

**SHORELINES MANAGEMENT
MASTER PROGRAM**

FOR

COWLITZ COUNTY, WASHINGTON

1977

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INTRODUCTION

SHORELINES MANAGEMENT

The Shoreline Management Act of 1971 is based on the philosophy that the shorelines of the state are among the most valuable and fragile of its natural resources, and that there is great concern throughout the state relating to their utilization, protection, restoration, and preservation. Much of the shorelines of the state are in private ownership and unrestricted construction on the privately owned or publicly owned shorelines of the state is not necessarily in the best public interest. Therefore, coordinated planning is necessary in order to protect the public interest associated with the shorelines of the state, while at the same time recognizing and protecting private property rights consistent with the public interest. The interest of all the people shall be paramount in the management of the shorelines of statewide significance, and the public should have the opportunity to enjoy the physical and aesthetic qualities of natural shorelines of the state.

The purpose of the shoreline management act and this program is to provide for the management of the county's shorelines in furtherance of the act and the goals of the comprehensive plan by fostering all reasonable and appropriate uses. Specifically, this section is directed at the enhancement of shorelines and to the protection against adverse effects to the vegetation and wildlife and waters of the state and their aquatic life. The goals, objectives, and policies in this program apply only to development of shoreline areas as defined in the shoreline management act (see Plate I). The county shorelines program is integrated with the comprehensive plan to the greatest extent possible, in order to avoid duplication of plan coverage and to foster a coordinated planning implementation program.

OVERALL GOALS:

This shoreline management section is developed in concert with the intent of the Shoreline Management Act of 1971, and reflects the aspirations of the citizens of Cowlitz County to:

- 1) Assure healthy, orderly, economic growth in the shorelines of the county.
- 2) Maintain a high quality environment along the shorelines of Cowlitz County.
- 3) Establish criteria for safe, orderly residential growth within the shorelines of Cowlitz County.
- 4) Preserve and protect those fragile and natural resources, and culturally significant features along the shorelines of Cowlitz County.
- 5) Provide safe and reasonable access for the public in the shorelines of Cowlitz County.
- 6) Preserve the rights of private ownership and property uses of the shorelines of Cowlitz County.

The shoreline management act recognizes that certain water bodies are significant on a statewide level. Accordingly, those designated water bodies in Cowlitz County (see Plate I), are considered as deserving of consideration beyond that ascribed to other water bodies.

Since these specified shorelines are major resources from which all people in the state derive benefit, we must:

- 1) Recognize and protect statewide interest over local interest.
- 2) Preserve the natural character of the shoreline.
- 3) Address uses which result in a long-term over short-term benefit.
- 4) Protect the resources and ecology of the shorelines.
- 5) Increase public access to publicly owned areas of the shoreline.
- 6) Increase recreational opportunities for the public on the shorelines.

When considering development along, or any use of, shorelines of statewide significance, special attention will be given to ensure that the state and regional interests are reflected, as well as local needs and desires.

This program shall apply to all development on shoreline of the state whose construction commenced after the adoption of the shoreline management act in November 1972. Only development which is consistent with the goals and policies of the shoreline management act and this program shall be undertaken on the shorelines of the county. All substantial developments within the shorelines of the county require a shorelines management development permit. The shoreline management act exempts certain developments from the permit procedure. However, the goals and policies of this program apply to all development, regardless of whether a permit is required or not.

Areas which must be considered to attain the above goals are defined as: circulation, conservation, economic development, historical/cultural, recreation, residential, public access, and shoreline uses. The following provides a detailed discussion of the above stated areas.

CIRCULATION

GOAL:

WHEN NECESSARY TO DEVELOP FACILITIES FOR ANY OF THE VARIOUS MODES OR TRAVEL ON THE SHORELINES OF COWLITZ COUNTY, THESE FEATURES MUST NOT ENDANGER THE LIFE, PROPERTY, OR RIGHTS OF OTHERS, NOR DEBILITATE THE QUALITY OF LIFE ENJOYED BY THE PUBLIC.

Those proposals of circulation and essential public facilities to be introduced to shorelines should further the following objectives, and be consistent with the following policies:

OBJECTIVES:

- 1) Ensure that the site selected is suitable for the use proposed.
- 2) Introduce development to the areas with a minimal adverse effect upon the natural features, scenic quality, and eco-systems existing in the shorelines.
- 3) The use should fulfill a need which can only be satisfied by such use on the shorelines as opposed to an upland use.
- 4) New development should protect the life, property, and rights of others, and sustain or improve the quality of life existing in the area.
- 5) Cowlitz County pedestrian, bicycle, and ATV trail plans should provide for scenic roads for slow moving traffic, and trails for non-motorized means of travel.
- 6) Upon completion of a regional trails system plan, shoreline circulation routes through designated scenic corridors and routes will be established, accommodating the various methods of travel.

