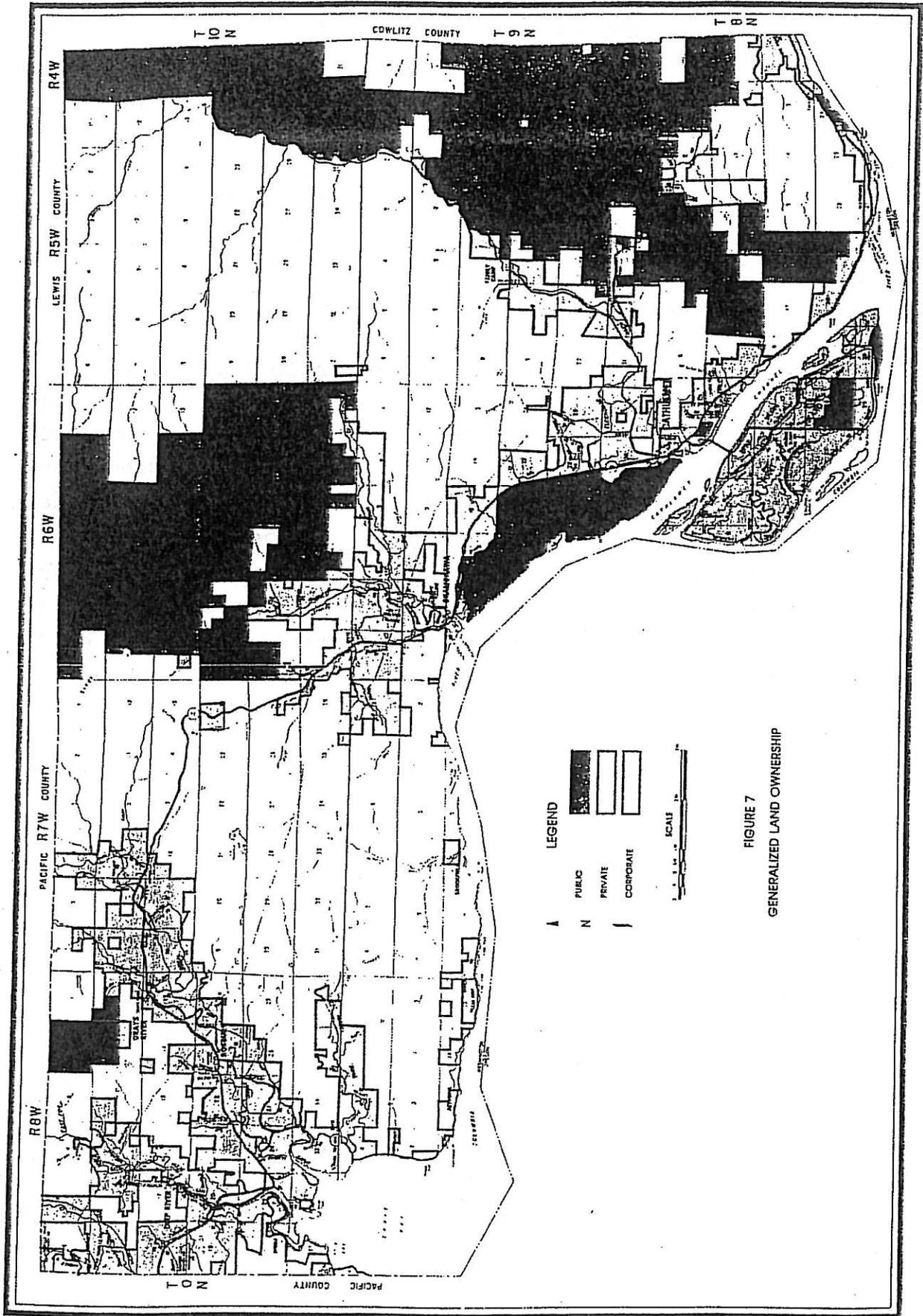


FIGURE 7  
GENERALIZED LAND OWNERSHIP

### Ownership Patterns

Figure 7 depicts the pattern of public, private and corporate land ownership in Wahkiakum County. Any individual needing more precise information should review the Wahkiakum County Assessor's maps.

Land ownership patterns are a valuable tool for indicating where future development is most likely to occur. Urban-style development usually occurs first on small, private holdings, although larger private holdings offer the possibility for large-scale development (including recreational or industrial complexes).

Comparison of the General Land Ownership Map and the Existing Land Use Map shows the influence of forestry in the county. Crown Zellerbach holds the largest tracts of corporate timber lands in the county, and the State of Washington's Department of Natural Resources is the largest owner of public timber lands. Approximately 5,000 acres on the mainland between Cathlamet and Skamokawa are set aside for exclusive use as the Columbia White-Tailed Deer National Wildlife Refuge. The refuge is under management of the U. S. Department of Interior, Fish and Wildlife Services.

## Chapter V

### HOUSING

#### Introduction

Safe and decent shelter is an essential human need. Analysis of the condition of the housing stock and of needs for additional housing is likewise an essential element of a community comprehensive plan. Review of the condition of the housing stock gives local officials and citizens understanding of what needs and opportunities exist for housing rehabilitation. Information on the income levels of occupants and on the activities of subsidized housing sponsors indicates the extent of need for special assistance. By relating population growth projections to trends in household size, household formation, housing costs, building activity, and vacancy rates, understanding is gained on future residential space requirements and on types of housing units needing accommodation.

It is fortunate that shortly before development of this plan, Governmental Conference members completed a region-wide survey and analysis of the physical condition of the housing stock and of needs for subsidy assistance. The range of work undertaken, from basic data collection to development of goals, policies, and recommendations, was extensive and thorough.

#### Housing Types

There are four basic types of housing units: single family, duplex, apartment, and mobile home.

Table 13 shows the various types of units in Wahkiakum County as of April, 1978 and reveals that of the 1,366 total housing units, 154 units, or 11.3 percent, were mobile homes; 46 units, or 3.4 percent, were apartments; 8 units, or 0.6 percent, were duplexes and 1,158 units, or 84.8 percent, were single family dwellings. Single family units definitely dominate the county's supply of housing.

TABLE 13

MARGINAL/SUBSTANDARD HOUSING UNITS  
BY UNIT TYPE

Wahkiakum County - April, 1978

JURISDICTION	SINGLE FAMILY		DUPLEX		APARTMENTS		MOBILE HOMES		TOTAL MARGINAL & SUBSTANDARD UNITS	
	#	% <sup>1</sup>	#	% <sup>1</sup>	#	% <sup>1</sup>	#	% <sup>1</sup>	#	%
CATHLAMET (ED 1)	18	100%	0	0	0	0	0	0	18	100%
UNINCORP. WAHKIAKUM CO. TOTAL	291	93%	2	1%	0	0	21	7%	314	100%
EAST WAHKIAKUM (ED 2)	27	84%	0	0	0	0	5	16%	32	100%
MID-WAHKIAKUM (ED 3)	63	90%	0	0	0	0	7	10%	70	100%
WEST WAHKIAKUM (ED 4)	137	93%	2	1%	0	0	9	6%	148	100%
PUGET ISLAND (ED 5)	64	100%	0	0	0	0	0	0	64	100%
WAHKIAKUM COUNTY TOTALS	309	93%	2	1%	0	0	21	6%	332	100%

<sup>1</sup>Percentage of total marginal and substandard units represented by the unit type for the jurisdiction.

Source: Cowlitz-Wahkiakum Governmental Conference 100% Windshield Housing Condition Survey, April, 1978.

### Housing Condition

Along with identifying the types and quantities of its housing structures, the county must also review the general condition or state of repair of the housing units. The need for new housing starts may depend not only on the population but also upon the need to replace existing structures that are too run-down to effectively rehabilitate.

As part of the overall Comprehensive Plan work program, the Cowlitz-Wahkiakum Governmental Conference performed a housing condition survey. This was a "windshield survey", assessing all of Wahkiakum County's housing stock and classifying it into three categories: standard, marginal and substandard. Totals by category for all units countywide are shown in Table 14. The countywide housing condition by housing type is shown in Table 13.

The standard, marginal and substandard categories are defined as follows:

Standard units - Unit has no visual defects or only slight defects requiring regular home maintenance of which the average homeowner would be capable of repairing. Seventy-six percent of Wahkiakum County's housing is in standard condition.

Marginal unit -The unit has some significant defects and requires repairs which for the most part are beyond the skills of the average homeowner. It is clearly economically feasible to rehabilitate the unit. Twenty-one percent of Wahkiakum County's units are marginal.

Substandard unit - The unit has some critical defects and is so badly dilapidated that it may not be economically feasible to rehabilitate it. Only three percent of Wahkiakum County's units are substandard.

Examination of this information shows that slightly under one-fourth of the county's housing could use some type of rehabilitation. As stated previously, the supply of housing which exists in a community is an important resource, and every

TABLE 14  
STANDARD AND MARGINAL/SUBSTANDARD  
HOUSING UNITS

Wahkiakum County - April, 1978

JURISDICTION	STANDARD		MARGINAL/ SUBSTANDARD		TOTAL	
	#	%	#	%	#	%
CATHLAMET (ED 1) <sup>1</sup>	222	93%	18	7%	240	100%
UNINCORP. WAHKIAKUM CO. TOTAL	812	72%	314	28%	1,126	100%
EAST WAHKIAKUM (ED 2)	271	89%	32	11%	303	100%
MID-WAHKIAKUM (ED 3)	98	58%	70	42%	168	100%
WEST WAHKIAKUM (ED 4)	232	61%	148	39%	380	100%
PUGET ISLAND (ED 5)	211	77%	64	23%	275	100%
WAHKIAKUM COUNTY TOTALS	1,034	76%	332	24%	1,366	100%

<sup>1</sup> Enumeration Districts proposed for 1980 Census.

Source: Cowlitz-Wahkiakum Governmental Conference 100% Windshield Housing  
Condition Survey of Wahkiakum County, April, 1978.

effort should be expended to maintain its availability for present and future residents. The preservation of housing stock is important in meeting the demand for housing in Wahkiakum County and in assisting to keep housing affordable.

#### Housing-Income Relationship

The Governmental Conference also conducted a mailback interview sample survey of need according to income levels in Wahkiakum County in 1978. The objective, simply stated, was to find out the number of persons in Wahkiakum County who were in the lower income levels and were paying an excessive percentage of their annual income for housing; in other words, the number of persons eligible for subsidized housing. "Excessive percentage" of income means paying more than 25 percent of gross (before taxes) income for housing costs, including the cost of utilities.

The economic breakdown for household incomes ranged from very low to low, moderate, and average. The definitions of these categories were arrived at as follows:

#### Very Low Income

Department of Housing and Urban Development very low income definitions for the Section 8 program, Wahkiakum County, 1978, based on 50 percent of median income adjusted for household size. Median income in 1978 was \$14,600.

#### Income

#### Yearly Gross

1-person household	\$ 5,100
2-person household	5,850
3-person household	6,550
4-person household	7,300
5-person household	7,900
6-person household	8,450
7-person household	9,050
8-person household	9,650

Low Income

HUD low income definitions for the Section 8 program, Wahkiakum County, 1978, based on 80 percent of median income adjusted for household size. Median income in 1978 was \$14,600.

<u>Income</u>	<u>Yearly Gross</u>
1-person household	\$ 8,200
2-person household	9,350
3-person household	10,500
4-person household	11,700
5-person household	12,400
6-person household	13,150
7-person household	13,850
8-person household	14,600

Moderate Income

HUD Section 235 income limits, Wahkiakum County, based on 95 percent of median income adjusted for household size. Median income in 1978 was \$14,600.

<u>Income</u>	<u>Yearly Gross</u>
1-person household	\$ 9,700
2-person household	11,100
3-person household	12,500
4-person household	13,850
5-person household	14,750
6-person household	15,600
7-person household	16,450
8-person household	17,350

Adequate Income

All remaining households.

Mailback-Interview Household Survey Results

Table 15 shows survey results on the numbers of very low and low-income households, by jurisdiction, that are presently paying more than 25 percent of their income for housing. There are 156 households, or 11.7 percent, of Wahkiakum's 1,334 households, which are eligible for federal housing subsidies. Of these, 74

TABLE 15  
 VERY LOW & LOW INCOME HOUSEHOLDS PAYING  
 AN EXCESSIVE PERCENTAGE OF INCOME FOR HOUSING

Wahkiakum County - April, 1978

JURISDICTION	VERY LOW INCOME HOUSEHOLDS		LOW INCOME HOUSEHOLDS		VERY LOW & LOW INCOME HOUSEHOLDS		TOTAL HOUSEHOLDS IN CITY OR COUNTY	
	#	% <sup>1</sup>	#	% <sup>1</sup>	#	% <sup>1</sup>	# <sup>2</sup>	%
CATHLAMET	32	13.00%	18	8.00%	50	21.00%	239	100%
UNINCORP. WAHKIAKUM CO.	42	3.84%	64	5.84%	106	9.68%	1,095	100%
WAHKIAKUM COUNTY TOTALS	74	5.55%	82	6.15%	156	11.7%	1,334	100%

<sup>1</sup>Expressed as percentage of the total households in the jurisdiction.

<sup>2</sup>Note that this column gives total households in the jurisdiction, whereas other columns show number of households, by income level, paying an excessive percentage of income for housing.

Source: Cowlitz-Wahkiakum Governmental Conference 1978 Mailback/Interview Sample Survey.

households, or 5.55 percent, are in the very low income or poverty-level category and 82 households, or 6.15 percent, are in the low income category. Fourteen of the 156 very low and low income households were minorities.

Table 16 provides the same information but in terms of tenure, or renter-owner split. Of the 74 households in the very low income category, 31 households, or 42 percent, are renters. These are the households in greatest need, having no equity in a home as well as very low income. In the low-income household category, 76 of the 82 households, or 93 percent, are homeowners.

Table 17 illustrates the number of very low plus low income households by tenure and household type. This table shows elderly or handicapped households and households with families of less than four and more than five persons. An elderly household is defined as "a one or two-person household headed by a person 63 years of age or older." A physically handicapped or disabled household is defined as "a household in which one or more members is physically handicapped, disabled, or infirm to the extent that physical modifications are required in the housing unit (for example, wheelchair ramps, wider doors, lower cupboards and bathroom bars).

Table 17 shows that of the three household types, the elderly/ handicapped is the type with the greatest numbers in need.

Table 17 also illustrates that in small family households (4 or less persons) renters and owners are equally divided, whereas in the large family category (5 or more persons) 100 percent are homeowners. The elderly or handicapped category is divided into 86 percent homeowners and 14 percent renters.

Today government involvement in the housing market is evidenced through such programs as: the Housing and Urban Development (HUD) sponsored Community Development Block Grants to cities; Section 8, rental subsidy; Section 235, mortgage interest subsidy; and the many programs sponsored under the Farmers Home Administrations geared mainly for rural areas.

TABLE 16

VERY LOW & LOW INCOME OWNER & RENTER HOUSEHOLDS  
PAYING EXCESSIVE PERCENTAGE OF INCOME FOR HOUSING

Wahkiakum County - April, 1978

JURISDICTION	VERY LOW INCOME HOUSEHOLDS						LOW INCOME HOUSEHOLDS						VERY LOW & LOW INCOME HOUSEHOLDS					
	Owner		Renter		Total		Owner		Renter		Total		Owner		Renter		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
CATHLAMET	7	22%	25	78%	32	100%	18	100%	0	0%	18	100%	25	50%	25	50%	50	100%
UNINCORP. WAHKIAKUM CO.	36	86%	6	14%	42	100%	58	91%	6	9%	64	100%	94	89%	12	11%	106	100%
WAHKIAKUM CO. TOTALS	43	58%	31	42%	74	100%	76	93%	6	7%	82	100%	119	76%	37	24%	156	100%

Source: Cowlitz-Wahkiakum Governmental Conference 1978 Mailback/Interview Sample Survey.

TABLE 17

VERY LOW PLUS LOW INCOME HOUSEHOLDS BY HOUSEHOLD TYPE BY TENURE  
PAYING EXCESSIVE PERCENTAGE OF INCOME FOR HOUSING

Wahkiakum County - April, 1978

JURISDICTION	ELDERLY OR HANDICAPPED 1-2 PERSONS						FAMILY 4 OR LESS PERSONS						FAMILY 5 OR MORE PERSONS						TOTAL VERY LOW & LOW PAYING EXCESSIVE % OF INCOME FOR HOUSING BY TENURE					
	Owner		Renter		Total		Owner		Renter		Total		Owner		Renter		Total		Owner		Renter		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
CATHLAMET	21	66%	11	34%	32	64%	0	0	14	100%	14	28%	4	100%	0	0	4	8%	25	50%	25	50%	50	100%
UNINCORPORATED WAHKIAKUM CO.	44	100%	0	0	44	41%	26	68%	12	32%	38	36%	24	100%	0	0	24	23%	94	89%	12	11%	106	100%
WAHKIAKUM COUNTY TOTALS	65	86%	11	14%	76	49%	26	50%	26	50%	52	33%	28	100%	0	0	28	18%	119	76%	37	24%	156	100%

Percentage of Cathlamet Elderly/Handicapped, very low & low income households paying excessive share of income for housing out of Cathlamet total very low and low income households paying excessive share of income for housing.

Source: Cowlitz-Wahkiakum Governmental Conference 1978 Mailback/Interview Sample Survey

Although local governments are encouraged to participate in any or all of these programs, a housing need must first be identified at the local level. By encouraging local governments to inventory their housing stock periodically, the varieties of housing needs and demands can be readily identified and the proper programs approached for more timely assistance. Participation in housing programs of a regional nature allows those smaller units of local governments a better opportunity to effectively participate in the various housing assistance programs. Wahkiakum County should continue to support housing assistance programs.

The Cowlitz-Wahkiakum Governmental Conference has an established Regional Housing Program through which Wahkiakum County's housing stock was inventoried and projected needs were evaluated.

#### Housing Trends and Demands

There are a number of trends in housing that are important to examine when developing or updating the Comprehensive Plan. Such trends concern household size, household formation, housing costs, local building activity, vacancy rates, and the types and location of units being built.

Tables 18 and 19 show that Wahkiakum County is following the national and state trend toward smaller household sizes. In 1970 Wahkiakum County had 3.07 persons per household compared with 3.14 (U.S.A.) and 3.08 (Washington State). In 1980 Wahkiakum County had 2.78 persons per household.

There are several socioeconomic factors behind the trend toward smaller households, including: (1) an increase in single-person households among employed younger people, widows and widowers; (2) an increasing preference of couples for smaller families; and (3) related to the first, an increasing number of divorces, which creates two households where formerly only one existed.

The trend toward more single-person households may be expected to continue as well as the increasing preference of

TABLE 18  
 POPULATION PER HOUSEHOLD BY JURISDICTION  
 WAHIAKUM COUNTY  
 1970-1978

CITY OR AREA	1970 <sup>1</sup>	1976 <sup>2</sup>	1978 <sup>3</sup>	1980 <sup>4</sup>
Cathlamet	2.60	2.64	2.452	-
Unincorp. Wahkiakum County	3.19	2.96	2.986	-
Wahkiakum County Totals	3.07	2.90	2.891	2.78

<sup>1</sup>1970 U. S. Census.

<sup>2</sup>County Census, reported in State Office of Financial Management, State of Washington Population Trends 1978, August 1978.

<sup>3</sup>Cowlitz-Wahkiakum Governmental Conference, Mailback/Interview Survey, April, 1978.

<sup>4</sup>1980 U. S. Census.

TABLE 19  
 PERSONS PER HOUSEHOLD  
 WAHIAKUM COUNTY  
 1960-1990

YEAR	U.S.A.	WASHINGTON STATE
1960	3.33	-
1970	3.14	3.08
1975	2.94	2.90
1980	2.77	2.74
1985	2.63	2.62
1990	2.55	2.54

SOURCE: Washington State Office of Community Development, 1978 Washington State Housing Report, January, 1978, p. 16.

couples for smaller families, which is characteristic of western nations. The third factor, the increasing divorce rate, may also be expected to continue. Thus, a long-term trend in housing appears to indicate smaller household sizes and therefore a need for more household units. The more recent trend of "doubling-up" -- unrelated groups living together or children remaining at home longer -- is seen as a second choice for many people, reflecting hard times.

The cost of housing is perhaps the largest single factor in determining housing demands, types and locations. For most of the 1970's, single-family homes were actually very affordable. According to a national survey by HUD and the U.S. Census Bureau covering the period 1973-1979, the median value of owner occupied, single-family homes soared 95 percent to \$47,100, while median household income rose 59 percent to \$19,400. At the same time, inflation and tax breaks combined to give home-owners in some tax brackets negative housing costs. Rising income kept pace with home-ownership costs of mortgage payment, real estate taxes, property insurance, fuel, and utilities. The survey also found that during that period, the proportion of home-owners remained nearly constant, while the incidence of home-ownership rose 15 percent (Housing Affairs Letter, July 10, 1981).

The turning point came in 1978-1979. Record inflation and high mortgage interest rates have priced home-buyers out of the market. At the national level in 1980, less than 5 percent of home-buyers could afford a median priced house -- \$64,600 -- at prevailing mortgage interest rates in the 15 to 16 percent range. In April 1981, according to the Census Bureau and HUD, the median sales price for new single-family houses was \$69,300 nationally and \$74,500 in the West. At the same time, mortgage interest rates averaged 15.5 percent (Housing Affairs Letter, June 5, 1981). Since a 30-year mortgage for \$50,000 at 15.5 percent requires a monthly payment for principal and interest of \$652 plus roughly \$100 for taxes and insurance, it is clear that home-ownership is out of reach of many. A monthly income of almost \$2,700 would be required and an annual income of \$32,237.