POLICIES:

- a) Whenever feasible, major highways, freeways, and railways should be located away from shorelines except in port and heavy industrial areas, so that shoreline roads may be reserved for slow-moving recreational traffic.
- b) Roads located in wetland areas should be designed and maintained to prevent erosion and to permit a natural movement of ground water.
- c) All debris, overburden, and other waste materials from construction should be disposed of in such a way as to prevent their entry by erosion from drainage, high water, or other means into any water body.
- d) Road locations should be planned to fit the topography so that minimum alterations of natural conditions of the shorelines will be necessary.
- e) Provision should be made for sufficient viewpoints, rest areas, and picnic areas in public shorelines.
- f) During the design and construction of major highways, freeways, roads, and railroads, care should be exercised, whenever the topography of the area allows, to prevent the shoulder of any of the aforementioned elements from obstructing public access and/or use of the paralleling shoreline area.

CONSERVATION

Since the term "conservation" is frequently misused as synonymous with "preservation", the distinction should be understood. Conservation is applicable to those managed, replenishable resources utilized for the general good. Preservation implies a "hands off" attitude which may be necessary to sustain a feature, ecosystem, or heritage which may be lost if attempts at yield management are introduced. Preservation, then, may be a factor of conservation practice. The conservation goal is stated as follows:

GOAL:

TO ENCOURAGE THE BEST MANAGEMENT PRACTICES FOR THE CONTINUED SUSTAINED YIELD OR REPLENISHABLE RESOURCES OF THE SHORELINES AND PRESERVE, PROTECT, AND RESTORE THOSE UNIQUE AND NON-RENEWABLE RESOURCES.

The specific objectives which will implement the above goal are:

OBJECTIVES:

- 1) Preserve the scenic and aesthetic qualities of shorelines and vistas.
- 2) Contribute (as far as the state of the art allows) to a maximum utilization of the resources without harming other natural systems or the quality of life.
- 3) Restore damaged features or ecosystems to a higher quality than may currently exist.
- 4) Preserve unique and non-renewable resources.
- 5) Consider the total upstream and downstream effect of proposed developments to ensure that no degradation will occur to the shoreline area.

The specific policies which will implement the above goals area as follows:

POLICIES:

- 1) **Forest Management Practices** - Forest management practices are those methods used for the protection, production, and harvesting of timber in the shoreline areas.
 - a) Shoreline areas having scenic qualities, such as those providing a diversity of views, unique landscape contrasts, or landscape panoramas should be maintained as scenic views in timber harvesting areas. Timber harvesting practices, including road construction and debris removal, should be closely regulated so that the quality of the view and viewpoints in shoreline areas of the state are not degraded.
 - b) Special attention should be directed in logging and thinning operations to prevent the accumulation of slash and other debris in contiguous waterways.

- c) Seeding, mulching, matting, and re-planting should be accomplished where necessary to provide stability on areas of steep slope which should be of a similar type and concentration as existing in the general vicinity of the logged area.
 - d) Proper road and bridge design, location, and construction and maintenance practices should be used to prevent development of roads and structures which would adversely affect shoreline resources.
 - e) Logging should be avoided on shorelines with slopes of such grade that large sediment run-off will be precipitated, unless adequate restoration and erosion control can be expeditiously accomplished.
 - f) Local governments should ensure that timber harvesting on shorelines of statewide significance does not exceed the limitations established in RCW 90.58.150 except as provided in cases where selective logging is rendered ecologically detrimental or is inadequate for preparation of land for other uses.
 - g) Logging within shoreline areas should be conducted to ensure the maintenance of buffer strips of ground vegetation, brush, alder, and conifers to prevent temperature increase adverse to fish populations, aesthetics, and erosion of stream banks.
 - h) Areas of private ownership which are not allowed to be logged should be inventoried and considered for a reduced tax assessment to encourage landowners to retain their shoreline timber.
- 2) **Wildlife** - Hunting and fishing are major recreational activities for residents of Cowlitz County. Also, a large number of non-residents from other areas of the state and neighboring Oregonians visit the county hunt and fish. The wildlife resource of the county also provides a source of enjoyment for those who desire to observe and photograph wildlife. Since wildlife, which includes the fish in lakes and streams, constitutes a major use of the county's shorelines, consideration should be given to habitat requirements of wildlife in order to maintain and enhance this valuable natural resource.
- a) The impact of proposed development should be considered in areas identified as harboring rare or endangered species.
 - b) Professional expertise should be solicited and seriously regarded in matters of the impact developments and uses might have on spawning beds, rearing areas of fish, and seasonal feed areas of wildlife.
 - c) Seasonal constraints upon uses proposed may be considered as necessary to protect a variety of wildlife resources in the shoreline areas.