Renters have fared poorly in housing costs. Renters nationally absorbed a 66 percent increase in gross rent and utilities between 1973 and 1979, according to the HUD/Census Bureau survey. Median rents rose from \$133 to \$217 a month, while tenants' median income rose less than 39 percent, from \$7,200 to \$10,000. Despite the rent increase trend, rental owners' operating costs have outstripped rental income (Housing Affairs Letter, July 10, 1981). The home building activity reflects the spiralling costs of housing. During this period of high inflation and high interest rates, the home-building industry has gone into a severe slump. At the national level, the number of new housing units started fell from around two million in 1978 to 1.75 million in 1979 to 1.29 million in 1980. As of July 1981, housing starts nationally were at a seasonally adjusted annual rate of 1.0 million, whereas projections indicate a need for about 2.2 million starts a year through the 1980's (Housing Affairs Letter, July 24, 1981).

Housing construction was fairly strong in Wahkiakum County for the 10-year period from 1970 to 1980. In comparison to the population change (up from 3,592 people in 1970 to 3,832 in 1980), the housing unit increase remained steady -- up from 1,279 units in 1970 to 1,504 units in 1980, according to the U. S. Censuses. This shows that for 240 additional people, 225 additional housing units were constructed. The percentage comparison is +0.94 percent population and +0.84 percent housing unit construction. However, since 1980, all current data shows a sharp decline.

Concern over providing the required number of housing units needed to keep abreast of the demand used to be of little, if any, importance to the local governments. The old philosophy was, "If you can't afford it, you don't need it." Housing was considered a private, not a public, concern and therefore government was not actively involved in the field.

### Housing and Land

As part of the housing and land use survey conducted in 1978 by the Governmental Conference, a vacant lands survey was undertaken in the area surrounding Cathlamet. This is the area most likely to attract new housing due to the accessibility of required services (water and possible sewer line extensions) and location convenient to shopping and other needed or desired social services.

Vacant land is that land which is not currently used to support a housing unit but may be utilized as such, providing both the physical and social limiting factors are overcome.

Within the Cathlamet study area, some pockets of land will naturally be found unsuitable for development, while others may be suitable but not economically sound for development. Until detailed decisions are made about what lands in the county will be targeted for development of housing, general residential areas are indicated on the Comprehensive Plan Map for the placement of new housing starts.

Table 20 outlines the gross and net projected housing demand from 1980 to 2000 in 5-year increments. This table illustrates the number of new units that may be constructed, in addition to existing stock, in a given 5-year period. This table also shows the Town of Cathlamet and the unincorporated areas of Wahkiakum County, plus total gross and net housing projections for the entire county, including Cathlamet.

TABLE 20  
 PROJECTED DEMAND FOR HOUSING: WAHIAKUM COUNTY 1980-2000

AREA	EXISTING UNITS APRIL 1978	PROJECTED UNITS 1980		PROJECTED UNITS 1985		PROJECTED UNITS 1990		PROJECTED UNITS 1995		PROJECTED UNITS 2000	
		Gross <sup>1</sup>	Net <sup>2</sup>								
CATHLANET	240										
High		250	10	270	30	295	55	320	80	345	105
Medium		245	5	265	25	288	48	310	70	333	93
Low		240	0	260	20	280	40	295	55	315	75
UNINCORP. WAHIAKUM COUNTY TOTAL	1,126										
High		1,144	18	1,189	63	1,238	112	1,281	155	1,330	204
Medium		1,140	14	1,175	49	1,211	85	1,248	122	1,284	158
Low		1,131	5	1,144	18	1,158	32	1,172	46	1,186	60
WAHIAKUM COUNTY TOTAL	1,366										
High		1,394	28	1,459	93	1,533	167	1,601	235	1,675	309
Medium		1,385	19	1,440	74	1,499	133	1,558	192	1,617	251
Low		1,371	5	1,404	38	1,438	72	1,467	101	1,501	135

<sup>1</sup> Existing and new units combined.

<sup>2</sup> New units only.

## Chapter VI

### TRANSPORTATION/CIRCULATION

Wahkiakum County is traversed (east to west) by a primary State Highway Route No. 4 (S.R.4 or Ocean Beach Highway) and by the Columbia River. These form major corridors to the Pacific Ocean (see Figure 8).

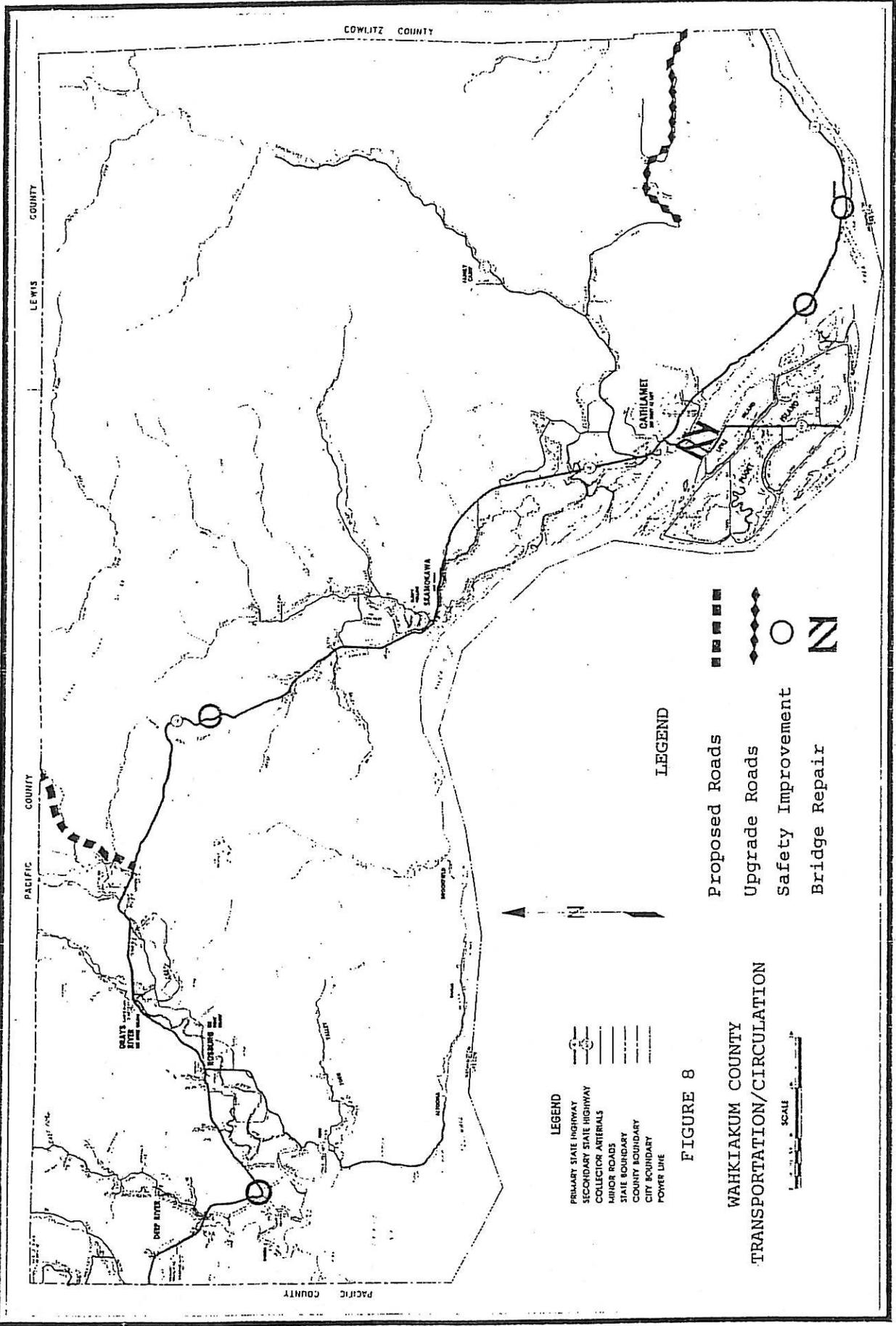
S.R.4 is a two-lane, paved and striped road which provides the major land link between Pacific and Cowlitz Counties. There are no public north-south roads connecting eastern Wahkiakum County to Lewis County. However, there is one north-south collector arterial, Deep River Road, which connects western Wahkiakum to Pacific County. Deep River Road, a two-lane, gravel surfaced county road, starts at S.R.4 in Wahkiakum County and connects at its northern terminus with Salmon Creek Road inside Pacific County.

Examination of future road development and upgrading needs of the county reveal the following:

a. A collector arterial is needed between Grays River and Pe Ell. This will improve the movement of timber and agricultural produce from Wahkiakum County to markets in the more populated northern counties. The route would start at Fossil Creek Road and S.R.4. Fossil Creek Road would continue northward along the north side of Grays River, continuing along Huckleberry Ridge to Pe Ell. It would then run northeast along S.R.603 to I-5 at Chehalis, in Lewis County.

b. Beaver Creek Road between the Elochoman River Road (S.R.407) and Cowlitz County needs continued upgrading. This road serves as a vital secondary route between Wahkiakum and Cowlitz Counties during periodic closures of S.R.4 due to landslides and soil slippages during the winter months. Upgrading of Beaver Creek Road will serve to insure that this vital link remains open.

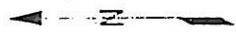
c. Located in the Columbia River in Wahkiakum County are two islands, Little and Puget Islands, where one-third of the entire county population resides. These islands are connected to



- LEGEND**
- PRIMARY STATE HIGHWAY
  - SECONDARY STATE HIGHWAY
  - COLLECTOR ARTERIALS
  - MINOR ROADS
  - STATE BOUNDARY
  - COUNTY BOUNDARY
  - CITY BOUNDARY
  - POWER LINE

**FIGURE 8**

**WAHKIAKUM COUNTY  
TRANSPORTATION/CIRCULATION**



**LEGEND**

- Proposed Roads
- Upgrade Roads
- Safety Improvement
- Bridge Repair

the mainland by a primary state highway - Route No. 409. This highway starts at its junction with S.R.4 in Cathlamet, spanning a portion of the Columbia River at the Cathlamet Channel, and terminates at the Ferry Wahkiakum landing on Puget Island (see Figure 8). The footings at both ends of the bridge are showing signs of weakening due to increased traffic volumes and shoreline erosion. Although bridge repair work has been identified as a work item by the Washington State Department of Transportation, the County Engineer should make every effort to obtain the state's commitment to more definite start-to-finish timelines.

d. S.R.4 (Ocean Beach Highway) is being used increasingly as a major bicycle route to and from the Pacific Ocean. There is a need to incorporate into highway projects improvements for bicycle travel. Through the consideration of bicycle use during annual and emergency highway repair work along S.R.4, a bicycle trail could eventually be constructed throughout the length of Wahkiakum County. The distance along S.R.4 from the eastern to western Wahkiakum County lines is 34.7 miles. While it is unrealistic to propose a singly-targeted project along this corridor for the whole distance, a piece-by-piece approach would help greatly in alleviating the danger to both the automobile driver and cyclists.

In 1980 Wahkiakum County has 67 miles of state highways and 123.63 miles of county roads. Table 21 shows the point-to-point distances between Cathlamet, the county seat, and other communities in the region, using the major roads and highways.

e. Figure 8 shows various areas of S.R.4 in need of special mention for needed safety improvements. Starting at the easternmost point, these areas and their problems are:

- o West side of Germany Creek in Cowlitz County: the highway needs straightening to remove blind curves.
- o East and west sides of Abernathy and Mill Creek crossings in Cowlitz County: highway needs straightening to remove blind curves.



- o Cape Horn and Nassa Point: highway needs straightening to decrease sharpness of the curves and improve visibility.
- o East side of K & M Mountain (Section 24, T10N, R7W, W.M.): the upland road bank needs excavation to remove landslide hazards and roadway straightening to improve visibility.
- o S.R.4 and Miller Point Road (Section 29, T10N): this location is commonly referred to as "deadman's curve". It is perhaps the most dangerous section of S.R.4 between Longview and Long Beach, Washington. This area of the highway needs major straightening and widening.

Wahkiakum County actively utilizes a waterborne public transportation system, the Ferry Wahkiakum. This ferry operates seven days a week between Puget Island, Washington, and Westport, Oregon. It provides a vital link between the two states while serving as an alternate travel route to and from the county during the various closures of S.R.4 (Ocean Beach Highway). The closures are due to landslides at the K&M Mountain Pass at the western end of the county and just east of the Cowlitz-Wahkiakum County line in Cowlitz County. Thus the Ferry Wahkiakum is a very important transportation element for the county and every effort should be made to continue its service.

The Columbia River corridor also provides access to Pacific shipping channels for the upper Columbia and Snake River ports. However, the majority of the river traffic is generated by port activities in Longview, Vancouver, Washington and Portland, Oregon. Upstream port activities include the development of a coal transshipment facility at the Port of Kalama between river miles 74 and 75; increased use of the Kalama and Port Longview existing grain elevators and a new grain elevator proposed in the Woodland Bottoms area; the Port of Portland is increasing the drydock areas and upgrading their containerized cargo holding facilities. As stated in the chapter on energy, these types of upstream activities will generate increased river traffic through

Wahkiakum County. Associated with this increase are some very serious environmental concerns. These range from potentially adverse impacts on aquatic life from the spillage upstream of oil, coal and other fuels to shoreline erosion in portions of Wahkiakum County due to increased wave action. There is a demonstrated need, as stated in the energy chapter, for cooperative action between all governments concerned to reduce potential problems associated with upstream port and energy development activities. While this issue may become a major transportation concern in the future, it was addressed primarily in the energy chapter because it is a problem created largely by activities associated with the development of energy facilities, and the transportation impacts are not fully realized.

Other transportation/circulation concerns identified by citizens and staff are the development of private dead-end (cul-de-sac) streets and a lack of recognized public transportation. Private streets drew special attention during a recent countywide addressing program conducted by the County Engineer's office. It is most difficult to name a street and assign address numbers when construction of the street is not common public knowledge. Lack of proper street identification hampers police, fire and other emergency response efforts.

During the public involvement process conducted during the first phase of the Comprehensive Plan's development, a need for the development of a public transportation system was discussed. In every community visited concern was expressed over the lack of a formal, well-scheduled public transportation system. There currently exists a private bus service between eastern Wahkiakum County and the City of Longview in Cowlitz County. However, the main drawback of this service is that it makes a limited number of trips per day and the public lacks knowledge of both its existence and schedules. The owner(s) should increase public awareness of this service through an advertising campaign.

## Chapter VII

### THE ECONOMY AND NATURAL RESOURCES

#### General Economy and Employment

The economy of Wahkiakum County is dependent upon three basic resources; timber, agriculture and fishing. Retail services add to the overall county payroll but to a much lesser degree.

In particular, the county's economy is heavily dependent upon the harvesting and exporting of timber. Table 22 shows that employers with the largest number of employees are those involved directly with timber harvesting.

TABLE 22

SELECTED LIST OF MAJOR EMPLOYERS  
WAHKIAKUM COUNTY - 1981  
(Employers of 10 or more)

<u>Employers</u>	<u>Number of Employees</u>
Wahkiakum County	71
Crown Zellerbach	225
Weyerhaeuser Company (Grays River)	73
Wahkiakum County School District	70
Columbia Nursing Home	25
Crown Zellerbach (Wana Mill)	16
Pierre's Restaurant and Hotel	16
Ranch House Drive Inn	12
Wahkiakum Public Utility District No. 1	12

SOURCE: Personal Contact 1981 - Cowlitz Wahkiakum Governmental Conference.

The 1960's and 1970's have not seen any major shift from the county's dependence on its natural resources and, in particular, timber production as the main economic base. Table 23, "Covered Employment<sup>1</sup> and Wages Classified by Industry, First Quarter, 1980", shows that manufacturing (lumber and wood products) involved 45 percent<sup>2</sup> of the total (covered) work force. The balance of the covered employment is distributed between Agriculture, Construction, Manufacturing (other), Transportation and Public Utilities, Retail Trade, Finance, Insurance and Real Estate, Services, Government and Unclassified.

The forest products industry in the County has been relatively stable over the past twenty years. However, in the past ten years the disappearance of small shake mills and independent wood operators plus a short-term closure by a major wood products employer in 1980, signals the unreliability of market conditions for the wood products industry in the future. The major threat to the county's existing economy is a proposed ban on the export of non-milled lumber products, a development that would tie the economy to the more volatile national housing market, which is currently in a depressed state. The ban on the export of non-milled lumber and the current housing slump emphasize the need for diversification of the county's economy into areas which do not rely solely on natural resources. Tables 24 and 25 illustrate that wholesale and retail trade are virtually non-existent inside the county.

The following discussions on forestry, agriculture and fishing will serve to point out their respective relationships to the county's economy.

<sup>1</sup>Covered employment is services performed for wages or other compensation by individuals for those firms or individuals whose employees are covered by the Washington Employment Security Act.

<sup>2</sup>This figure is the average, taken from the total number of employees during the first three months of 1980, divided into the number of lumber and wood products employees during the same employment period.

TABLE 23

COVERED EMPLOYMENT AND WAGES  
CLASSIFIED BY INDUSTRY, FIRST QUARTER 1980  
WAH K I A K U M . C O U N T Y

<u>SIC Code</u>	<u>Industry</u>	<u>Employer Units</u>	<u>Covered Jan.</u>	<u>Employment Feb.</u>	<u>Mar.</u>	<u>Wages Paid 1st Qt. 1980</u>
	TOTAL	101	839	834	869	\$ 3,334,729
07,08	Agriculture	3	4	9	15	17,000
	Agricultural services, forestry	3	4	9	15	17,000
16	Construction	8	9	7	7	26,734
	Heavy construction contractors	3	4	2	1	9,835
15,17	Other	5	5	5	6	16,899
	Manufacturing	21	382	392	397	2,005,549
24	Lumber & Wood Products	18	370	380	385	1,970,016
27,35,37	Other	3	12	12	12	35,533
	Transportation & public utilities	8	87	81	89	452,172
42	Trucking & warehousing	4	12	10	13	51,801
44,48	Other	4	75	71	76	400,371
	Retail trade	21	89	88	93	103,881
54	Food stores	4	23	21	24	29,541
58	Eating & drinking places	8	45	45	49	49,753
59	Miscellaneous retail stores	4	10	10	8	8,406
52,53,55	Other	5	11	12	12	16,181
	Finance, insurance and real estate	3	13	12	11	27,466
60,64,65	Banking; insurance agents, brokers & services; real estate	3	13	12	11	27,466
	Services	14	72	67	74	114,756
72	Personal services	3	3	3	3	568
80	Health services	4	59	54	56	97,539
73,79,81,84,86,89	Other	7	10	10	15	16,649
	Government	21	179	174	179	582,398
	Federal government	3	7	8	9	25,201
	State government	5	13	14	14	54,467
	Local government	13	159	152	157	502,730
	Not elsewhere classified	2	4	4	4	4,773

TABLE 24

RESIDENT CIVILIAN LABOR FORCE AND EMPLOYMENT IN  
WAHKIAKUM COUNTY, ANNUAL AVERAGES, 1977-1980

	<u>1980</u>	<u>1979</u>	<u>1978</u>	<u>1977</u>
Resident Civilian Labor Force.....	1,390	1,410	1,380	1,300
Employment.....	1,240	1,310	1,290	1,220
Unemployment.....	150	100	90	80
Percent of Labor Force.....	10.8%	7.1%	6.5%	6.2%

NONAGRICULTURAL WAGE AND SALARY WORKERS, PLACE OF WORK  
ANNUAL AVERAGES, 1977-1980

	<u>1980</u>	<u>1979</u>	<u>1978</u>	<u>1977</u>
Total.....	960	970	990	920
Total Manufacturing.....	400	440	480	490
Mining and Miscellaneous.....	10	0	10	20
Construction.....	20	30	20	10
Transportation, Communications, and Utilities.....	100	80	80	90
Wholesale and Retail Trade...	100	100	100	90
Finance, Insurance, and Real Estate.....	10	20	20	10
Services.....	100	90	70	40
Government.....	220	210	210	170
Labor Market Disputes.....	-0-	-0-	-0-	-0-

SOURCE: Annual Planning Report, 1981 Balance of the State; Washington State  
Employment Security - May 1981.

TABL 25

RESIDENT CIVILIAN LABOR FORCE AND EMPLOYMENT IN WAHKIAKUM COUNTY  
FISCAL YEAR AVERAGES, 1980 AND PROJECTED 1981 AND 1982

	Fiscal Year Averages			Net Change	
	1980	1981	1982	1980- 1981	1981- 1982
Resident Civilian Labor Force	1,360	1,380	1,400	+ 20	+ 20
Total Employment.....	1,250	1,200	1,250	- 50	+ 50
Total Unemployment.....	110	180*	150	+ 70	- 30
Percent of Labor Force..	8.1%	13.0%	11.0%	xxx	xxx

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT IN WAHKIAKUM COUNTY  
PLACE OF WORK, FISCAL YEAR AVERAGES,  
1980 AND PROJECTED 1981 AND 1982

	Fiscal Year Averages			Net Change	
	1980	1981	1982	1980- 1981	1981- 1982
TOTAL.....	940	920	960	- 20	+ 40
Total Manufacturing.....	410	370	400	- 40	+ 30
Mining and Miscellaneous.....	0	10	10	+ 10	0
Construction.....	20	10	20	- 10	+ 10
Transportation, Communications, and Utilities.....	90	110	100	+ 20	- 10
Wholesale and Retail Trade...	100	100	100	0	0
Finance, Insurance and Real Estate.....	10	10	10	0	0
Services.....	100	100	100	0	0
Government.....	210	210	220	0	+ 10

\*Part of this change reflects layoffs in neighboring Cowlitz County.