ECONOMIC DEVELOPMENT

The philosophy which has guided the development of the comprehensive plan is based upon the need for diversified economy, and with recognition of existing natural impediments to county-wide industrialization and commercial developments. This is particularly true of the shorelines of the state. Our more recent awareness of the fragility of some of these natural features, such as the shorelines, necessitates a specific regard to the potential of economic developments on the shorelines of Cowlitz County.

Therefore, in order to assure a healthy, orderly, economic development on shorelines, the goal is stated as follows:

GOAL:

TO ENCOURAGE THE ESTABLISHMENT AND DEVELOPMENT OF INDUSTRIAL AND COMMERCIAL ACTIVITIES IN COWLITZ COUNTY ON SHORELINES THAT REQUIRE THE LAND-WATER INTERFACE FOR PRODUCTIVE EFFORTS.

Since economic enterprise may manifest itself in many ways, the proposed economic development goal should be attained by adherence to the following objective and policies:

OBJECTIVE:

- 1) Those economic developments proposed on the shorelines must effectively operate without reducing the environmental quality of the surrounding and adjacent shoreline area, or the quality of life of county residents.

POLICIES:

- 1) **General Commercial Development** - Commercial developments are those uses which are involved in wholesale and retail trade or business activities. Commercial developments range from small business within residences, to high-rise office buildings.
 - a) Although many commercial developments benefit by a shoreline location, priority should be given to those commercial developments which are particularly dependent on their location and/or use of the shorelines of the state and other developments that will provide an opportunity for substantial numbers of the people to enjoy the shorelines of the state.
 - b) New commercial developments on shorelines should be encouraged to locate in those areas where current commercial uses exist.
 - c) An assessment should be made of the effect a commercial structure will have on a scenic view significant to a given area or enjoyed by a significant number of people.
 - d) Commercial developments must be aesthetically compatible with the site or so buffered as to lessen the visual impact of such development.
- 2) **Agriculture Practices** - Agriculture practices are those methods used in animal husbandry, vegetation, and soil management, such as tilling of soil, control of weeds, control of plant diseases and insect pests, soil maintenance and fertilization.

- a) Buffer strips of permanent vegetative cover should be maintained between agricultural-use lands and bodies of water to retard erosion, siltation, leaching of animal wastes and dangerous chemicals, and to avoid increasing water temperatures by virtue of removing shade from the shorelines.
 - b) To establish criteria for the location of confined animal feeding operations, retention and storage ponds for feedlot wastes, and stockpiles of manure solids in shorelines of the state so that water areas will not be polluted. Control guidelines prepared by the U. S. Environmental Protection Agency should be followed.
 - c) To encourage the use of erosion control measures.
- 3) **Aquaculture** - Aquaculture (popularly known as fish farming) is the culture of farming of food fish, shellfish, or other aquatic plants and animals.
- a) Aquacultural enterprises should be located in areas where the navigational access of upland owners and commercial traffic is not significantly restricted.
 - b) Recognition should be given to the possible detrimental impact aquacultural development might have on the visual access of upland owners and on the general aesthetic quality of the shoreline area.
 - c) As aquaculture technology expands with increasing knowledge and experience, emphasis should be placed on underwater structures which do not interfere with navigation or impair the aesthetic quality of Washington shorelines.
- 4) **Outdoor Advertising, Signs, and Billboards** - Signs are publicly displayed boards whose purpose is to provide information, direction, or advertising.
- a) Off-premise outdoor advertising signs should be limited to areas of high intensity land use, such as commercial and industrial shoreline areas.
 - b) Vistas and viewpoints should not be degraded and visual access to the water from such vistas should not be impaired by the placement of signs.
 - c) Outdoor advertising signs should be located on the upland side of public transportation routes which parallel and are adjacent to rivers and water bodies (unless it can be demonstrated that views will not be substantially obstructed).
 - d) When feasible, signs should be constructed against existing buildings to minimize visual obstruction of the shoreline and water bodies.
 - e) Signs and billboards shall conform to all state and county regulations.
- 5) **Ports and Water-Related Industry** - Ports are centers for water-borne traffic and as such, have become gravitational points for industrial/manufacturing firms.