SOURCE: Annual Planning Report, 1981 Balance of the State; Washington State  
Employment Security - May 1981.

## NATURAL RESOURCES

### 1. Forestry

Wahkiakum County has approximately 170,000 acres, of which 149,000, or 88 percent, are classified "forest lands". Of the 149,000 acres, 140,000, or 94 percent, are classified "commercial forest lands".<sup>3</sup> Table 26 illustrates the revenue generated in 1980 from the commercial forest lands. The figures are taken, in part, from a combined list of the "Itemized Revenue Sources targeted for the County Road Fund and the Current Expense Fund" provided by the County Treasurer's Office. These figures are compared to revenues generated by property taxes collected in the County. In 1980, timber lands generated approximately four times more revenue than property taxes, illustrating the importance of the forestry resource base and the need to protect and enhance that resource.

In addition to revenue paid to the County, Wahkiakum School District #200 received \$34,758.53 from Timber Excise Fund A, and \$42,651.44 from Timber Excise Excess Reserves, for a total of \$77,409.97 in 1980.<sup>4</sup> Timber dollars targeted for the school district are in addition to the \$1,118,658.21 from the State apportionment for basic education<sup>5</sup> received in 1980.

<sup>3</sup>U. S. Department of Agriculture, Timber Resource Statistics for Washington, January 1973, 1974.

<sup>4</sup>State of Washington, BARS Manual §335.10, Timber Excise Tax. In lieu of property tax, privately-owned timber not classified under the Reforestation Act of 1931 is subject to an excise tax set by the state legislature and imposed at the time of harvest. The Department of Revenue (DOR) determines the timber stumpage values and collects the tax from harvesters. Revenues are distributed by the State Treasurer to local taxing districts and to the state for support of schools, according to two distribution formulas, one based on the value of the timber roll in each district (Account A), and one based upon the amount of timber actually harvested in each district (Reserve Account).

<sup>5</sup>State School Apportionment (School Account #3XXX).

TABLE 26

TIMBER LAND REVENUE/PROPERTY TAXES REVENUE COMPARISONS,  
DECEMBER 31, 1979 - DECEMBER 31, 1980

	County Road Funds	Current Expense Fund	Total Revenues
Timber Excise: Fund A	\$54,355.83	\$37,777.52	\$967,277.77
Timber Excise: Reserve & Forest Board Lands	\$70,286.94	Reserve - \$ 48,855.37 Forest Lands - \$756,002.11	
Property Taxes	\$124,892.06	\$94,787.65	\$219,679.00

Table 27 lists a general breakdown of the volume of growing stock and saw timber, by species, on commercial forest lands in Wahkiakum County. The figures represent an average between 1964 and 1974. As illustrated, of the softwood species, Douglas Fir and Western Hemlock are the leading growing stock and saw timber producers.

Table 28 shows a breakdown of sustainable harvest projections in Wahkiakum County by decade. This table is further divided into two parts, Timber Sales and Management Activities. As is illustrated, Wahkiakum County will remain in a sales low throughout the 1980s. This is of particular importance since timber sales and harvesting go hand in hand. Low sales mean low demand for the harvesting of timber, and low demand for harvesting means low employment in the county.

The timber sales and management activity projection figures for 1980-89 in Table 28 appear to be supported by the

TABLE 27

VOLUME OF GROWING STOCK AND SAW TIMBER ON COMMERCIAL FOREST LAND BY SPECIES, WAHIAKUM COUNTY, 1964, 1974

<u>SPECIES</u>	<u>GROWING STOCK (MILLION CUBIC FEET)</u>	<u>MILLION BOARD FEET (SCRIBNER RULE)</u>	<u>ACRES (THOUSAND ACRES)</u>
<u>Softwoods</u>			
Douglas Fir	231	1,051	25
Western Hemlock	336	1,266	79
Western Red Cedar	13	60	-
Sitka Spruce	41	204	9
Other	8	10	-
<u>Hardwoods</u>			
Red Alder	<u>65</u>	<u>245</u>	<u>18</u>
<u>All Species</u>	694	2,836	140

SOURCE: U.S. Department of Agriculture, Timber Resource Statistics for Southwest Washington, 1965-1975.

TABLE 28

TIMBER SALES AND MANAGEMENT  
ACTIVITY PROJECTIONS, 1980-2059

Decade	Timber Sales					Management Activities (acres)								
	Volume Sold (thousand board feet)					Clearcut Area (acres)			Precom- mercial Thinning	Ferti- lization	Conifer Reclama- tion	Hardwood Conversion	Conifer Planting	Chemical Application
	Clearcut	Conifer Thinning	Hardwood Clearcut	Total	Conifer	Hardwood	Total							
								Conifer						
1980- 1989	51,811	233	11,030	63,074	970	650	1,596	2,564	20	293	3,459	2,973		
1990- 1999	286,726	1,506	36,440	324,672	3,980	1,520	2,028	5,028	100	978	2,483	4,459		
2000- 2009	370,139	4,057	52,530	426,726	5,970	2,910	3,196	8,383	140	1,994	4,987	7,461		
2010- 2019	289,139	11,241	2,190	302,570	4,560	70	3,793	11,588	110	1,341	5,278	7,772		
2020- 2029	204,628	21,652	850	227,130	3,900	40	4,379	14,675	140	50	4,241	7,487		
2030- 2039	167,454	38,756	1,330	207,540	2,830	117	2,816	13,981	210	18	3,375	4,921		
2040- 2049	131,319	57,165	2,510	190,994	2,720	236	2,420	11,927	120	0	2,784	4,154		
2050- 2059	213,079	63,246	1,250	277,575	4,960	121	1,765	8,563	0	0	3,851	2,944		

SOURCE: The Daily News, Longview, Washington, Tuesday, February 27, 1979, Section 3, p. 19

1980 temporary lay-off of approximately 225 Crown Zellerbach and Weyerhaeuser employees in the county. In Table 22, Crown Zellerbach is shown as the leading employer of timber harvesters and woods workers here. The company's work stoppage should serve as a warning that in-county wood processing and diversifying the local economy should begin at once.

Almost all saw timber harvested in Wahkiakum County is exported out of the county for processing elsewhere. The county, therefore, does not receive the maximum economic benefit through job market development and base industrial tax generation under the current situation. Once the marketable timber stands have been sufficiently harvested, there will probably no longer be a need for a majority of the timberland work crews.

## 2. Agriculture

Any discussion of agriculture must start with a basic understanding of what is considered a "farm". In the 1978 Census of Agriculture Report, the definition of a "farm" is as follows: "In accordance with a joint agreement between the U.S. Department of Agriculture, the Office of Management and Budget, and the Bureau of the Census, announced on August 12, 1975, a farm, for statistical purposes, is any place from which \$1,000 or more of agricultural products were sold, or normally would have been sold, during the census year ...."

The above definition is used in Tables 29, 30 and 31 of the 1978 Census of Agriculture to make a comparison between the number of farms in Wahkiakum County in 1974 and 1978. It must be remembered in reviewing the tables that all numbers and percentages are approximate. The data is averaged based from sample farms. Shown are: land in farms (acres); average farm size (acres); and agricultural products sold and farm-related income. Examination of selective parts of the "all farms" category reveals a subtle change in the county's agricultural pattern between 1974 and 1978. The

TABLE 29

1978 CENSUS OF AGRICULTURE  
PRELIMINARY REPORT  
WAHKIAKUM COUNTY, WASHINGTON

SELECTED SUMMARY ITEMS: 1978 & 1974  
(Page 1 of 2)

	All farms		Farms with sales of \$2,500 or more	
	1978	1974	1978	1974
<b>Farms and land in farms:</b>				
Farms.....number..	150	151	99	79
Land in farms.....acres..	16 081	15 746	13 340	12 454
Average size of farm.....acres..	107	104	135	158
<b>Value of land and buildings: 1</b>				
Average per farm.....dollars..	137 646	81 623	174 645	116 924
Average per acre.....dollars..	1 241	783	1 241	742
<b>Farms by size:</b>				
Less than 10 acres.....number..	11	5	2	-
10 to 49 acres.....number..	42	45	18	6
50 to 179 acres.....number..	68	70	54	42
180 to 499 acres.....number..	29	31	25	31
500 to 999 acres.....number..	-	-	-	-
1,000 to 1,999 acres.....number..	-	-	-	-
2,000 acres or more.....number..	-	-	-	-
<b>Land according to use:</b>				
Total cropland.....farms..	137	143	92	75
.....acres..	9 470	9 890	9 155	7 840
Harvested cropland.....farms..	105	113	72	64
.....acres..	4 101	3 918	3 714	3 151
Cropland used only for pasture.....farms..	110	127	77	68
.....acres..	5 258	5 866	4 345	4 464
Other cropland.....farms..	7	6	4	4
.....acres..	111	106	96	(D)
Woodland including woodland pastured.....farms..	70	75	47	47
.....acres..	3 962	4 004	3 012	3 325
Other pastureland and rangeland.....farms..	33	108	21	16
.....acres..	1 440	1 854	1 141	816
Land in house lots, ponds, roads, wasteland, etc.....farms..	99	(7)	60	57
.....acres..	1 209	(7)	1 032	673
Irrigated land.....farms..	9	8	6	7
.....acres..	403	550	349	(D)

See footnotes at end of table.

TABLE 27  
(Page 2 of 2)

	All farms		Farms with sales of \$2,500 or more	
	1976	1974	1978	1974
<b>Agricultural products sold and farm related income:</b>				
Market value of products sold <sup>2</sup> .....\$1,000..	4 251	2 932	4 191	2 841
Average per farm.....dollars..	28 341	19 417	42 331	35 962
Crops.....\$1,000..	24	33	21	28
Livestock and livestock products.....\$1,000..	4 227	2 723	(D)	2 637
Poultry and poultry products.....\$1,000..	(Z)	1	(D)	(D)
<b>Farms by value of sales:</b>				
Sales of \$20,000 or more.....number..	32	31	32	31
\$100,000 or more.....number..	15	7	15	7
\$40,000 to \$99,999.....number..	12	20	12	20
\$20,000 to \$39,999.....number..	5	4	5	4
Sales of less than \$20,000.....number..	118	120	67	48
\$10,000 to \$19,999.....number..	17	15	17	15
\$5,000 to \$9,999.....number..	23	13	23	13
\$2,500 to \$4,999.....number..	27	20	27	20
Less than \$2,500.....number..	51	72	(X)	(X)
<b>Value of agricultural products sold directly to individuals for human consumption.....\$1,000..</b>				
	20	(NA)	11	(NA)
	31	(NA)	26	(NA)
<b>Income from machine work, customwork, and other agricultural services provided for others.....\$1,000..</b>				
	10	14	10	9
	26	8	26	6
<b>Farms by type of organization:</b>				
Individual or family.....number..	137	(NA)	89	71
Partnership.....number..	11	(NA)	8	8
Corporation.....number..	2	(NA)	2	-
Family held.....number..	2	(NA)	2	(NA)
Other than family held.....number..	-	(NA)	-	(NA)
Other—cooperatives, estates or trusts, institutional, etc.....number..	-	(NA)	-	-
<b>Operator characteristics:</b>				
<b>Tenure of operator:</b>				
Full owner.....farms..	113	110	67	48
Part owner.....farms..	35	40	30	30
Tenant.....farms..	2	1	2	1
<b>Principal occupation and residence: <sup>4</sup></b>				
Farming.....farms..	60	77	53	56
Residence on farm operated.....farms..	52	(NA)	45	(NA)
Residence not on farm operated.....farms..	3	(NA)	3	(NA)
Other than farming.....farms..	90	74	46	23
Residence on farm operated.....farms..	73	(NA)	39	(NA)
Residence not on farm operated.....farms..	7	(NA)	4	(NA)
Average age of operator <sup>3</sup> .....years..	53.1	54.9	53.0	52.6
Sex of operator.....male..	139	(NA)	94	(NA)
.....female..	11	(NA)	5	(NA)
<b>Operators reporting days of work off farm: <sup>4</sup></b>				
Any.....farms..	101	79	59	33
100 days or more.....farms..	81	62	44	21
<b>Selected production expenses: <sup>1</sup></b>				
Livestock and poultry purchased.....\$1,000..	209	154	200	139
Feed purchased for livestock and poultry.....\$1,000..	1 457	1 238	1 442	1 207
Commercially mixed formula feeds.....\$1,000..	933	908	929	894
Animal health costs.....\$1,000..	57	(NA)	56	36
Seeds, bulbs, plants, and trees.....\$1,000..	27	10	27	10
Commercial fertilizer.....\$1,000..	77	49	76	48
Other agricultural chemicals including lime.....\$1,000..	18	7	17	7
Hired farm labor.....\$1,000..	353	94	349	92
Workers working 150 days or more.....farms..	18	(NA)	18	11
.....number..	45	(NA)	45	15
Contract labor.....\$1,000..	(D)	3	(D)	(D)
Customwork and machine hire.....\$1,000..	22	15	20	11
Energy costs - petroleum products, electricity, coal, wood, coke, etc.....\$1,000..	155	(NA)	140	(NA)
Gasoline and other petroleum products.....\$1,000..	111	77	101	65
Gasoline.....\$1,000..	75	(NA)	67	51
Diesel fuel.....\$1,000..	25	(NA)	25	7
<b>Machinery and equipment: <sup>1</sup></b>				
Estimated market value of all machinery and equipment.....\$1,000..	2 543	2 101	2 166	1 573
Average per farm.....dollars..	16 954	14 490	21 882	20 429
Motortrucks including pickups.....farms..	130	118	93	72
.....number..	193	171	144	116
Wheel tractors.....farms..	123	130	80	73
.....number..	216	220	160	150

<sup>1</sup> 1978 data are based on a sample of farms.  
<sup>2</sup> Data included with Other pastureland and rangeland.  
<sup>3</sup> 1974 data include sales of forest products.  
<sup>4</sup> 1974 data exclude corporations and other organizations.

TABLE 30  
LIVESTOCK AND POULTRY: 1978 & 1974

	All farms		Farms with sales of \$2,500 or more	
	1978	1974	1978	1974
Cattle and calves inventory.....	138	144	92	78
farms.....				
number.....	7 991	7 572	7 235	6 224
Farms by size of inventory:				
1 to 19.....	47	44	15	9
farms.....				
number.....	508	480	181	87
20 to 99.....	66	76	52	45
farms.....				
number.....	2 978	3 557	2 549	2 602
100 to 499.....	25	24	25	24
farms.....				
number.....	4 505	3 535	4 505	3 535
500 or more.....	-	-	-	-
farms.....				
number.....	-	-	-	-
Cows and heifers that had calved.....	121	120	85	74
farms.....				
number.....	3 923	3 888	3 644	3 370
Beef cows.....	95	89	59	45
farms.....				
number.....	1 619	1 859	1 345	1 378
Milk cows.....	36	41	33	35
farms.....				
number.....	2 304	2 019	2 299	1 992
Heifers and heifer calves.....	116	(NA)	82	58
farms.....				
number.....	2 743	(NA)	2 493	1 696
Steers and bulls including calves.....	130	(NA)	88	62
farms.....				
number.....	1 325	(NA)	1 098	1 158
Cattle and calves sold.....	142	144	99	79
farms.....				
number.....	3 196	2 802	2 998	2 318
Cattle fattened on grain and concentrates.....	10	(NA)	7	6
farms.....				
number.....	118	(NA)	111	81
Dairy products sold.....	31	(NA)	31	32
farms.....				
\$1,000.....	3 230	(NA)	3 230	2 219
Hogs and pigs inventory.....	5	6	1	5
farms.....				
number.....	12	41	(D)	(D)
Farms by size of inventory:				
1 to 99.....	5	6	1	5
farms.....				
number.....	12	41	(D)	(D)
100 to 499.....	-	-	-	-
farms.....				
number.....	-	-	-	-
500 or more.....	-	-	-	-
farms.....				
number.....	-	(NA)	-	2
Hogs and pigs used or to be used for breeding.....	-	(NA)	-	(D)
farms.....				
number.....	-	7	-	5
Hogs and pigs sold.....	-	44	-	(D)
farms.....				
number.....	-	1	-	1
Feeder pigs sold.....	-	(D)	-	(D)
farms.....				
number.....	-	-	-	-
Litters farrowed between—	-	2	-	2
Dec. 1 of preceding year and Nov. 30.....	-	(D)	-	(D)
farms.....				
number.....	-	1	-	1
Dec. 1 of preceding year and May 31.....	-	(D)	-	(D)
farms.....				
number.....	-	2	-	2
June 1 and Nov. 30.....	-	(D)	-	(D)
farms.....				
number.....	-	-	-	-
Sheep and lambs inventory.....	1	2	1	1
farms.....				
number.....	(D)	(D)	(D)	(D)
Ewes 1 year old or older.....	1	(NA)	1	1
farms.....				
number.....	(D)	(NA)	(D)	(D)
Sheep and lambs sold.....	-	1	-	1
farms.....				
number.....	-	(D)	-	(D)
Sheep and lambs shorn.....	-	(NA)	-	1
farms.....				
number.....	-	(NA)	-	(D)
pounds of wool.....	-	(NA)	-	(D)
Horses and ponies inventory.....	23	24	12	7
farms.....				
number.....	59	77	38	39
Chickens 3 months old or older inventory.....	13	19	7	10
farms.....				
number.....	208	413	112	256
Hens and pullets of laying age inventory.....	13	19	7	10
farms.....				
number.....	193	362	112	213
Farms by size of inventory:				
1 to 1,599.....	13	19	7	10
farms.....				
number.....	193	362	112	213
1,600 to 9,999.....	-	-	-	-
farms.....				
number.....	-	-	-	-
10,000 or more.....	-	-	-	-
farms.....				
number.....	-	-	-	-
Broilers sold.....	-	3	-	2
farms.....				
number.....	-	294	-	(D)
Turkeys sold.....	-	(NA)	-	-
farms.....				
number.....	-	(NA)	-	-

TABLE 31

CROPS HARVESTED: 1978 & 1974

	All farms		Farms with sales of \$2,500 or more	
	1978	1974	1978	1974
Corn for silage or green chop (green).....	farms.. 11	(NA)	9	8
	acres.. 639	(NA)	(D)	526
	tons.. 12 266	(NA)	(D)	9 175
Wheat for grain.....	farms.. -	-	-	-
	acres.. -	-	-	-
	bu.. -	-	-	-
Barley for grain.....	farms.. 1	(NA)	1	-
	acres.. (D)	(NA)	(D)	-
	bu.. (D)	(NA)	(D)	-
Krish potatoes.....	farms.. -	-	-	-
	acres.. -	-	-	-
	cwt.. -	-	-	-
Hay, all (dry).....	farms.. 102	110	71	63
	acres.. 3 556	3 450	3 176	2 688
	tons.. 7 965	6 974	7 356	5 659
Alfalfa hay (dry).....	farms.. 1	(NA)	1	1
	acres.. (D)	(NA)	(D)	(D)
	tons.. (D)	(NA)	(D)	(D)
Land in orchards.....	farms.. 3	5	1	-
	acres.. 3	3	(D)	-
Apples.....	farms.. 3	(NA)	1	(NA)
	acres.. 3	(NA)	(D)	(NA)
	lbs.. (D)	(NA)	(D)	(NA)
Vegetables, sweet corn or melons for sale.....	farms.. 2	-	2	-
	acres.. (D)	(NA)	(D)	-
Green peas for sale.....	farms.. -	(NA)	-	-
	acres.. -	(NA)	-	-
Sweet corn for sale.....	farms.. 2	(NA)	2	-
	acres.. (D)	(NA)	(D)	-
Field seeds.....	farms.. -	(NA)	-	-
	acres.. -	(NA)	-	-
Dry field and seed peas.....	farms.. -	(NA)	-	-
	acres.. -	(NA)	-	-
	lbs.. -	(NA)	-	-
Sugarbeets for sugar.....	farms.. -	(NA)	-	-
	acres.. -	(NA)	-	-
	tons.. -	(NA)	-	-

Appendix. Effect of Definition Change for Selected Items: 1978 and 1974

	Definition used for 1974 and 1978		Definition used for 1959, 1964, and 1969		Operations excluded by current definition but not by 1959 definition	
	1978	1974	1978	1974	1978	1974
All farms.....	number.. 150	151	173	165	23	14
Farms with sales less than \$2,500.....	number.. 51	72	74	86	23	14
Land in farms.....	acres.. 16 081	15 748	17 396	16 691	1 315	943
Total cropland.....	acres.. 9 470	9 890	9 847	10 046	377	156
Harvested cropland.....	acres.. 4 101	3 918	4 169	3 940	68	22
Value of agricultural products sold.....	\$1,000.. 4 251	2 932	4 256	2 935	5	3
Crops.....	\$1,000.. 24	33	26	34	2	(D)
Livestock, poultry, and their products.....	\$1,000.. 4 227	2 724	4 230	2 725	3	1
Cattle and calves inventory.....	number.. 7 991	7 572	8 067	7 609	76	37
Hogs and pigs inventory.....	number.. 12	41	12	41	-	-
Chickens 3 months old or older inventory.....	number.. 208	413	264	431	56	(D)

second category, titled "Farms with sales of \$2,500 or more", reflects the number of "all farms" that have reached this level of production sales.

In 1978, there were 150 farms with an average size of 107 acres. This is up three acres from '74, for a total of 16,081 acres of county land being farmed. This represents an increase of 333 total acres from 1974.

One final area of comparison is in the column titled "Selected Production Expenses". Hired farm labor expenses rose from \$94,000 in 1974 to \$353,000 in 1978. What is not shown is the comparison of the number of persons working 150 days or more in each of these years. This data was withheld for 1974. However, the table does show 45 workers on 18 farms in 1978, or 2.5 workers per farm. The average 1978 annual income was \$7,844.00 per farm worker.

Although the earnings shown above do not appear to equal those of other types of non-farm employment, the farm worker usually has a place of residence and utilities provided by the farm owner.

In Table 29, the column entitled "Agricultural Products Sold and Farm Related Income" shows that the total market value of products sold from Wahkiakum County farms rose from almost \$3 million in 1974 to almost \$4.3 million in 1978. This is a 69 percent increase in product value over a four-year period, or a 17.25 percent increase annually. However, according to the column on "Selected Production Expenses", the general cost of production also rose from approximately \$2.5 million in 1974 to \$3.6 million in 1978, or a 71 percent increase over a four-year period, for an approximate annual increase in expenses of almost 18 percent.

Table 29 also illustrates that cattle raising and dairy farming are the major agricultural activities in Wahkiakum County. For example, in 1978 there were five farms raising a total number of 12 hogs or pigs, while there were 95 farms raising a total of 1,619 beef cows and 36 farms raising a total of 2,304 milk cows. In 1978 dairy products from

Wahkiakum County generated approximately \$3.2 million. There are no dollar amounts provided for the 1978 sale of beef and calves, but there were approximately 3,196 animals sold during the year.

Table 31 ("All Farms" category) lists the variety of crops harvested, number of farms growing a particular crop, acres of crop production plus pounds, tons or bushels by crop produced in 1978. This table also shows that corn for silage is the tonnage leader for crop production with hay, including alfalfa, the second largest. Other types of produce such as fruits and vegetables appear to have a very minimal effect upon the agricultural statistics of the county.

Farm crops and products produced and harvested in Wahkiakum County are trucked out of the county for processing. This leaves Wahkiakum County without any secondary benefit from its agricultural lands. Jobs and increased tax returns to the county could be realized if an in-county agricultural processing program were developed. In-county processing of farm products would greatly enhance the overall agricultural contribution to the local economy.

### 3. Fisheries:

Commercial fish processing in Wahkiakum County began in 1866 when G. W. and William Hume and their partner, Andrew Hapgood, moved their "cannery" operation from the Sacramento River (the first salmon cannery in North America, 1864) to the Columbia.<sup>6</sup> They located on the bank of the Columbia River below a heavily wooded cliff known since then as Eagle Cliff, the name given to it by G. W. Hume. The first year they packed 4,000 cases (48 one-pound cans per case), and the next year 18,000 cases. They paid the fishermen approximately 15 cents per fish and sold the canned product for \$16.00 a

<sup>6</sup>In 1810 a patent was granted in England to Peter Durand for preserving fruits, meats, and vegetables in tin canisters (hence the word "can").

case. Their gross receipts were \$64,000 in 1866 and \$288,000 in 1867. Competitors soon moved in, for a "river of gold" had been discovered.

By 1873, there were eight canneries on the Columbia, and by 1883 fifty-five canneries were firmly established, with Astoria as their center. Canneries were also located at Illwaco and Westport on the lower Columbia, on the Willamette River around Portland, at the Dalles, and as far upriver as the mouth of the Deschutes River. There were approximately 4,000 persons employed in Columbia River canneries by this time, 90 percent of whom were Chinese. Fishermen supplying the canneries numbered in the hundreds, but how many were from what is now Wahkiakum County is unknown.

Table 32 provides a summary of steelhead trout and salmon landings on the Columbia River from 1866 to 1970. Note that only Chinook salmon were taken until 1889, when the stock showed signs of serious depletion. Chum salmon weren't added to the take until 1893 and then were included only intermittently until 1902. From that date forward they were included in the annual take.

The picture today is not one of an abundance of fish and canneries. With few fishermen, fewer canneries, a variety of management techniques, and a myriad of laws and regulations, the fishing industry is at its lowest ebb in its history. Its recovery will be nothing short of miraculous. In 1980 Wahkiakum County had 94 licensed fisherman;<sup>7</sup> 91 were licensed as gillnetters, three licensed as trollers, and none as purse seiners.<sup>8</sup>

The Washington State Department of Commerce and Economic Development began conducting an economic evaluation of the Washington State 1980 salmon season. The objective was

<sup>7</sup>Washington State Department of Commerce and Economic Development - 1981.

<sup>8</sup>For definitions of "gillnetter", "troller" and "purse seiner", see Glossary of Terms.

TABLE 32

6. LANDINGS OF SALMON AND STEELHEAD TROUT FROM THE COLUMBIA RIVER, 1866-1970, BY SPECIES, IN THOUSANDS OF POUNDS						
Year	Chinook	Sockeye	Chum	Coho	Steelhead Trout	Total
1866	272	—	—	—	—	272
1867	1,224	—	—	—	—	1,224
1868	1,904	—	—	—	—	1,904
1869	6,800	—	—	—	—	6,800
1870	10,200	—	—	—	—	10,200
1871	13,600	—	—	—	—	13,600
1872	17,000	—	—	—	—	17,000
1873	17,000	—	—	—	—	17,000
1874	23,800	—	—	—	—	23,800
1875	25,500	—	—	—	—	25,500
1876	30,600	—	—	—	—	30,600
1877	25,840	—	—	—	—	25,840
1878	31,280	—	—	—	—	31,280
1879	32,640	—	—	—	—	32,640
1880	36,040	—	—	—	—	36,040
1881	37,400	—	—	—	—	37,400
1882	36,808	—	—	—	—	36,808
1883	42,799	—	—	—	—	42,799
1884	42,160	—	—	—	—	42,160
1885	37,658	—	—	—	—	37,658
1886	30,498	—	—	—	—	30,498
1887	24,208	—	—	—	—	24,208
1888	25,328	—	—	—	—	25,328
1889	18,135	1,211	—	—	1,727	21,073
1890	22,821	3,899	—	—	2,912	29,632
1891	24,066	1,053	—	—	2,010	27,129
1892	23,410	4,525	—	284	4,920	33,139
1893	19,637	2,071	157	1,979	4,435	28,279
1894	23,875	2,979	—	2,908	3,565	33,327
1895	30,253	1,225	1,530	6,773	3,378	43,159
1896	25,224	1,155	—	2,999	3,377	32,755
1897	29,867	882	—	4,137	3,138	38,024
1898	23,180	4,554	—	4,449	1,787	33,970
1899	18,771	1,630	774	2,013	816	24,004

(contd.)

(Continued . . .)

SOURCE: A. Netboy, The Salmon, Their Fight for Survival; Houghton Mifflin Company, Boston, 1974.

TABLE 32 (Page 2 of 3)

Year	Chinook	Sockeye	Chum	Coho	Steelhead Trout	Total
1900	19,245	895	1,203	3,055	1,401	25,799
1901	—	—	—	—	—	—
1902	23,034	1,159	707	716	584	26,200
1903	27,917	570	680	828	493	30,488
1904	31,783	878	1,407	2,125	671	36,864
1905	33,029	528	1,751	1,824	668	37,800
1906	29,971	531	1,891	2,818	442	35,653
1907	24,250	374	1,534	2,159	403	28,720
1908	19,743	584	1,148	2,137	729	24,341
1909	17,119	1,704	1,668	2,868	1,175	25,534
1910	25,326	424	4,525	4,687	370	35,332
1911	36,602	407	3,636	5,400	584	46,629
1912	21,388	558	1,272	2,165	2,147	27,530
1913	19,384	758	905	2,786	2,168	25,996
1914	25,409	2,401	3,351	4,744	1,908	37,813
1915	32,127	371	5,884	2,267	2,690	43,339
1916	31,992	257	5,288	3,542	1,581	42,660
1917	29,522	542	3,649	4,372	2,233	40,318
1918	29,249	2,573	2,030	6,674	3,023	43,549
1919	30,325	494	5,133	6,170	1,900	44,022
1920	31,094	178	1,278	1,838	1,166	35,554
1921	21,552	411	328	2,338	1,021	25,660
1922	17,915	2,091	601	6,150	2,163	28,920
1923	21,578	2,605	1,735	6,965	2,684	35,567
1924	22,365	501	3,927	7,796	3,193	37,782
1925	26,660	384	3,795	7,937	2,907	41,682
1926	21,241	1,478	2,234	6,606	3,843	35,402
1927	24,011	468	4,655	5,209	3,147	37,490
1928	18,149	327	8,497	3,723	2,160	32,856
1929	18,151	685	3,714	6,701	2,871	42,122
1930	20,079	668	773	7,737	2,404	31,661
1931	21,378	281	239	2,714	2,126	26,738
1932	16,001	190	1,174	4,097	1,432	22,894
1933	19,528	471	1,659	2,702	1,958	26,318
1934	18,788	467	1,663	4,775	1,919	27,612
1935	15,206	46	810	2,684	1,764	20,510
1936	15,960	302	1,142	1,739	2,304	21,447

(contd.)

(Continued . . .)

TABLE 32 (Page 3 of 3)

Year	Chinook	sockeye	Chum	Coho	Steelhead Trout	Total
1937	18,653	335	1,910	1,842	1,933	24,673
1938	12,418	425	1,915	2,311	1,764	18,833
1939	13,499	270	1,174	1,530	1,438	17,911
1940	13,516	362	1,253	1,373	2,825	19,329
1941	23,239	506	4,150	1,045	2,663	31,603
1942	16,689	192	5,191	645	1,839	24,556
1943	11,426	146	960	706	1,514	14,752
1944	14,060	55	275	1,533	1,720	17,583
1945	12,973	9	589	1,835	1,964	17,370
1946	14,278	128	887	1,059	1,725	18,077
1947	17,310	718	496	1,498	1,649	21,671
1948	17,352	96	1,045	1,173	1,579	21,245
1949	10,769	24	545	899	814	13,051
—	—	—	—	—	—	—
1954	5,313	243	320	303	1,467	7,647
1955	8,582	200	125	599	1,297	10,804
1956	8,179	287	46	460	812	9,783
1957	5,919	240	32	391	741	7,323
1958	6,434	724	89	168	700	8,114
1959	4,594	636	43	120	673	6,065
1960	3,928	394	15	159	723	5,219
1961	4,160	158	17	383	716	5,434
1962	5,467	52	48	600	723	6,890
1963	4,346	49	15	501	972	5,883
1964	4,484	68	24	1,964	425	6,965
1965	6,143	23	6	1,902	510	8,584
1966	3,612	17	11	4,389	393	8,423
1967	4,974	195	10	3,819	445	9,442
1968	4,097	90	3	962	428	5,580
1969	5,776	104	4	1,663	490	8,034
1970	6,480	56	4	5,738	310	12,588

twofold: (1) to determine the economic impact of the 1974 "Boldt decision" on Washington's non-Indian commercial fishermen; and (2) to determine if these fishermen could qualify for low-interest Small Business Administration (SBA) loans under the designation of "economic dislocation" as established by SBA. This status was granted to California and Oregon commercial fishermen in 1980.

The primary reason for the evaluation was the economic impact of the "in-season" management system, implemented for the first time in 1980 by the Pacific Management Council. This system caused greater economic hardship to the Washington fishing fleet than to Oregon or California fishermen. "In-season" management was based on a fish-counting procedure and sought to carry out the legal, accounting, and escapement requirements directed by the courts in response to the Boldt decision.

Three problem areas developed during implementation of this program, confusing and frustrating the fishermen: (1) a lack of common understanding of the decision criteria; (2) problems in scheduling and with data analysis and administrative decisions; and (3) the lack of available data to fishermen. As a result, fishermen experienced a reduction far greater than anticipated in days fished and numbers of fish caught in 1980.

Table 33 illustrates the troll catch (number of fish; Chinook and Coho) for the Washington coastal area including the Columbia River. This table shows clearly the reduction in 1980 from the 1975 average catch level.

Table 34 shows a comparison between the 1971 and 1980 days fished, the catch and poundages. The drastic reduction in 1980 is the result of the in-season management procedures.

#### Economic Losses

Table 35 lists the Washington State counties, type of fishing (troller or gillnetter) and dollars lost as a result of the 1980 in-season management system decisions. Wahkiakum

TABLE 33

SUMMARY OF WASHINGTON TROLL CATCH BY AREA, 1976-80,  
AVERAGE EFFORT 1973-75 AND AVERAGE CATCH FOR 1971-75

<u>Year</u>	<u>Cape Flattery</u>	<u>Quillayute</u>	<u>Grays Harbor</u>	<u>Columbia River</u>	<u>Total Washington Coastal Area</u>
<u>EFFORT</u>					
<u>Days Fished</u>					
1973-75 Average	9.700	15,400	18,200	10,100	53,400
1976	10,800	13,200	22,300	13,900	60,200
1977	13,400	11,200	18,400	11,400	54,400
1978	11,700	9,400	12,900	7,400	41,400
1979 <sup>a</sup>	12,200	8,600	13,200	7,700	41,700
1980 <sup>a</sup>	6,400	5,500	9,400	4,900	26,900
<u>CATCH</u>					
<u>Chinook</u>					
<u>1971-75</u>					
Average	55,000	85,400	100,200	31,900	272,500
1976	68,100	86,300	153,000	46,300	353,700
1977	52,200	44,800	94,100	40,500	231,600
1978	46,000	39,500	49,500	10,500	145,500
1979 <sup>a</sup>	35,500	29,200	58,100	9,600	132,400
1980 <sup>a</sup>	36,500	29,400	52,600	10,700	128,200
<u>Coho</u>					
<u>1971-75</u>					
Average	133,000	247,400	242,400	232,800	855,600
1976	221,000	406,000	401,500	326,500	1,355,000
1977	191,500	183,600	189,700	99,000	663,800
1978	169,200	165,200	128,600	91,800	554,800
1979 <sup>a</sup>	150,200	162,000	215,500	112,500	640,000
1980 <sup>a</sup>	88,600	122,900	107,200	55,300	374,000

<sup>a</sup>Preliminary

SOURCE: Draft, Proposed Plan for Managing the 1981 Salmon Fisheries  
Off the Coast of California, Oregon and Washington, January  
1981

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TABLE 34

WASHINGTON COMMERCIAL TROLL LANDINGS, 1971-81<sup>a</sup>

Year	Effort (Days Fished)	Chinook		Coho		Pink	
		No.	Lbs. Round	No.	Lbs. Round	No.	Lbs. Round
1971	68,300	252,200	3,053,800	1,264,100	7,867,900	20,600	103,300
1972	54,300	202,900	2,569,100	575,300	3,920,400	3,500	11,500
1973	50,900	317,300	3,805,300	702,200	4,320,400	55,400	299,100
1974	57,500	353,100	4,288,500	1,038,300	6,434,600	1,300	6,100
1975	53,100	274,200	3,298,000	774,300	5,080,400	77,300	427,800
1971-75 Average	53,900 <sup>c</sup>	279,900	4,372,800	870,800	7,166,200	51,100 <sup>d</sup>	6,700
1976	60,700	361,400	3,259,400	1,384,800	4,270,500	1,500	1,591,800
1977	57,300	267,500	2,384,500	716,200	3,222,500	288,300	15,400
1978	43,500	166,200	1,939,600	609,800	4,206,100	3,500	2,914,600
1979 <sup>b</sup>	42,800	148,100	1,765,400	665,600	2,221,100	560,700	9,200
1980 <sup>b</sup>	27,000	132,700		385,900		1,200	

<sup>a</sup>Includes catches made off Oregon, California and Alaska and landed in Washington.

<sup>b</sup>Preliminary

<sup>c</sup>1973-75 effort average.

<sup>d</sup>1971-75 odd-year pink average.

SOURCE: Pacific Fishery Management Council Proposed Plan for 1981 Salmon Fisheries, California, Oregon, and Washington, January 1981.

TABLE 35

LIST OF WASHINGTON STATE COUNTIES AND  
TYPE OF FISHING AND DOLLARS LOST  
DUE TO "IN-SEASON" MANAGEMENT SYSTEM DECISIONS

<u>County</u>	<u>Troller</u>	<u>Gilnetter</u>	<u>Total</u>
Clallam	\$ 748,034	\$ 293,000	\$ 1,041,034
Clark	18,650	4 800	23,450
Cowlitz	74,364	156,000	230,264
Douglas	-0-	20,008	20,000
Grays Harbor	1,032,896	288,300	1,321,196
Island	103,000	182,420	285,420
Jefferson	155,000	35,244	190,244
King	870,779	892,300	1,763,079
Kitsap	243,681	72,176	315,857
Mason	64,800	-0-	64,800
Pacific	385,541	148,500	534,041
Pierce	565,127	384,047	949,174
San Juan	36,482	321,500	357,982
Skagit	101,131	387,819	488,950
Snohomish	306,181	587,921	894,102
Thurston	130,680	38,000	168,680
Wahkiakum	-0-	133,000	133,000
Whatcom	<u>241,841</u>	<u>1,035,614</u>	<u>1,277,455</u>
Totals 18 Counties	\$5,078,187	\$4,980,641	\$10,058,828
	<u>Total Trollers</u>	<u>Total Gillnetters</u>	<u>Total Responses</u>
	631	468	1,099

SOURCE: Washington State Department of Commerce and Economic Development Services, Development Services Division, from survey conducted for SBA loan status.

County gillnetters show a loss of \$133,000. However, as Table 36 illustrates, only 19 Wahkiakum County gillnetters were surveyed. The remaining 75 county fishermen chose not to participate in the study. To show the economic losses suffered by the Wahkiakum County fishing fleet, the \$133,000 was divided among the 19 representative fishermen, equals a \$7,000 loss per licensed fisherman multiplied by 94 licensed fishermen equals \$658,000. Therefore, the total 1980 loss to the entire fleet is more realistically almost \$700,000 dollars. This does not reflect secondary impacts on the County through the losses suffered by supporting businesses.

Table 37 illustrates the basic types of expenses incurred by the gillnet and troller fishermen of Washington and Oregon for 1976-77. Notice the areas of food, lodging, and travel. These and other supportive service areas are the first to feel the loss during any period of economic decline in this industry.

What is not shown in any of the tables is the fact that none of the fish landed are processed in Wahkiakum County. Although the county is fronted by the Columbia River, there are no fish processing plants located within the county.

#### SUMMARY

Currently, Wahkiakum County relies almost entirely on its natural resources to maintain its economic base. The market for these resources has significantly diminished over the past few years, adversely affecting the local economy. Unless strong measures are quickly and decisively undertaken, the current downward trend will continue.

The timber industry is now involved in harvesting the timber grown in the county and shipping it to other areas for processing. No in-county processing of trees (other than small shake mills) occurs. Once the harvesting is completed, the workers must move to other locations, thus producing a decline in population and local economic stagnation. This could result in a surplus of vacant housing and eventual closure of supportive

TABLE 36

## Total Salmon Economic Loss

County	Trollers Early Closures	Gillnetters Early Closures	Total County Early Closures	Trollers "Other" Causes	Gillnetters "Other" Causes	County "Other" Total	County Total Economic Loss
Pierce	52 fishermen \$362,600	9 fishermen \$79,020	61 fishermen \$441,620	31 fishermen \$202,527	22 fishermen \$305,027	53 fishermen \$507,554	114 fishermen \$949,174
San Juan	2 fishermen \$21,482	7 fishermen \$77,000	9 fishermen \$98,482	1 fisherman \$15,000	19 fishermen \$244,500	20 fishermen \$259,500	29 fishermen \$357,982
Skagit	9 fishermen \$68,000	18 fishermen \$165,319	27 fishermen \$233,319	5 fishermen \$33,131	23 fishermen \$222,500	28 fishermen \$255,631	55 fishermen \$486,950
Snohomish	35 fishermen \$250,581	13 fishermen \$205,921	48 fishermen \$456,502	13 fishermen \$55,600	33 fishermen \$382,000	46 fishermen \$437,600	94 fishermen \$894,102
Mason	7 fishermen \$64,800		7 fishermen \$64,800	2 fishermen -0-		2 fishermen -0-	9 fishermen \$64,800
Whatcom	11 fishermen \$150,600	33 fishermen \$356,312	44 fishermen \$506,912	6 fishermen \$91,241	62 fishermen \$679,302	68 fishermen \$770,543	112 fishermen \$1,277,455
Thurston	21 fishermen \$99,400	1 fisherman \$25,000	22 fishermen \$124,400	11 fishermen \$31,280	2 fishermen \$13,000	13 fishermen \$44,280	35 fishermen \$168,680
Wahkiakum		12 fishermen \$109,500	12 fishermen \$109,500		7 fishermen \$23,500	7 fishermen \$23,500	19 fishermen \$133,000
TOTAL	461 fishermen \$4,037,732	182 fishermen \$2,138,272	643 fishermen \$6,176,004	170 fishermen \$908,799	286 fishermen \$2,982,325	456 fishermen \$3,891,124	1,099 fishermen \$10,058,828

PAC:56/198-199

SOURCE: Washington State Department of Commerce and Economic Development Services, Development Services Division, from survey conducted for SBA loan status.

TABLE 37

FISHING EXPENDITURES, 1976 & 1977  
(in thousands of dollars)

<u>Expenses</u>	Puget Sound		Washington Coast incl. Col. R. (WA)		Columbia River Oregon	
	1976 (\$000)	1977 (\$000)	1976 (\$000)	1977 (\$000)	1976 (\$000)	1977 (\$000)
Wages (Shares)	\$ 6	\$ 903	\$ 340	\$ 306	\$ 185	\$ 176
Fuel	468	546	169	197	111	129
Nets & Tackle	1,342	1,635	698	862	385	475
Food	255	299	125	127	67	74
Lodging	21	23	14	16	8	9
Travel	153	171	81	80	46	46
Moorage	127	162	45	48	25	28
Insurance	195	257	79	89	45	51
Pers. & Prop. Taxes	93	119	36	43	21	22
Interest	208	228	79	86	14	16
Repair & Maint.	595	695	265	289	149	166
Salmon License Fees	151	150	75	73	26	27
Other	<u>121</u>	<u>133</u>	<u>64</u>	<u>70</u>	<u>36</u>	<u>40</u>
TOTAL EXPENSES	\$4,331	\$5,321	\$1,070	\$2,286	\$1,118	\$1,259
<u>New Capital Purchases</u>						
Vessels & Boat Trailers		341	357	208	201	77
Electronic Gear	325	423	96	102	52	59
Fishing Gear	205	267	106	117	64	70
Buildings (Incl. House Trailers)	58	68	53	56	33	44
Transportation	<u>494</u>	<u>568</u>	<u>302</u>	<u>294</u>	<u>119</u>	<u>116</u>
TOTAL CAPITAL PURCH.	\$1,432	\$1,683	\$ 765	\$ 770	\$ 345	\$ 368
<u>GRAND TOTAL</u>	<u>\$5,754</u>	<u>\$7,004</u>	<u>\$2,835</u>	<u>\$3,056</u>	<u>\$1,463</u>	<u>\$1,627</u>

Source: Petry, 1980, Pacific Fishery Management Council;  
Proposed Plan for Managing the 1981 Salmon Fisheries  
Off the Coast of California, Oregon and Washington

services such as restaurants, garages, and grocery stores. The closure of the supportive services is the "domino effect" to the local economy of primary job losses.

In the agricultural sector, there is no in-county processing of agricultural products produced by Wahkiakum County farmers. Production expenses, as the tables in the text illustrate, exceed the revenue returned to the individual farm. The gap in the profit-cost margin is currently not yet adverse enough to cause a sudden closure of county farms. However, the losing trend is present and could be very easily tipped should the overall agricultural economy decline. The secondary businesses and industries that support timber production also serve the agricultural sector. However, the agricultural sector alone does not generate enough dollars to support many secondary or supportive businesses should the timber industry pull out completely. An agricultural diversification program to include in-county processing must be developed to keep Wahkiakum County farm products competitive in the market place.

There are no fish processing plants operating in Wahkiakum County. Thus, in all three resource areas the county is an exporter of raw materials. It is not gaining maximum economic benefits through the development of its job market and the generation of taxes from industry. If this issue had been addressed in the 1950's and 1960's, there might have been help available from various state and federal agencies to develop a responsive, diverse resource processing program. Today, in the 1980's, there is no help to be expected from the state or federal governments in terms of economic assistance. The current trend indicates that the timber industry will complete its management program and move on; the agricultural program will continue to stagnate and the fisheries industry will continue to die. The only avenue left for Wahkiakum County is to begin a long-term program of resource development and economic diversification. Under this program, the county should:

1. Recognize that the county is now economically dependent upon its natural resources, both renewable and non-renewable.

2. Recognize that public or private sector programs or proposals which encroach upon the basic resource areas are not in the best interest of Wahkiakum County.

3. Recognize that long-range protection of the county's timber, farming and fishing resources must be the first step towards an in-county resource production program.

4. Recognize that economic diversification must occur at all levels of the industrial and commercial trade spectrum if dependency upon raw resources is to be overcome.

#### Promotion and Coordination

The activities of promoting, attracting, and developing industrial and commercial enterprises in Wahkiakum County has been and continues to be very limited in effort and effect. Below is a brief analysis of the various boards, committees and councils which may have some influence upon the economic growth of Wahkiakum County.

1. Wahkiakum County has two port districts: Port District No. 1 in the Town of Cathlamet and Port District No. 2 at Grays River. Both port districts have access to the Columbia River and Ocean Beach Highway. Both port districts have a unique opportunity to develop the greatest single new industry in the county - tourism and recreation.

2. The Cathlamet Commercial Club is primarily concerned with developing and improving commercial facilities. However, without expanding and acquiring the needed political backing, this organization remains limited in scope and effectiveness.

3. The Wahkiakum County Planning Commission reviews, if a plat is necessary, development proposals and all substantial development permit activities within the Shoreline's area. The Planning Commission may review and make recommendations for additions and changes to the Comprehensive Plan, Shoreline Management Master Program, Subdivision Ordinance, six year capital improvement program and the six-year road plan. It is through these vehicles that specific criteria, use areas, and performance standards for industrial and commercial development

can be studied, developed, reviewed at public hearings, and recommended to the Board of County Commissioners for adoption and implementation.

4. The Board of County Commissioners and the Cathlamet City Council make all the final decisions on recommendations of the Planning Commission, as well as on all budget items, improvement programs, and, in some cases, specific development proposals.

#### RECOMMENDATION

1. Wahkiakum County should develop a sound economic promotion and development program, carefully balanced with the goal of maximum preservation of the county's natural resource areas and the development of in-county processing of these harvested resources. This could be accomplished by establishing a countywide economic development board or committee to focus its attention on the specific economic needs and problems of Wahkiakum County within the overall realities of the regional setting. This economic board or committee would be charged with identifying and soliciting appropriate employment and tax generating developments. The county, through this board or committee, should set aside specific areas for those land consumptive storage, warehouse, and commercial uses which do not generate significant employment or provide a major tax infusion into county revenues.

Membership could be comprised of local business persons, a county commissioner, a planning commissioner, a timber company representative, an agricultural representative, a commercial fisherman, Port District Nos. 1 and 2 representatives, a private citizen, and similar persons. A private consultant, architect, or designer should be included during project proposal evaluation.

2. If it is not possible to create and support a local economic development board, the county should, at the very least, establish definitive, enforceable performance standards and use specific classifications either through the development of a county zoning ordinance or a special addendum to the Compre-

hensive Plan. All industrial and commercial applications of a significant type and location should require review by the Planning Commission and county staff with approval by the Board of County Commissioners prior to the issuance of building permits. Above all, the county should insure that such standards are not only implementable but are enforced equally and impartially.

## Chapter VIII

### ENERGY

Energy is closely related to and dependent upon the natural resources of Wahkiakum County. It impacts and is an integral part of every facet of the local and regional economy. In addition, energy issues of primarily external origin (originating outside the county) must be adjusted to internally, as explained below.

The Arab oil embargo of 1973-74 served as a warning to millions of Americans that our gasoline and oil supplies could be curtailed. Not only gasoline but, to our surprise, natural gas and hydroelectricity were found to be in short supply. We found ourselves in a very precarious position, one of being largely dependent upon "hostile" oil producing nations for our domestic supply. To sum it up, the United States was caught in an "energy bind".

Below is a brief chronology of the American energy picture from 1758 to 1980. Notice the domination of oil.

- 1758 First recorded commercial shipment of American coal. (32 tons from Virginia to New York).
- 1825 First natural gas extracted in the United States lights streetlamps in Fredonia, New York. For decades natural gas is regarded as a flammable nuisance. It does not become a practical industrial fuel until the end of the 1920s.
- 1859 Oil strike at Titusville, Pennsylvania, starts U.S. oil industry, but petroleum does not become the primary U.S. energy source for nearly a century.
- 1879 Coal surpasses wood as the main U.S. energy source.
- 1913 Ford assembly-line production brings car prices in reach of millions.

- 1947 U.S. changes from a net exporter to an importer of oil.
- 1950 Oil surpasses coal as main U.S. energy source.
- 1957 First sales of nuclear-generated electricity.
- 1970 U.S. oil production peaks.
- 1971 Federal price controls placed on petroleum.
- 1973 U.S. natural gas production peaks.  
Arab nations embargo oil exports to the United States for six months.
- 1974 World crude oil prices quadruple between October 1973 and March 1974.
- 1975 Congress passes Energy Policy and Conservation Act, which further regulates prices for domestic oil and provides for the Strategic Petroleum Reserve, automobile fuel-efficiency standards, and a variety of conservation measures.
- 1977 Department of Energy established. Solar Energy Research Institute formed.
- 1978 Iranian revolution causes slowdown of Iranian oil production and halts exports for three months.
- 1979 In Pennsylvania, the Three Mile Island nuclear accident brings about a moratorium on nuclear power plant licensing.  
World oil prices double as a result of panic buying induced by the Iranian cutoff. Domestic crude oil averages \$14.27 a barrel. Imported crude oil averages \$21.67 a barrel.
- 1980 At the December meeting of the Organization of Petroleum Exporting Countries, Saudi Arabia sets \$32 a barrel as its base price for crude-oil exports.  
Iraqi-Iranian war begins: oil shipments from both countries are interrupted.

SOURCE: National Geographic, February 1981.

But oil is not our only energy source. The United States is one of the richest nations in the world in energy-producing raw materials. We have the largest single share of the world's coal reserves. We are at the moment self-sufficient in natural gas. We have at present the largest output of nuclear power of any nation.

In Southwest Washington and in Wahkiakum County there is an abundance of hydroelectrical power. We are just beginning to examine wind and solar energy sources. Mount St. Helens may prove to be a blessing in disguise once the development of technology makes geothermal energy economical. This region's forests supply an abundance of wood, which can provide heat and electricity for generations once more effective ways are found to use commercial "wood waste". In other words local, state and federal governments must work together to explore possible alternative sources of energy. Locally, the Wahkiakum County Public Utility District No. 1 (PUD) has been searching for alternative sources for its customers.

The PUD was voted into existence by the citizens of the county in 1936. The district became operational in 1939 after purchasing approximately \$120,000 of electrical plant equipment (lines, meters, poles, transformers, etc.) from the West Coast Power Company. Today PUD plant equipment is valued at approximately \$3 million and there are 1,709 customers.

The PUD purchases its power from the Bonneville Power Administration (BPA). The electrical rates charged to the local customer are determined by the rates charged by Bonneville plus local PUD handling costs (plant equipment installation and maintenance plus labor costs). As of 1982, the cost of electricity in Wahkiakum County is a \$10.00 hook-up fee, 2.2 cents per kilowatt hour, and \$7 per month minimum base rate. In response to rate increases from Bonneville, the PUD anticipates a rate increase to its customers of 3.6 to 4.0 cents per kilowatt hour.

In order to offset these increases from Bonneville, the PUD examined the possibility of developing a low-level hydroelectric generating dam on the Grays River at the boundary line between Wahkiakum and Pacific Counties. The principal features of the proposal were a diversion weir across the stream bed and a 10-foot in diameter concrete-lined tunnel approximately 10,000 feet long terminating at a powerhouse with two 8.5 megawatt (MW) electrical generating units for a total installed capacity of 17 MW. The project would have dependable capacity of 6.4 MW and 56.8 million kilowatt hours of energy annually. The diversion unit and electrical generators would be operational only during the spring and winter high water periods. When the dam was generating electricity, it would be capable of supplying all Wahkiakum County customers plus selling some surplus energy to Bonneville on a credit buy-back program. This would have enabled the PUD to have cheaper power during those months when the dam was not producing. Although this project never reached fruition, it still remains a prospect for the future. In the meantime, the PUD will wrestle with the increasing costs of electricity production and continue to explore other energy sources for its customers.

Perhaps one of the most perplexing issues facing Wahkiakum County in the energy spectrum is how to protect its Columbia River shorelines from environmental damage due to upstream oil and coal port developments. Oregon and Washington are competing fiercely for "most favored" locations for port development by the major oil and coal handling companies.

In 1978, GATX Port Westward Terminal Corporation proposed to construct and operate a crude oil unloading terminal at Port Westward near Clatskanie, Oregon on the Columbia River. The proposed site was adjacent to the Portland General Electric Company Beaver turbine generating plant. The terminal would transfer crude oil from oil tankers to rail tank cars, at a rate of 48,288 barrels per day. The terminal would have four 175,000 barrel storage tanks (700,000 barrel total capacity) for short term storage. Tankers, carrying about 475,000 barrels of Alaska

crude were to call on the port every eleven days. A 90-car unit train would depart the terminal every 40 hours or approximately 4.2 unit trains every week.

While there has never been a major oil spill on the Columbia River, neither the Oregon State Department of Environmental Quality (DEQ) nor GATX company officials denied that such a possibility existed. DEQ staff stated in a written report, dated November 16, 1977, that each tanker is insured up to 14 million dollars. However, this amount is only for oil spill cleanup costs and not for damages caused by the spill, such as loss of fish and wildlife or the loss of business and tourist facilities. In addition to the facts that oil spills are possible and that there is no assurance of damage compensation, the DEQ staff also stated in the above report, "There is a lack of oil skimming equipment that is capable of operating in the Columbia River."

GATX Company did not pursue its plans. However, their proposal brought to the surface two important areas of concern: (1) that there exists virtually no means of immediate economic relief for damage to property and wildlife due to major upstream spills of energy materials; and (2) as both DEQ and GATX admitted, a major upstream oil spill during adverse weather conditions would be impossible to contain before extensive damage to estuarine wildlife and property occurred, due to the fact that no cleanup equipment is located on the Columbia River below Portland, Oregon. Wahkiakum County must first take steps to correct these problems if the county intends to work on the enhancement of its fisheries industry.

Oil loading terminals are not the only upstream energy related development proposed for the Columbia River. The Port of Kalama, located in Cowlitz County, Washington between Columbia River miles 73 and 74, has recently concluded contract negotiations with Pacific Resources Inc. for the construction of a coal port at Kalama. There is also talk of a coal slurry pipeline from the interior states to a terminal at Longview,

Washington on the Columbia River. (Sources: Longview Daily News, September 1981 and National Geographic, February 1981.) In both instances, the coal would be transported to Far East markets by ship via the Columbia River. An increase in shipping on the river will bring increased potential for cargo spills (at loading sites) and instream accidents, as well as erosion of unprotected shorelines throughout Wahkiakum County due to wave action caused by passing ships. Therefore, there is a need for both Oregon and Washington to develop a joint plan of action to effectively respond to both emergency and shoreline erosion situations. This should also include locating proper cleanup equipment within the geographical area of the Columbia River estuary.

Associated with energy and environmental concerns on the Columbia River are additional energy issues that apply to the entire Cowlitz, Wahkiakum and Pacific County region. A few of these are:

- o Petroleum supply limitations and disruptions affecting transportation and oil heating for homes, businesses and industry.
- o Cost of electrical energy increases due to Bonneville Power Administration rate hikes and Washington Public Power Supply System participation costs being absorbed by the Wahkiakum Public Utility District (PUD).
- o Increasing cost of nuclear power generation in general.
- o Increasing costs of BPA power from Columbia River hydro systems due to their near maximum utilization and the eventual removal of federal operating subsidies.
- o Eventual limited supply of major hydro power sites.

- o Increasing cost of natural gas with imminent deregulation and limitations on supplies from Canadian sources.
- o As the cost of energy goes up, so will the energy element of the County's budget. For some counties (and cities), energy expenditures have become over 50% of the budget (National Association of Counties).
- o The more consumer and tax money spent on energy, the less money there is for essential uses, goods and services. This money is "exported" from the community and does not "recycle" itself, providing fewer jobs and local benefits. It is lost to energy producers.

Along with energy issues and concerns, however, there are new energy opportunities and positive actions which Wahkiakum County can take. Like the local PUD, County government is visible and can directly influence perceptions on energy use, management and conservation.

Wahkiakum County can begin applying conservation and energy management policies in all future construction and operation of county buildings. Using alternative and renewable fuels in county vehicles, i.e., methane, propane, or methanol, can be explored. In addition, the County can provide information on energy conservation to its citizens and help coordinate energy-saving activities with the PUD. The county can demonstrate good energy management by using active or passive solar systems in the Courthouse and other county-owned buildings.

Energy conservation and the efficient use of energy resources should be major county goals when developing future land use plan, ordinances or building codes. These should address the following:

- o The location of low, medium and high density residential development.

- o The location of commercial, industrial and institutional uses and other job centers.
- o The location of parks, recreation facilities, churches, schools and libraries.
- o The transportation network among and between the above uses.
- o The siting, layout and design of subdivisions and other developments.
- o The design and construction of all types of housing units.

Wahkiakum County can encourage the efficient use of energy and renewable resources through administrative processes such as codes, incentives, and consumer protection measures regarding solar access. The County can work with Public Utility District No. 1 as well as with private industry to:

- o Examine, and if feasible, exploit the use of biomass as a fuel source from area industrial and logging woodwaste.
- o Become familiar with activities of other governmental bodies in the energy field and act as a sharing resource as well as applier of those other activities and ideas.
- o Develop energy contingency programs and measures with local energy suppliers, businesses, the community action agency and citizens to insure adequate oil and gas supplies for heating and transportation during shortages and supply disruptions.

Energy issues, concerns and opportunities seemed to blossom overnight, but it is unlikely the problems will be solved or the opportunities realized as quickly. Wahkiakum County must continue to scrutinize public policies and programs as they relate to energy management. As with all situations created by generations of misunderstanding, solving our energy-related problems will take time, patience, education and determination.

## Chapter IX

### PUBLIC FACILITIES AND SERVICES

This element describes the characteristics of the following services provided by Wahkiakum County and supported by its citizens and businesses:

Water	Schools
Sewer	Library
Fire/Ambulance	County Government
Police	Solid Waste

Highways, roads, streets and other elements of the transportation network and parks and recreation are presented in the sections entitled Transportation/ Circulation and Parks and Recreation.

#### Water

At present the Wahkiakum County Public Utility District Number 1 (PUD No. 1) is the primary purveyor of water for the County. The PUD provides water services to all of Little and Puget Islands and portions of western Wahkiakum County.

The PUD purchases water for Little and Puget Islands from the Town of Cathlamet, which pumps its water from the Elochoman River into a reservoir located on Greenwood Hill. The capacity of the Greenwood reservoir is 500,000 gallons. Puget and Little Islands are the only areas in eastern Wahkiakum County currently served by the PUD.

In western Wahkiakum County the PUD provides water for the Grays River, Rosburg and Deep River areas and is described in two phases. Phase I of the western Wahkiakum County water system starts at a pump station which has a capacity of 225 gallons per minute (GPM) and is located at the confluence of the Grays River and the west fork of the Grays River. The water is then pumped south through a 6-inch main line to Fossil Creek Road, then southwest to State Highway 4, then westward along the highway to Grays River. The total length of the first stretch of the line is approximately 3-1/2 miles. An 8-inch main line then continues westward from Grays River approximately 2-1/2 miles to Rosburg,

then north on Malone Road approximately 3/4 of a mile to Reservoir No. 1, which has a 150,000 gallon capacity. The overall length of this portion of the water system (referred to as Phase I) is approximately 6 miles. There is one 4-inch secondary line which feeds off from the main Phase I line, running for approximately 3-3/4 miles along the Loop Road connecting State Highway 4 to State Highway 403 at the conjunction of 403 and Barr Road.

Phase II of the western Wahkiakum County water system continues the 6-inch line along S.R.4 to Miller Point Road. At this junction, a 4-inch line follows S.R.4 to Rangila Slough. The water line leaves S.R.4 at this point and continues north along the east bank of Deep River to Deep River Road, then north along Deep River Road to Reservoir No. 2 in Section 16 T10N, R8W W.M. Reservoir No. 2 has a holding capacity of 87,000 gallons. The western Wahkiakum County water system, completed in 1981, was extended to serve the Grays River Salmon Hatchery and Weyerhaeuser's Fossil Creek headquarters.

The Town of Cathlamet's water system is currently being upgraded and will soon be capable of providing water to the surrounding area. The town has three reservoirs: the largest is located on Greenwood Hill and has a 500,000 gallon capacity; the second largest is located on Columbia Street and has a 240,000 gallon capacity; and the smallest is located at the end of Clover Street and has a 5,000 gallon capacity. The Columbia Street reservoir is designated for extra water storage and is capable of serving all of Puget and Little Islands during periods of emergency. The water rates in 1981 for residents and non-residents were as follows:

Cathlamet Residents - No hook-up fee

\$6.25 first 350 cubic feet  
.35 per 100 cubic feet over 350

County Residents - \$175.00 hook-up fee +

\$8.50 first 350 cubic feet  
.45 per 100 cubic feet over 350

Public water usage for both the Town of Cathlamet and Wahkiakum PUD need to be constantly reviewed and updated. Figures 9a through 9d show the Cathlamet water service area and the water line locations on Puget and Little Islands as well as western Wahkiakum County, Phases I & II.

### Sewers

Wahkiakum County does not provide any public sewer service. The majority of homes and businesses in the unincorporated communities are on septic tank and private wells. Therefore, any development expansion must be directly related to the absorption and filtration properties of the soil and supply of potable well water.

The only area that is currently served by public sewers is the Town of Cathlamet and a very limited area abutting the eastern town limit line (Jacobson Road) to approximately half way up Greenwood Hill Road. This is the only unincorporated area in the County currently receiving sewer service.

### Fire and Ambulance

Wahkiakum County has four (4) fire districts, as shown in Figure 10. Each district is served by a volunteer crew, which conducts regular training sessions in fire-fighting and first-aid. The districts and their service areas are as follows: District No. 1 - Puget and Little Islands; District No. 2 - the unincorporated community of Skamokawa, serving all of central Wahkiakum County (Middle, West and East Valleys, Steamboat and Brooks Slough areas); District No. 3 - Grays River, serving all of western Wahkiakum County; this district also provides ambulance service to western Wahkiakum County, fulfilling its emergency service roll; District No. 4 is located along S.R.4 approximately one mile east of Cathlamet and serves the Elochoman River Valley and all lands to the east, including Flandersville. Fire Districts Nos. 1, 2 and 4 all have special contracts for ambulance service with the Town of Cathlamet Fire Department's First Aid Division. The town provides ambulance service to all

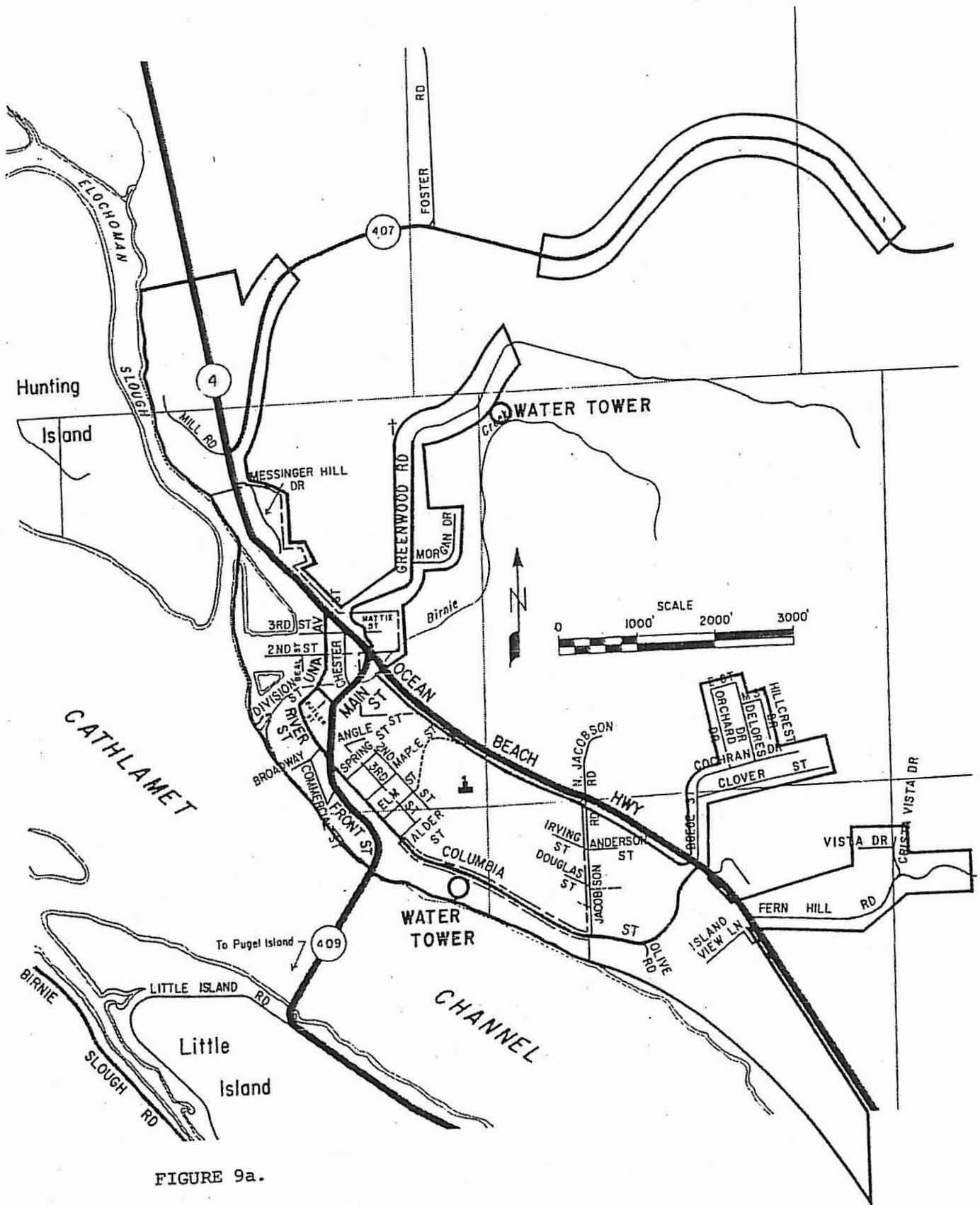


FIGURE 9a.

CATHLAMET WATER SERVICE AREAS



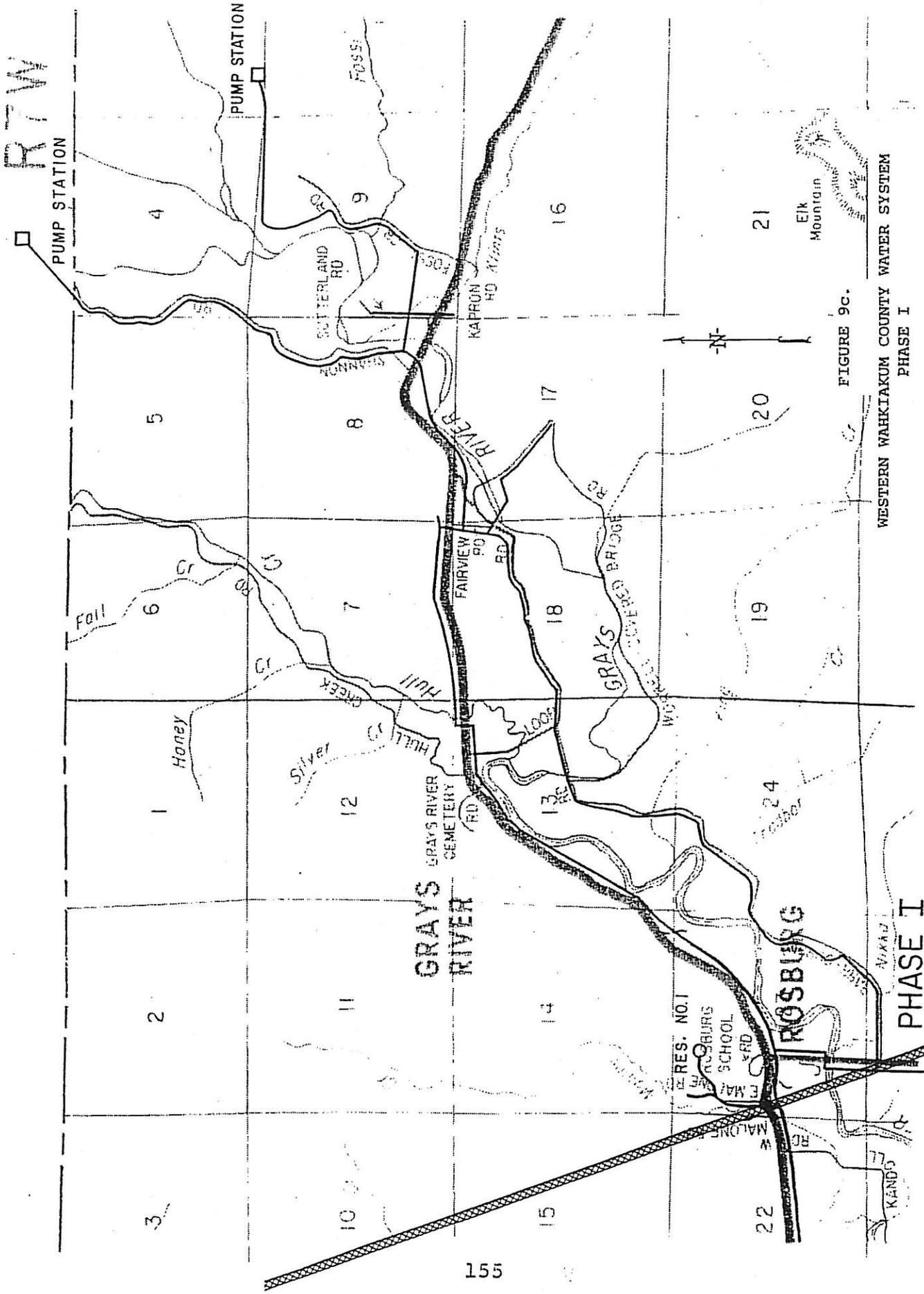


FIGURE 9c.  
 WESTERN WAHIAKUM COUNTY WATER SYSTEM  
 PHASE I

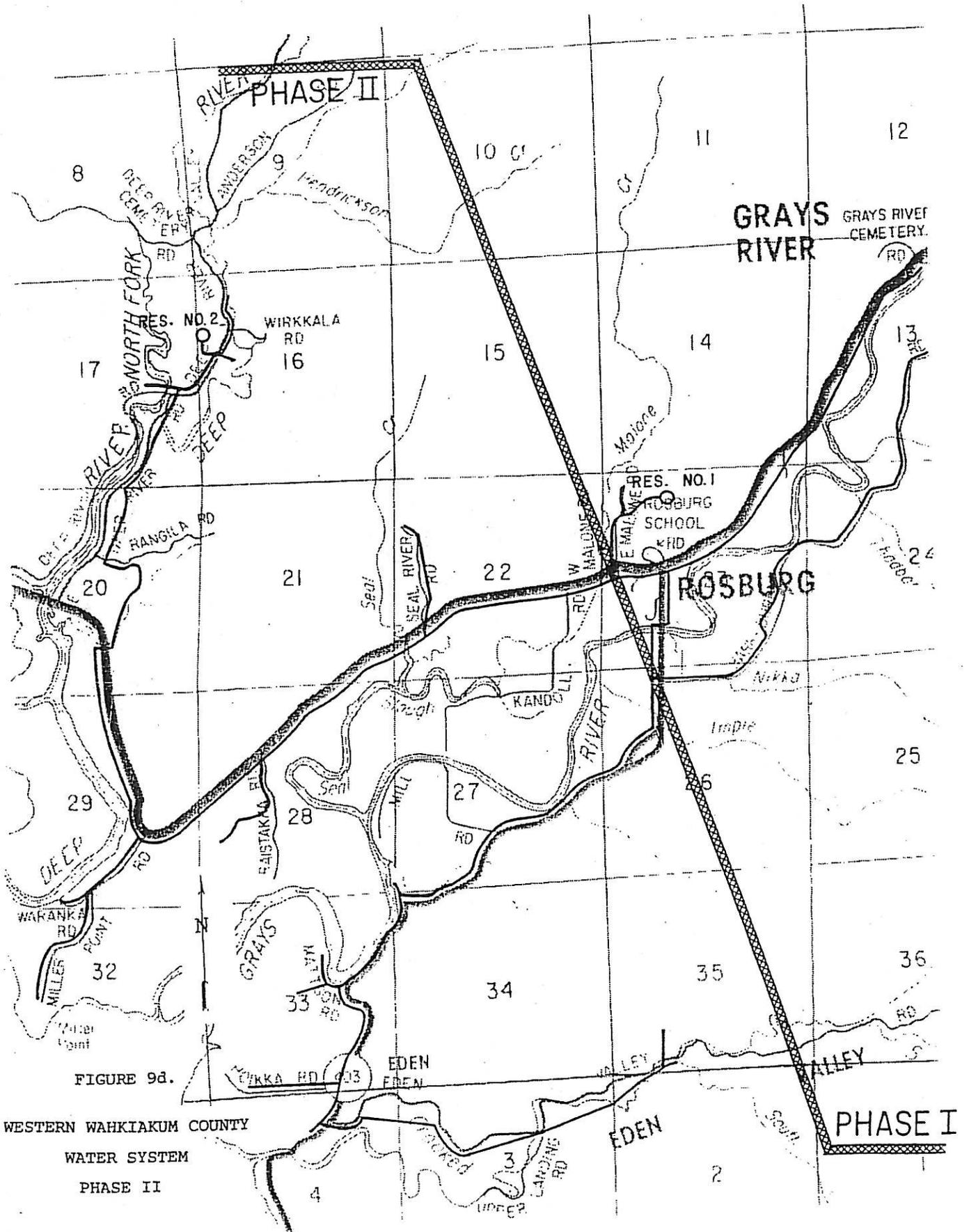


FIGURE 9d.  
 WESTERN WAHKIAKUM COUNTY  
 WATER SYSTEM  
 PHASE II



of eastern Wahkiakum County from K & M Mountain to the Cowlitz-Wahkiakum County line. In return, the County provides its share of the cost of purchasing and maintaining ambulances. Ambulance operating costs are covered through charges to customers.

### Police

The Wahkiakum County Sheriff's Department, located in the County Courthouse in Cathlamet, consists of the Sheriff, three deputies and six dispatchers (three are relief dispatchers). Based upon a population of 3,832, this is .7 deputies per 1,000 population compared to the Washington state average of 1.5 deputies per 1,000 population. The Department has five patrol cars, with one usually on the road at all times.

Sheriff's office activity during 1981 included:

- o 900 reports requiring investigation
- o 90 motor vehicle accidents investigated
- o 87 arrests (subjects booked into jail)
- o 637 cases in District Court
- o 31 cases in Superior Court

### Problems and Needs

The following problems and needs were identified by the Wahkiakum County Sheriff:

1. The department is understaffed.
2. It lacks needed office space.
3. The jail presently houses a maximum of four prisoners, is too small, and is substandard.

### Schools

The following schools are located in or near Wahkiakum County:

1. The Cathlamet High School and Grade School complex is located on approximately 20 acres in Cathlamet. The Cathlamet School District serves the entire eastern half

of Wahkiakum County, including Puget and Little Islands and the Town of Cathlamet.

The Cathlamet High School consists of 10 classrooms, a shop, gymnasium and lunchroom. The Grade School has 18 classrooms, a multipurpose room and gym. During the 1981-82 school year 201 students were enrolled in the high school (grades 9-12) and 400 in the grade school (grades K-8). The district also offers a special education program through a contractual agreement with the Longview Progress Center located in Cowlitz County. Student enrollment is expected to remain stable for the next two years in both the high school and grade school. The Cathlamet schools are capable of handling approximately 100 more students before any need arises for the expansion of facilities.

2. Grays River Valley School District #155 has a grade school, located in the unincorporated community of Rosburg, which serves all of western Wahkiakum County except the Salmon Creek area. The school is located on approximately 3 acres and has 7 classrooms, a cafeteria, gymnasium, and stage. During the 1981-82 school year there were 112 students in grades K-6. Students in grades 7 and 8 share space in the Naselle-Grays River Valley High School in Pacific County. Student enrollment is expected to remain stable over the next 3 years. The elementary school can handle approximately 50-80 additional students before any expansion of facilities becomes necessary.
3. Naselle-Grays River Valley grade school, junior high and high schools are located in Naselle, Pacific County, Washington. The complex serves all western Wahkiakum County students and Salmon Creek area students in kindergarten through sixth grade. The school is located on approximately 13 acres and has 17 classrooms, an auditorium, cafeteria and gym. The enrollment for the 1981-82 school year (Pacific-Wahkiakum students, grades

7-12) was 232 students. Of this about 45%, or 104, were from Wahkiakum County. Student enrollment is expected to remain stable over the next 3 years. The school can handle approximately 100 additional students before the need arises for the expansion of facilities.

School district boundaries are shown in Figure 11.

### Libraries

Wahkiakum County's public libraries are located in Cathlamet (the County seat) and Skamokawa.

The Skamokawa Community Library is classified as a "voluntary community library". It is funded by local community contributions and donations. No state or county monies are involved. The library is staffed by a certified librarian who volunteers her time. The library's inventory consists of approximately 3,500 books, 4 periodicals, 10 sets of microfilm and 2 microfilm readers.

The library faces a problem common to all volunteer organizations - lack of funding. This, of course, affects the quantity and diversity of materials available for community use.

The Cathlamet City Library (commonly referred to as the Bradley House) is located on Main Street in Cathlamet. Unlike the Skamokawa library, the Cathlamet library is a fully-funded public library, operating with town tax dollars, and all county residents can enjoy its services at no cost. The library is staffed by one part-time librarian who is assisted occasionally by volunteers. The library's inventory consists of approximately 6,000 books, 11 periodicals and one set of Washington State Library Resources Directories (for in-library use only).

The Bradley House is an historic structure (a private residence built in 1907). It is situated above-grade, with concrete steps providing access to the building. As a private home, it was not designed with public use and access in mind. Therefore, its present use as a public library has created a problem for the handicapped of gaining access to the facility. In addition, the building is in constant need of structural

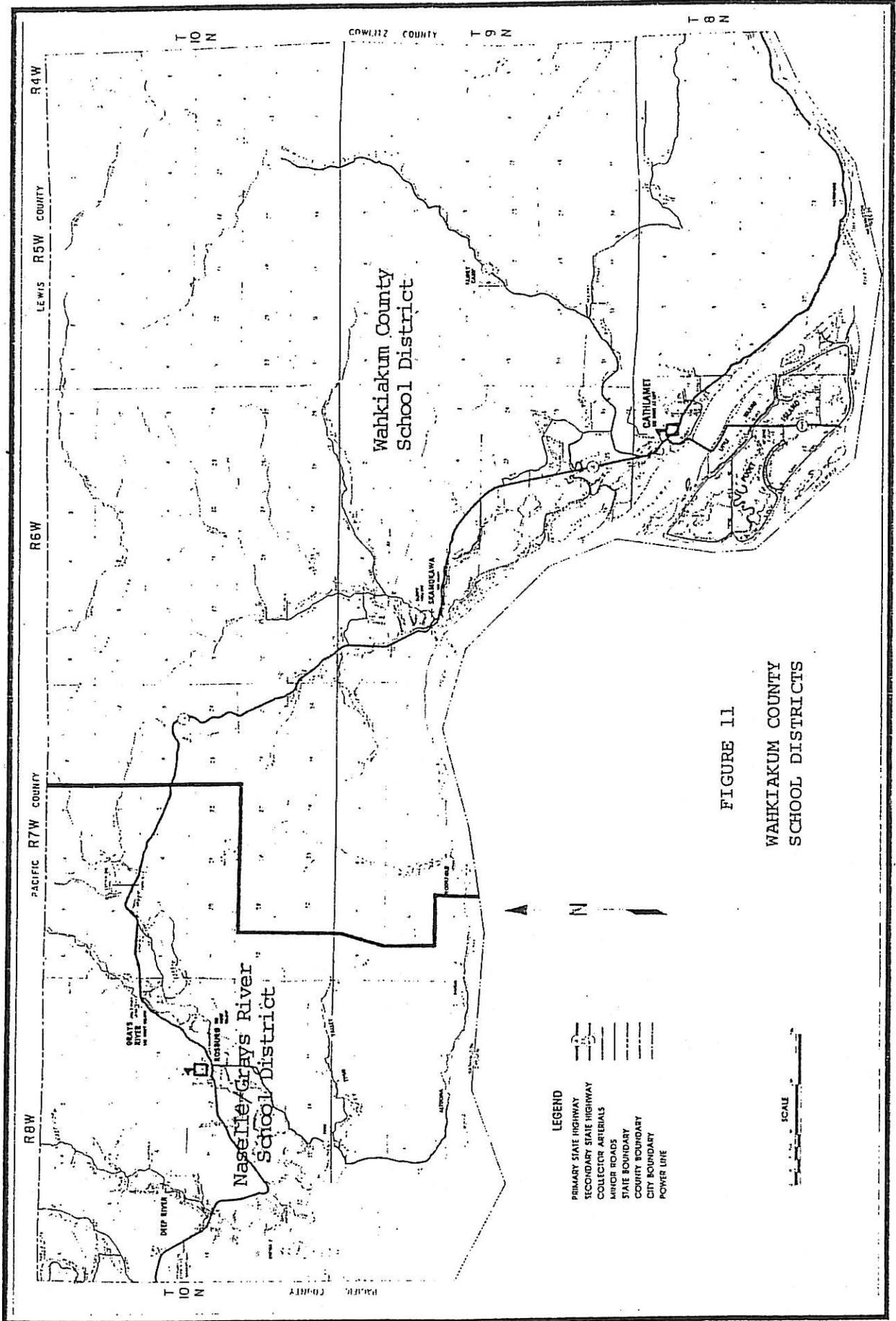


FIGURE 11  
 WAHKIAKUM COUNTY  
 SCHOOL DISTRICTS

repairs, which poses a special problem since such repairs must not detract from its original design. Parking is also somewhat of a problem, as there is not specified library parking in town and library patrons must park on Main Street. However, due to the small population of Cathlamet, this is seldom more than a minor inconvenience.

### County Government

Wahkiakum County is a "Class 8" county (counties with 3,000 to 5,000 population), and operates under Title 36 of the Revised Code of Washington and related administrative codes. The County is governed by an elected, three-man Board of Commissioners. Other County officials include the Prosecuting Attorney, County Clerk, County Assessor, District Court Judge, and the County Sheriff. The Board of County Commissioners has budgetary responsibility for all elected officials. The County Planning Commission (3 Commissioners from each district) is appointed by the Board of County Commissioners.

Various county departments and staff perform a variety of services. Among these are administration and finance, police and ambulance services, engineering, parks and recreation, emergency services, and building inspection.

The county offices are located in the Wahkiakum County Courthouse, Cathlamet, Washington. The County also leases a building on the Elochoman River Road (S.R.407) from the Washington State Department of Natural Resources. This building houses, from time to time, various departments and short range, county-sponsored programs.

### Solid Waste Management

At present Cowlitz-Wahkiakum Governmental Conference staff are working with the Regional Solid Waste Policy Committee updating the Regional Solid Waste Management Plan. Upon completion of the regional plan, the Wahkiakum County portion will be reviewed by the Wahkiakum County Planning Commission.

The goals, objectives, policies and text will then be included in the County Comprehensive Plan.

#### Problems and Needs

Input by the county's citizens at community planning meetings, Planning Commission observations, and discussions with elected officials and directors of various county departments identified problems and needs which, if addressed, could substantially increase county government's effectiveness.

1. There is a lack of identified, coherent policy direction by elected officials, county departments and staff.

2. There appears to be too much government for the required services. The County seems unable to operate in an efficient manner in response to the needs of its residents.

3. There is a need for the establishment of greater quality control and higher standards in public facility and service work.

#### Possible Solutions

The Board of County Commissioners should institute a management-by-objective system in the County, giving each department a clear understanding of its function, where it is headed, and how it will achieve its goals. Employees should be constantly aware of their departments' objectives and should be rewarded for helping to achieve departmental goals. All department heads and the Commissioners should meet twice a year to review past activities and develop new objectives.

## Chapter X

### PARK AND RECREATION FACILITIES

Wahkiakum County, in cooperation with other local special purpose governments, the Washington State Department for Outdoor Recreation (IAC) and the Department of Game, has been active over the last ten years in its park and campground acquisition and development program, improving the quality of community life for its citizens. As listed in Table 38, the County has a variety of park facilities which provide for a diverse array of recreational activities. There are two significant regional parks, one located at the Cowlitz-Wahkiakum County line and the other at Skamokawa. The county also offers a variety of off-road trails, ranging from multipurpose to four-wheel drive. In addition, the County also offers white-water rafting down the Grays River and canoeing through the backwaters of the many Columbia River island sloughs. Wahkiakum County is also a haven for sportsmen with abundant elk, deer and bear to hunt and the various species of fish to catch, ranging from sea-run cutthroat to steelhead trout, Chinook salmon, sturgeon and crappie. For the nature observer and birdwatcher, this area is the home of the American bald eagle, a band-tailed pigeon rookery, and wildlife refuge for the Columbian white-tailed deer, a rare and endangered species. The refuge is located between Cathlamet and Skamokawa, offers over 5,000 acres for animal and bird watching.

Wahkiakum County is rich in history, and has recently completed the Historical Structures Inventory, Wahkiakum County, 1981. For the more passive recreationist, visiting these sites offers many hours of pleasure.

Wahkiakum County will complete, in 1982, its portion of the Regional Park and Recreation Plan for Cowlitz-Wahkiakum Counties. The Cowlitz County section is being written at the present time. The regional plan, upon completion, will present a coordinated recreational development program for the next six years (1982-88). The document outlines the recreational goals,

TABLE 38

WAHIAKUM COUNTY PARK FACILITIES

NAME	LOCATION	SIZE	FACILITIES	ACTIVITIES	EXPANSION OPPORTUNITIES AND IMPROVEMENTS
Wahkiakum Fairgrounds & Day Use Park	Skamokawa	8-acre Fairgrounds & 7-acre Day Use Park	Restrooms, animal & poultry barns, & various display buildings. Day use park area has picnic tables & fire pits.	Animal viewing & judging, picnicking, & various other fair-related activities	There is room for developing a canoe trail system in parts of Skamokawa Creek & Horseshoe Slough, and joining this site with Skamokawa Park via foot-bridge construction across Skamokawa Creek and crosswalk at grade on SR4.
County Line Park	Columbia River at Cowlitz-Wahkiakum County Line	6 acres	Restrooms, picnic tables, fire pits, & fishing area for handicapped.	Picnicking, fishing & beachcombing	There is a need for park expansion at the western end to accommodate user overflow demands during peak day usage.
Skamokawa Park	Skamokawa	28 acres	Overnight tent & trailer campsites, boat launch, tennis courts, baseball diamond, hiking trails, picnic tables, fire pits, & restrooms.	Overnight camping, fishing, hiking, ball playing and picnicking	Connection with fairgrounds via footbridge & crosswalk at SR4. There is room for a multipurpose structure attached to the community library adjacent to the park site.
Grays River Covered Bridge	Grays River		Historical Monument	Picture taking	A local picnic ground could be developed at this location for convenience of visitors.

(Continued.....)

TABLE 38 (Continued...)

WAHIAKUM COUNTY PARK FACILITIES

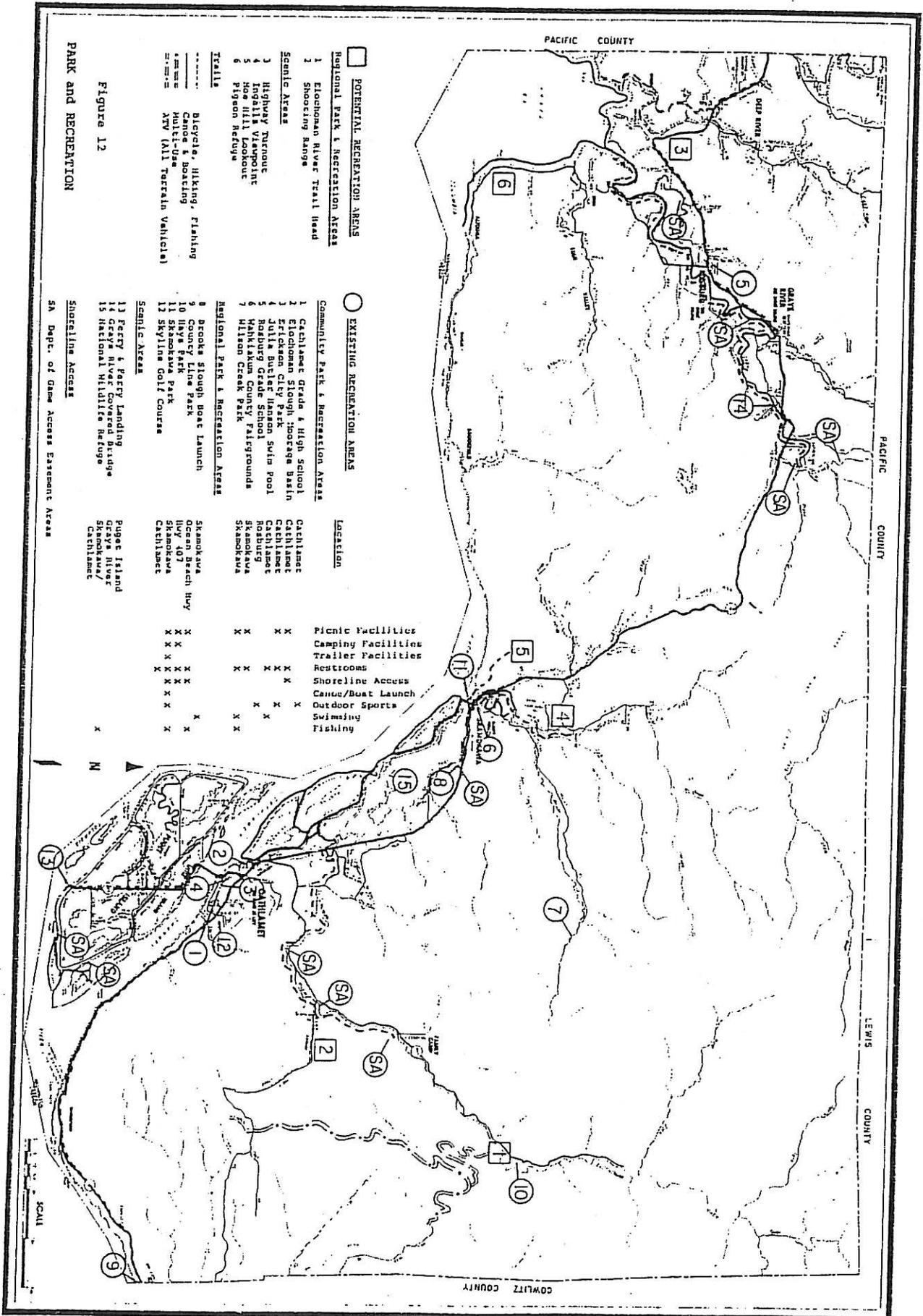
NAME	LOCATION	SIZE	FACILITIES	ACTIVITIES	EXPANSION OPPORTUNITIES AND IMPROVEMENTS
Brooks Slough Boat Launch	Skamokawa	2.5 acres	Boat launch	Boat launching	
Columbia White-tailed Deer National Wildlife Refuge	Along SR4 between Skamokawa & Cathlamet	5,231 acres	No developed facilities	Wildlife observation, hiking, bike riding & canoeing	Construction of wildlife observation platforms and interpretation centers.
Wilson Creek Park	Skamokawa	20 acres	Restrooms, picnic tables & fire pits	Fishing & picnicking	Placement of additional picnic tables, fire pits, nature trails, & fish access points to creek area.
Elochoman Slough Moorage Basin	Cathlamet		Restrooms, boat launch, picnicking parking, moorage - long & short-term. Auto & marine parts store & repair shop.	Boat launching & moorage, picnicking, marine & auto repair & parts purchases.	Construction of additional moorage slips, dock length expansion, launch ramp improvement, restroom/shower facilities installed, picnic area expansion, sewer system revamping & upgrading, extension of electrical services on existing docks & overall basin landscaping.

(Continued...)

TABLE 38 (Continued...)

WAHKIAKUM COUNTY PARK FACILITIES

NAME	LOCATION	SIZE	FACILITIES	ACTIVITIES	EXPANSION OPPORTUNITIES AND IMPROVEMENTS
Erickson City Park	Cathlamet	10 acres	Restrooms, multi-purpose shelter, tennis courts, basketball & multi-purpose courts, horseshoe pits, children's play-ground equipment, nature paths, drinking fountains, picnic tables and fire pits.	Ball playing, picnicking, leisure activities	Construction of a handball court, extending footpaths, & placement of 12 new picnic tables & benches.
Julia Butler Hansen Swimming Pool	Cathlamet	0.5 acres	Changing rooms & showers; diving boards	Swimming & water sports	Placement of solar heating unit, pool cover and enclosure of pool for future year-round use.



objectives, policies, action plans and six-year capital improvement programs for Wahkiakum County, the Town of Cathlamet, and all special purpose governments.

The major concerns identified during review and updating of the aforementioned plan were the need for an adequate bicycle path along the upland edge of Ocean Beach Highway and the development of a sports fishing trail system along the lower and middle reaches of Skamokawa Creek, the Elochoman and Grays Rivers. These issues were reviewed and supported by the Wahkiakum County Planning Commission and are reflected in Part I under Parks and Recreation. Future major developments should be reviewed for their impacts on parks and recreational activities. Existing and proposed parks and recreational areas in the county are illustrated in Figure 12.

## Chapter XI

### EFFECT, IMPLEMENTATION AND REVISION

#### A. Effect of the Plan

The Wahkiakum County Comprehensive Plan is a framework for guiding growth, development, and public decision-making in the County. It is the central statement of public policy of the County. Rather than a physical "grand design," the Plan is a framework for responsible action by the County. It does not seek to stifle growth or development, but sets guidelines for it to occur in a responsible manner, contributing to the livability of Wahkiakum County. A secondary function of the Plan is as a reference source for persons desiring information about the County.

Basic understanding of Washington state law concerning county planning is necessary to know the effect of the Comprehensive Plan and how it is to be implemented. Chapter 36.70 of the Revised Code of Washington (RCW) is the basic enabling act for planning and zoning in counties. Chapter 36.70 directs the planning agency "to prepare a comprehensive plan for the orderly physical development of the county. It goes on to provide what components shall and may be included in the plan. Under the RCW, the effects of the plan are that:

- o It "shall serve as a basic source of reference for future legislative and administrative action";

- o It "shall serve as the basic source of reference and as a guide in reporting upon or recommending any proposed project, public or private, as to its purpose, location, form, alignment and timing."

- o It may be implemented or given effect by ordinances and actions deemed necessary or appropriate by the legislative body, including zoning ordinances, subdivision ordinances, capital improvements programming, and other means.

Consistent with the RCW, the Washington Supreme Court has ruled that the comprehensive plan, including maps, is a "guide"

or "blueprint" for land use and development, adoption of official legal controls, and decision-making. It is not itself an official legal control, and thus does not itself limit any landowner's use of property. Zoning ordinances and subdivision ordinances are the main official legal controls for land use having the force of law. While the land use map of the comprehensive plan envisions and guides land use patterns over the long range, the zoning map prescribes how and what land uses may develop legally at a given time.

At the same time, however, the Washington Supreme Court has ruled that zone changes must be in general or substantial conformance with the comprehensive plan (Cathcart v. Snohomish County, 96 Wn.2d 201, 981; Barrie v. Kitsap County, 93 Wn.2d 843, 1980). Also, the "arbitrary and capricious" test applies to zone change and subdivision decisions, and thus such decisions by law must be based on findings of fact and supportable conclusions. The comprehensive plan is the major source for such findings and conclusions. But it is primarily by giving direction to what should be included in the zoning and subdivision ordinances and other official controls that the land use element of the comprehensive plan is implemented.

#### B. Implementation Measures

Development and adoption of the Comprehensive Plan is only the first part of a continuing planning process. Effort to achieve the Plan's specific Objectives and to apply its Goals, Policies, maps, and text to circumstances that arise and to ongoing decision-making are also part of the planning process. The planning process initiated in 1979, then, moves from development and adoption of the framework to implementation and use of that framework.

Implementation measures have been introduced in the above discussion concerning effect of the plan. In addition to the

formal regulatory measures such as the zoning and subdivision ordinances, a number are informal. Almost always they involve cooperative effort -- of County staff, other local staff, the Board of County Commissioners, other local elected officials, the Planning Commission, other appointed boards and commissions, state and federal officials, business enterprises, and private citizens. These means are the following.

#### Consultation and Commitment

Implementation of the Plan depends greatly upon understanding of it by the Plan's primary users -- the County staff, Planning Commission, Board of County Commissioners, development interests, and citizens. The Planning Commission and staff who were directly involved in the Plan's development have greatest understanding of its contents and of the process and principles used. The County Commissioners, through workshops with the Planning Commission and hearings on the Plan, and development interests and citizens who participated in the public involvement phases will also have good understanding. It then becomes important that those with greatest involvement communicate their understanding on an ongoing basis to development interests, citizens, officials with other agencies, and others who were not or are not greatly involved. Especially important will be consultation and explanation between the staff, Planning Commission, County Commissioners, and developers or enterprises that approach the County with development proposals or requests for information.

A related factor in implementation is commitment to the Plan, particularly on the part of the staff, County Commissioners, and Planning Commission. Commitment rests on familiarity with the Plan; development of a habit of turning to it for guidance; and desire to maintain it as the central statement of public policy, with amendment as necessary to maintain it as such.

### Intergovernmental Cooperation

Closely related to consultation and communication as an implementing measure is intergovernmental cooperation. Some of the Plan's Goals, Objectives, Policies, and maps indications can be achieved only through cooperative effort between the County and other jurisdictions and agencies -- local, state, and federal. Joint planning and capital improvements programming among neighboring and overlapping jurisdictions make sense from the perspectives of cost management; avoidance of duplication, counterproductive activity, and confusion in various development standards; sharing of expertise and experience; and resolution of common problems or issues that transcend jurisdictional boundaries. In some cases, too, coordinated planning and improvements programming among jurisdictions is required by state and federal agencies.

### Regulatory Controls

1. Zoning ordinance: The zoning ordinance is a primary legal tool in implementing a comprehensive plan. The zoning ordinance normally consists of a text and a zoning district map. The map divides the jurisdiction into districts, or zones, earmarked for several different broad categories of land use. The text basically lists the uses allowed in each zone and sets out uniform standards for development of the uses. The standards govern such matters as lot size, lot depth and width, lot width at the building line, building height, building setbacks from property lines, parking, landscaping, and signs.

2. Subdivision and PUD ordinances: Subdivision ordinances prescribe standards for the division of land into lots or parcels, such standards governing street width, right-of-way width, block size, utility placement, improvements to be provided by the developer, and other matters. The standards are aimed at maintaining a high standard of land development. A related type of ordinance is the planned unit development ordinance, similar to the subdivision ordinance but which allows more flexibility and sensitive, innovative developments.

The subdivision ordinance is a very important tool in carrying out the Land Development and Subdivision, Land Use, Transportation/Circulation, Parks and Recreation, and Public Facilities and Services elements of the Plan. Updating of the County's subdivision regulations should be undertaken in the near future. Related controls that may be programmed for updating involve mobile home park development.

3. Building-related codes: Building-related codes have an important role to play in implementing the Energy goals section of the Plan, some role in providing for safe and sanitary housing per the Housing Opportunity goals section, and some role concerning the Public Facilities and Land Development goals sections. Building-related codes and documents which could be used by the County include the Uniform Building Code, Uniform Fire Code, and Plumbing Code.

#### Use in Review of Development Proposals

As briefly pointed out under Effect of the Plan and Regulatory Controls, use of the Plan in the review of development proposals is an essential means of implementation. The Plan Maps, Goals, Objectives, Policies, and Background Information provide direct guidance to the Planning Commission and County Commissioners in review of shoreline permit applications, subdivision preliminary plats, and sewer and water service requests, and other matters. Reference to the Plan is important in meeting legal requirements for findings of fact and reasons supporting decisions of a quasi-judicial nature.

#### Capital Improvements Programming and Financing

A capital improvements program is one of the major implementation measures. A capital improvements program provides a direct link between the comprehensive planning effort and the operational budget. It is the means by which Objectives in the Plan for specific construction or improvement projects, as well as projects identified as needed through other means, are systematically worked into the County budget.

By way of definition, capital improvements programming is the scheduling of selected physical works and facilities over a certain period, usually six years, with annual updates during the budget development period. The improvements and facilities scheduled are based on a series of priorities established according to need and the community's present and expected financial position. The capital improvements program is reviewed annually and a year is added. Completed projects are deleted, existing ones are moved up a year, and new ones are added for the sixth year in the future.

There are seven basic tasks in capital improvements programming. The tasks are normally conducted by a committee, meeting annually, comprised of the county commissioners; engineering staff; planning staff; other county staff; and representatives of the planning commission. The seven basic tasks are:

1. Establish capital improvement goals. These are overall desired results, such as development of a county courthouse annex building. The Comprehensive Plan and other studies and plans are good sources of goals.

2. List potential projects. Many planned and potential projects are called for in this plan.

3. Assess the County's financial capabilities. An analysis of the next and six-year revenues and fixed expenses is needed. Availability or possibility of grants, general obligation bonds, revenue bonds, joint financing with other jurisdictions, lease arrangements, and other funding sources are considered for each potential project. The short and long-range impacts of the projects on the County budget are considered.

4. Rank the projects. A great many criteria or guidelines can be used to rank the projects. Some potential ones are: cost; protection-of-life qualities; maintenance of public health; protection of property; conservation of resources; maintenance of facilities in operable condition; obsolescence of existing facilities; economic value; promotional value; recreational value; social, cultural, aesthetic values; and public convenience and comfort. A standard form can be used by each

committee member to assign points to each project based on the criteria.

5. Develop an implementation schedule. The priority rankings determined by the committee need not be strictly adhered to. The financial assessment may indicate lack of resources to finance favored projects. Projects of lower ranking that can be funded can be moved ahead of higher ranking projects for which funding is unavailable. Grant and loan applications, special levies, bond issues, local improvement districts, or other means can be prepared for the higher ranking projects in the meantime. Design work and special studies also can be done in the meantime.

6. Construction or installation of the scheduled projects.

7. Review. Annual review provides opportunity to evaluate work to date, modify goals, add new projects, and reassess financial capabilities. Results of the review then can be worked into the budget.

Regular capital improvements programming and financing is a means by which public improvement provisions of a county's comprehensive plan can be realized in a long-range program. But there are other significant reasons to practice it. Capital improvements programming and financing:

1. Is a means of anticipating and scheduling major expenditures so that a county can maintain a stable financial standing.

2. Is a means of scheduling improvements to make the best and most economical use of personnel and equipment.

3. Establishes a basis on which the County can request federal and state assistance and obtain maximum matching funds.

4. Provides for resolution of competing priorities among departments.

5. Allows for coordination of projects with state and federal agencies and other public entities in the County, including port districts, school districts, and other special purpose districts. Such regular coordination is a necessary part of efficient county management.

6. Assures both public officials and citizens that future county improvements are planned on the basis of need and taxpayers' ability to pay.

7. Provides protection to the County from special interest projects of limited benefit.

8. Provides the private sector with an indication of the timing of public improvements that may be available to a development site. Business investment can then be encouraged.

9. Enables the County to acquire land in advance of work, consequently at lower cost. (An example is the solid waste landfill sites.)

### Inducements

Certain inducements exist or may be set in motion that are a means of carrying out the Plan through the private sector. Such inducements offer or may offer favorable financial arrangements for private development contributing to the public good. Low interest loans, tax credits, direct subsidies, grants to individuals, aids in land acquisition, and grants requiring a private contribution are all forms of inducement by local, state, or federal government to the private sector. A few examples of inducements that could serve to implement the Comprehensive Plan are:

1. Federal tax credits and grants for historic structure rehabilitation.

2. Low interest loans to small business, as from the Small Business Administration.

3. Development loans and site acquisition assistance to business and industry, as may be possible through an economic development council.

4. Assistance to industrial development through industrial revenue bonds authorized by the state.

5. Tax credits, grants, and loans for energy conservation and renewable energy resource application.

6. Various forms of subsidy for housing rehabilitation, rental assistance, and homeownership.

7. Programs that can be used for small town renewal, such as community redevelopment (tax increment) financing.

### Citizen Involvement

The Planning Commission and staff found that citizens welcomed the opportunity to be involved in the problem and issue identification phase of the Plan's development, to provide direction to the county government, and to be heard. Implementation of several Objectives and Policies, as well as operation of county business generally, depends upon continuing support and involvement of citizens. Once adopted, the Plan should be kept before the public, and citizen involvement in carrying out Goals, Objectives and Policies and in measuring progress encouraged.

### C. Review and Revision

The Comprehensive Plan is intended to be a working document. If it is to remain a framework for guiding growth, development, and public decision-making, and if it is to be maintained as the central statement of public policy, revisions periodically will be needed. Revisions to the Plan Maps, Goals, Objectives, or Policies all may be expected. Growth, development, and changing conditions and community attitudes will need to be addressed, resolved, and then reflected in the Plan over time. Need for changes can be anticipated because even during the 3-1/2 years of the Plan's development, there were ongoing changes in conditions that had to be addressed. As indicated under Implementation Measures, development of the Plan is only the first part of a continuing planning process.

At the same time, changes to the Plan, especially those in response to individual land development proposals, should be made only if supported by factual rationale. This is critical for maintaining the public's confidence in the Plan and the credibility of decision-making by the Planning Commission and County Commissioners. Effects on the County's resources and

ability to meet future service demands should be constantly considered.

Plan review and possible changes will and should occur in the following ways:

1. In response to particular development proposals that are inconsistent with the Plan's Land Use Plan Map classifications, Goals, Objectives, or Policies.

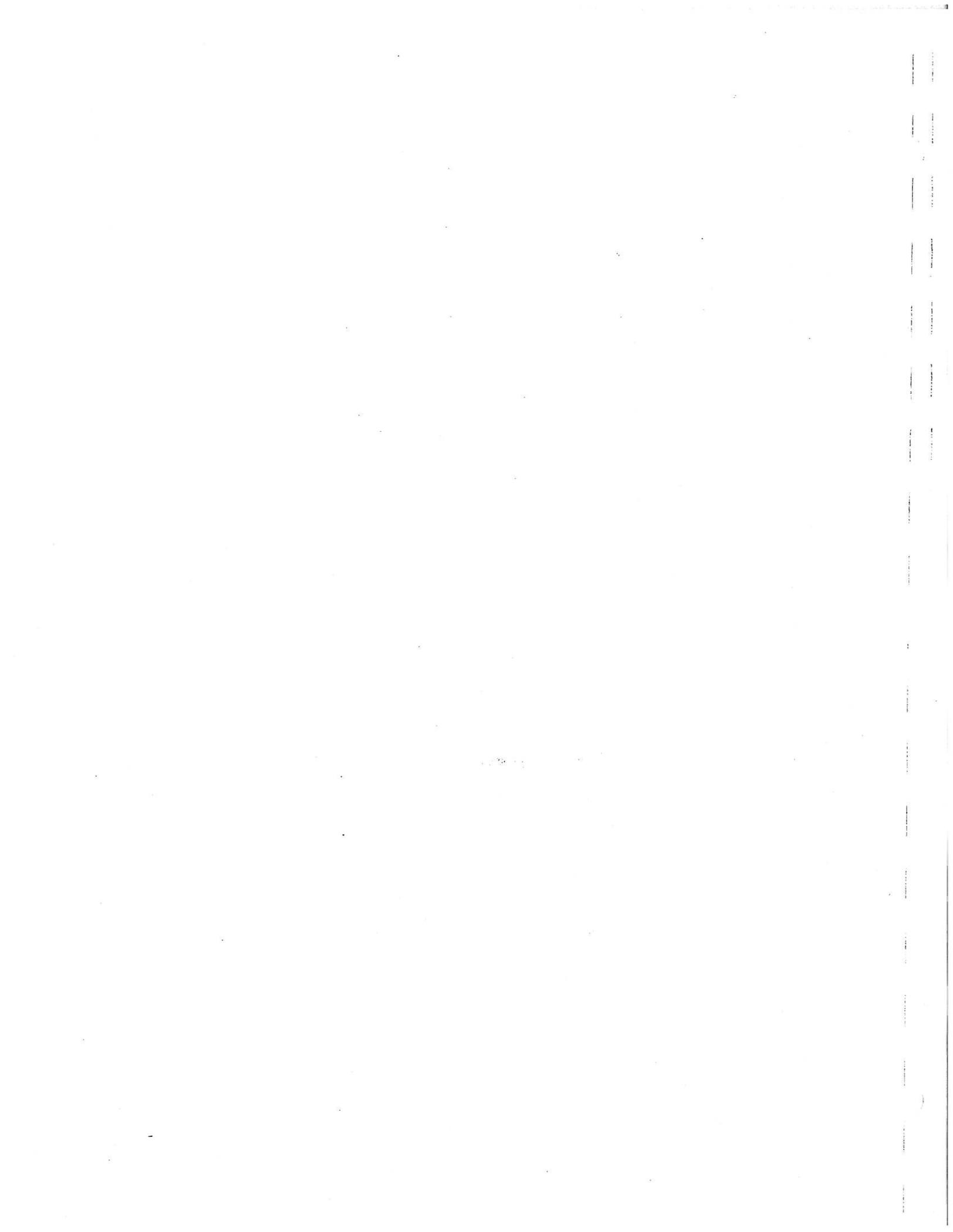
2. In response to a belief, supported by factual rationale, on the part of the Planning Commission, County Commissioners, or County staff that an amendment is warranted. The Commission shall hold a public hearing on proposed amendments and make a recommendation to the County Commissioners. New or changed priorities established through capital improvements programming or significant changes in social and economic conditions are examples of matters that officials may want to incorporate in the Plan by amendment.

3. In response to development or change of major regional, state, or federal plans, programs, or studies. Two such regional programs anticipated to be adopted are the Regional Parks and Recreation Plan and the Regional Solid Waste Plan. Regional, state, and federal transportation plans, programs, and studies; a regional energy plan; and federal housing, community development, and economic development programs are other plans that may initiate changes to the Comprehensive Plan.

It is anticipated that in five or so years changing conditions will warrant some revision of the Plan. Regardless of whether major updating is needed, the Planning Commission at some point around this time should evaluate newer data and information on the subjects addressed by the Plan and determine need for revision. Removal of fulfilled Objectives and addition of new ones may be appropriate. Incorporation at this time of new or changed regional, state, or federal plans and programs may be appropriate. Participation of the public in the review will be desirable to discern changes in County attitudes.

Otherwise, the Plan's basic framework, as amended and revised, is anticipated to be serviceable for five to ten years from adoption.

APPENDICES



APPENDIX A  
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## APPENDIX B

### I. PLANNING COMMISSION ORDINANCE AND PLAN DEVELOPMENT PROCESS

The development of the Wahkiakum County Comprehensive Plan began officially in 1977 with action by the Board of County Commissioners. The Board called for and adopted Ordinance No. 94 creating the Wahkiakum County Planning Commission, establishing its powers and duties, and providing for preparation of a county comprehensive plan and official regulations.

Those portions of Ordinance 94 which specifically address the comprehensive plan are Sections 13 through 22, as follows:

#### "Section 13. Comprehensive Plan

"The Wahkiakum County Planning Commission shall prepare a comprehensive plan for the orderly physical development of Wahkiakum County and may include any land outside its boundaries which, in the judgment of the Commission, relates to planning for the county. The plan shall be referred to as the comprehensive plan and, after hearings by the commission and approval by motion of the Board of Wahkiakum County Commissioners, shall be certified as the comprehensive plan. Amendments or additions to the comprehensive plan shall be similarly processed and certified. The comprehensive plan shall consist of a map or maps, and descriptive text covering objectives, principles and standards used to develop it, and shall include each of the following elements:

"(1) A land use element which designates the proposed general distribution and general location and extent of the uses of land for agriculture, housing, commerce, industry, recreation, education, public buildings and lands, and other categories of public and private use of land, including a statement of standards of population density and building intensity recommended for the various areas in the jurisdiction and estimates of future population growth in the area covered by the comprehensive plan, all correlated with the land use element of the comprehensive plan;

"(2) A circulation element consisting of the general location, alignment and extent of major thoroughfares, major transportation routes, trunk utility lines, and major terminal facilities, all of which shall be correlated with the land use element of the comprehensive plan.

"Section 14. Amplification of Comprehensive Plan

"When the comprehensive plan containing the mandatory subjects as set forth in Section 13 of this ordinance shall have been approved by motion by the Board of Wahkiakum County Commissioners and certified, it may thereafter be progressively amplified and augmented in scope by expanding and increasing the general provisions and proposals for all or any one of the required elements set forth in Section 13 of this Ordinance and by adding provisions and proposals for the optional elements set forth in RCW 36.70.350 and by refining said comprehensive plan in accordance with the provisions of RCW 36.70.340.

"Section 15. Comprehensive Plan--Filing of Copies.

"Whenever the planning commission has developed a comprehensive plan, or any addition or amendment thereto, covering any land outside of the boundaries of the county as provided in Section 13 of this Ordinance, copies of any features of the comprehensive plan extending into an adjoining jurisdiction shall for purposes of information be filed with such adjoining jurisdiction.

"Section 16. Comprehensive Plan--Public Hearing Required.

"Before approving all or any part of the comprehensive plan or any amendment, extension or addition thereto, the commission shall hold at least one public hearing and may hold additional hearings at the discretion of the commission.

"Section 17. Comprehensive Plan--Notice of Hearing.

"Notice of the time, place and purpose of any public hearing shall be given by one publication in a newspaper of general circulation in Wahkiakum County, at least ten days before the hearing.

"Section 18. Comprehensive Plan-Approval.

"The approval of the comprehensive plan, or of any amendment, extension or addition thereto, shall be by the affirmative vote of not less than a majority of the total members of the commission. Such approval shall be by a recorded motion which shall incorporate the findings of fact of the commission and the reasons for its action and the motion shall refer expressly to the maps, descriptive, and other matters intended by the commission to constitute the plan or amendment, addition or extension thereto. The indication of approval by the

commission shall be recorded on the map and descriptive matter by the signatures of the chairman and the secretary of the commission and of such others as the commission in its rules may designate.

"Section 19. Comprehensive Plan--Amendment.

"When changed conditions or further studies by the planning commission indicate a need, the commission may amend, extend or add to all or part of the comprehensive plan in the manner provided in this Ordinance for approval in the first instance.

"Section 20. Comprehensive Plan--Referral to Board.

"A copy of the comprehensive plan or any part, amendment, extension of or addition thereto, together with the motion of the planning commission approving the same, shall be transmitted to the Board of Wahkiakum County Commissioners for the purpose of being approved by motion and certified as provided in Chapter 36.70 of the Revised Code of Washington.

"Section 21. Relating Project to Comprehensive Plan.

"After the Board has approved by motion and certified all or parts of the comprehensive plan for the county or any part of the county, the planning commission shall use such plan as the basic source of reference and as a guide in reporting upon or recommending any proposed project, public or private, as to its purpose, location, form, alignment and timing. The report of the planning commission on any project shall indicate wherein the proposed project does or does not conform to the purpose of the comprehensive plan and may include proposals which, if effected, would make the project conform. If the planning commission finds that a proposed project reveals the justification or necessity for amending the comprehensive plan or any part of it, it may institute proceedings to accomplish such amendment, and in its report to the Board on the project shall note that appropriate amendments to the comprehensive plan, or part thereof, are being initiated.

"Section 22. Annual Report.

"After all or part of the comprehensive plan of Wahkiakum County has been approved by motion and certified, the planning commission shall render an annual report to the Board on the status of the plan and accomplishments thereunder."

NOTE: From 1977 to 1979 the Planning Commission worked on the Wahkiakum County Shorelines Management Master Program.

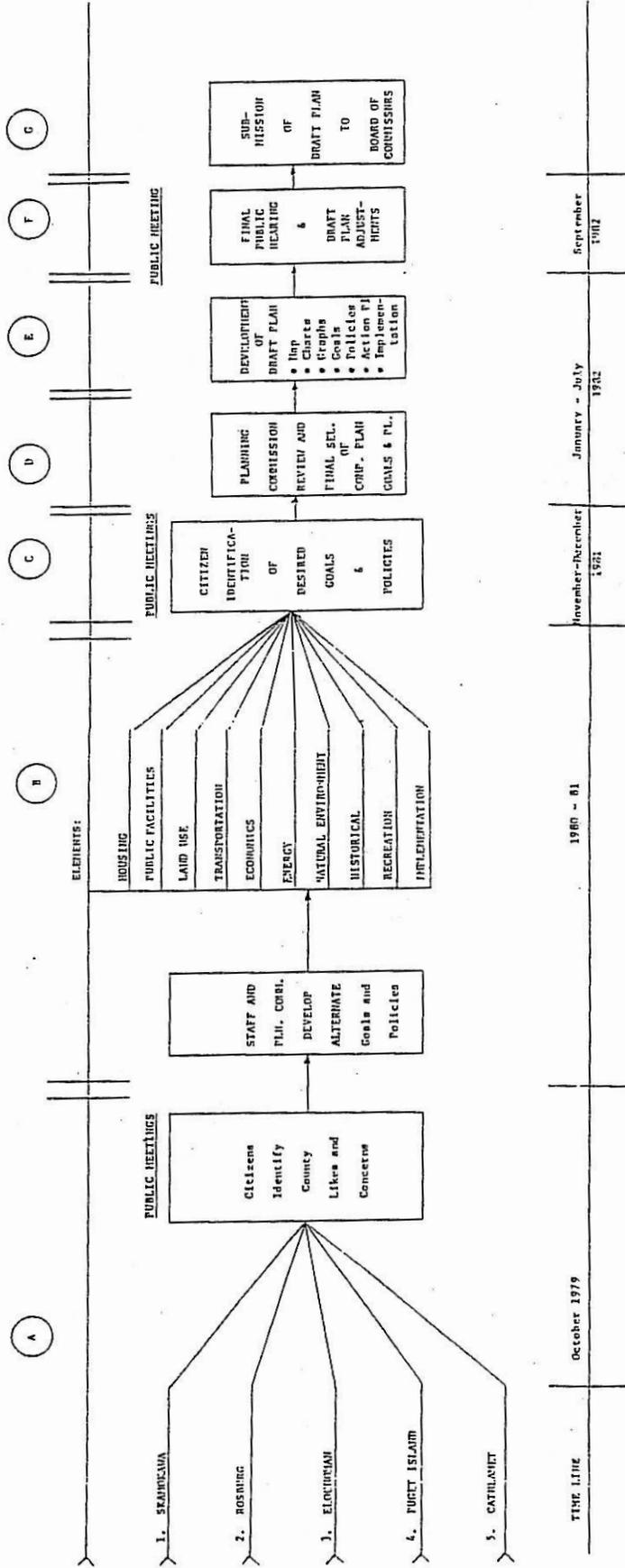
Development of the comprehensive plan began in earnest in 1979 with the planning commission adopting the following Comprehensive Plan Procedural Flow Chart which outlines the major steps to be followed during the development of the plan.

As illustrated in the flow chart, the comprehensive plan development process involves seven separate steps, each one with its own particular complexities. Step A includes five separate community meetings throughout the county. These meetings were held for the purpose of obtaining an understanding of what people in that community liked and did not like about living in Wahkiakum County. The results of the meetings became the basis for Step B, developing alternate goals and policies for each of the elements identified in the flow chart.

Step C involved holding a public information meeting in each of the five communities visited in 1979. At these public meetings citizens were invited to comment on the draft Goals, Objectives and Policies of the plan. This step took two months and, at its completion, the planning commission returned to workshop sessions (Step D) to review the comments and make adjustments to the proposed goals, objectives and policies. During this step, the policy element was correlated with the supportive element (Step E) and a total draft plan (with supporting maps, charts, etc.) was assembled and a final public hearing date was set (Step F). The comments from the public hearing were attached to the draft plan and forwarded, with suggested plan modifications, to the Board of County Commissioners for further review and hearings.

A detailed discussion of Step A (Community Participation Process) explaining how the meetings were conducted is presented below.

# Comprehensive Plan Development Process



Instruction Sheet:

COMMUNITY PARTICIPATION PROCESS

<u>Phases</u>	<u>Steps</u>
A. <u>What makes Wahkiakum Co. a good place to live?</u> <u>Recording the statements</u>	1. Divide into small groups with a leader (Planning Commissioner) and recorder (Select a person) for each group. 2. Each person writes down brief statements regarding what he or she likes about living in Wahkiakum Co. and does not want changed. 3. Leader asks each person to read one of his/her statements in turn. These are written down on butcher paper complete with no changes. Set this butcher paper aside.
B. <u>Writing the Issues</u>  <u>Recording the Issues</u>	4. Each person writes down what they think are the area's most important issues, problems, questions, ideas, concerns, etc. (These will be referred to as "issues" in these instructions). 5. Leader asks each person in turn to read one of his/her issues. These are written on butcher paper (by the recorder), complete, with no changes. There is no discussion on these issues yet. Continue in this fashion until all issues are on the butcher paper. Do not "number" the issues.
<u>Clarification</u>	6. Clarification of the issues: Go down the list of issues, one by one; the leader asks if everyone knows what is meant. Let the person whose issue it is explain it. This is a time for <u>limited</u> discussion. An issue can be changed or re-worded <u>only</u> if the author agrees to the change. Similar issues can be combined <u>only</u> if both authors agree; otherwise keep each one separate.

C. Voting on  
the issues

7. When final list is complete, letter the issues A-Z.
8. Pass out five note cards to each person. Ask each person to look at all the issues, then put the top five most important issues on the cards, one per card. Please write the letter and complete statement of issue.
9. Ranking the choices: Leader advises the group as follows:
  - A. Among these five, which one can you do without--that is, which matters the least? Write number one (1) on it. Turn it over, face down.
  - B. Among the four remaining issues, select the most important. Write number five (5) on it. Turn it over.
  - C. Of the remaining three issues which is least important? Write number (2) on it. Turn it over.
  - D. Of the remaining two issues, which is more important? Write a four (4) on it. Turn it over.
  - E. Write number three (3) on remaining card and turn it over.

Tallying the  
Results

10. Tally the results and write the numerical scores next to the issues on the butcher paper. Circle the letters of the top five "vote-getters". (Leader might want another group member to assist in tallying the votes).
11. Write top 5 on separate sheet of butcher paper.
12. After the break, all groups get together and read their top five issues for total group.

### III. RESULTS OF CITIZEN PARTICIPATION ISSUES BY CATEGORY

After each meeting staff compiled the "issues" into nine separate categories and totalled the numbers assigned each category for that community. An example of this process is taken from the December 11, 1979 public meeting held in the Puget Island Grange Hall:

COMMUNITY INVOLVEMENT MEETING  
PUGET ISLAND GRANGE HALL  
DECEMBER 11, 1979

ISSUES BY CATEGORY

	<u>Points</u>		<u>Points</u>
<b>HOUSING/PUBLIC UTILITIES</b>		<b>CODE ENFORCEMENT (Cont'd.)</b>	
Lack of senior citizen housing other than nursing home	2	Too much regulation & dictation	19
Don't want sewer system (P.I.)	11	Permits	5
Limit on septic hookups (acreage limits)	7	Log patrol	9
Resistance of Health Department to non-polluting toilets	1	Dogs running loose	3
Improve phone service	17	Hunting - none on P.I.	3
	<u>38</u>		<u>98</u>
<b>LAND USE</b>		<b>SOCIAL ISSUES</b>	
Land developers causing:		Power of Diking Commissioners, because election is limited to certain group	
(a) disruption of commercial fishing in favor of sports fishing; (b) dairying being declared a nuisance, unnecessary	30	Inadequate school system	5
	<u>30</u>	DNR & other bureaucratic regulations - controlling waterfront, etc.	23
		Property taxes too high & rising too fast	26
		Vandalism	5
		Hot rodding	2
			<u>61</u>
<b>ENVIRONMENTAL</b>		<b>ECONOMICS</b>	
Stagnant water	2	Large industry, i.e. nuclear power plants - unwanted	53
Slough water quality			<u>53</u>
Litter on beach and roadways	1		
River pollution - no public information of pesticide use, industrial waste, radioactivity	5		
	<u>8</u>		
<b>CODE ENFORCEMENT</b>		<b>TRANSPORTATION/CIRCULATION</b>	
Lack of zoning, P.I. should be agriculture;		Public transportation (lack of)	2
Lack of enforcement of County long plat code;		Present road conditions	17
No short plat code - should be passed and enforced	59	Ferry schedule	2
		River beach erosion (excessive ship speed)	19
			<u>40</u>

#### IV. COMPARISON OF COMMUNITIES

After all the meetings, the staff rated the issue categories for each community. The communities were listed showing the differences in their concerns. For example, what the citizens in the Grays River/Rosburg area felt was the No. 1 issue, the citizens in the Skamokawa area placed as No. 6. Each issue's points were then added for all the communities, giving an "Overall Issue Rating" for the county. The "Issue Rating by Community and Overall Rating" are as follows:

##### Issue Rating by Community

<u>Skamokawa Grange</u>		<u>Rosburg Hall</u>	
#1= Housing/P. Util.	(69)	#1= Transportation	(44)
#2= Social Issues	(46)	#2= Social Issues	(42)
#3= Land Use	(29)	#3= Housing/P. Util.	(39)
#4= Economics	(14)	#4= Economics	(27)
#5= Solid Waste	(12)	#5= Environmental	(18)
#6= Transportation	(11)	#6= Land Use	(12)
#7= History & Recreation	( 6)		
#8= Environmental	( 6)		
#9= Code Enforcement	( 2)		

<u>Puget Island Grange</u>		<u>Ellochoman Grange</u>	
#1= Code Enforcement	(98)	#1= Social Issues	(45)
#2= Social Issues	(61)	#2= Housing/P. Util.	(38)
#3= Economics	(53)	#3= Transportation	(14)
#4= Transportation	(40)	#4= Land Use	(13)
#5= Housing/P. Util.	(38)	#5= Economics	( 7)
#6= Land Use	(30)	#6= Environmental	( 5)
#7= Environmental	( 8)	#7= Code Enforcement	( 4)

##### Overall Issue Rating

#1= Social Issues	(194)
#2= Housing/P. Util.	(184)
#3= Transportation	(109)
#4= Code Enforcement	(104)
#5= Economics	(101)
#6= Land Use	( 84)
#7= Environmental	( 37)
#8= Solid Waste	( 12)
#9= History & Recreation	( 6)

V. FIRST DRAFT GOALS, OBJECTIVES AND POLICIES  
PUBLIC INFORMATION MEETINGS - 2ND ROUND

In November and December of 1981, the Wahkiakum County Planning Commission and staff planner conducted a series of public information meetings in each of the aforementioned communities, for the purpose of soliciting comments on the Goals, Objectives and Policies packet of the comprehensive plan.

The Planning Commission returned to workshop sessions and spent approximately seven months reviewing and revising the Goals, Objectives and Policies of the Comprehensive Plan in accordance with public comments. In the Preliminary Draft of the Plan, the Goals, Objectives and Policies removed from the Plan had a dashed line through them. Any new wording was underlined.