- a) Port facilities shall be designed to permit viewing of harbor areas from viewpoints, waterfront restaurants and similar public facilities which would not interfere with port operations or endanger public health and safety.
 - b) Sewage treatment, water reclamation, desalinization and power plants shall be located where they do not interfere with, and are compatible with recreational, residential, or other public uses of the water and shorelands. Waste treatment ponds for water-related industry shall occupy as little shoreline as possible.
 - c) The cooperative use of dock parking, cargo handling, and storage facilities shall be strongly encouraged in waterfront industrial areas.
 - d) Land transportation and utility corridors serving ports and water-related industry in the shoreline area shall follow the guidelines provided under the sections dealing with utilities and road and railroad design and construction. Where feasible, transportation and utility corridors shall be located upland to reduce pressures for the use of waterfront sites.
 - e) Prior to allocating shorelines for port uses, local government shall consider statewide needs and coordinate planning with other jurisdictions to avoid wasteful duplication of port services within port-service regions.
 - f) Since industrial docks and piers are often longer and greater in bulk than recreational or residential piers, careful planning must be undertaken to reduce the adverse impact of such facilities on other water-dependent uses, aesthetics, and shoreline resources. Because heavy industrial activities are associated with industrial piers and docks, the location of these facilities must be considered a major factor in determining the environmental and aesthetic compatibility of such facilities.
 - g) Because a large impact cannot be avoided due to ports and port-related uses, preference will be given to develop and redevelopment of existing port areas.
 - h) Ports and water-related industries are encouraged to locate in urban environments, but in exceptional cases may locate under natural, conservancy, and rural environments, subject to conditional use and specific performance standards. An exception is log storage and rafting which may be permitted in conservancy, rural, urban, and is considered as a conditional use on natural shorelines.
- 6) **Utilities** - Utilities are services which produce and carry electric power, gas, sewage, communication, and oil.
- a) Upon completion of installation/maintenance projects on shorelines, banks should be restored to pre-project configuration, replanted with native species, and provided maintenance care until the newly planted vegetation is established.
 - b) Whenever these facilities must be placed in a shoreline area, the location should be chosen so as not to obstruct or destroy scenic views. Whenever feasible, these facilities should be placed underground, or designed to do minimal damage to the aesthetic qualities of the shoreline area.

- c) To the extent feasible, local government should attempt to incorporate major transmission line rights-of-way on shorelines into their program for public access to, and along, water bodies.
 - d) Utilities should be located to meet the needs of future populations in areas planned to accommodate this growth.
- 7) **Log Storage and Rafting** - Rafting is where logs are brought in from the woods and dumped into water storage areas and made up into rafts for towing to wood processing mills. These areas are commonly referred to as log dumps. Log rafts are individual or bundled logs which are contained by very long logs known as boom sticks. Logs are deposited into the water by several methods including direct vertical dump, sloped slide and cable hoist. Log raft storage areas are those areas where piling has been driven to tie up log rafts for storage prior to shipment and utilization at the mills. In addition to water storage, many mills utilize land storage for logs at mill sites and huge decks of logs are a common site. Log debris, bark, and wood leachates resulting from log handling operations and storage of logs in water and dry land, can adversely affect the environment and water quality.
- a) Log rafting and storage areas should be located so as not to interfere with the small craft navigation and recreational water uses.
 - b) The free-fall, violent dumping of logs into water should be prohibited since this is the major cause and point source of loose bark and other log debris. Easy let-down devices should be employed for placing logs in the water, thereby reducing bark separation and the generation of other wood debris.
 - c) Positive bark and wood debris controls, collection, and disposal methods should be employed at log dumps, raft building areas, and millsite handling zones. This would be required for both floating and sinking particles.
 - d) Log dumps should not be located in rapidly flowing waters or other water zones where positive bark and debris controls cannot be made effective.
 - e) Accumulations of bark and other debris on the land and docks around dump sites should be kept out of the water.
 - f) Whenever possible, logs should not be dumped, stored, or rafted where grounding will occur.
 - g) The inventory of logs in public waters for any purpose should be kept to the lowest possible number for the shortest possible time.
 - h) To reduce accumulation of bark in log storage areas, log rafts should not be stored in public waters for longer than twelve months unless the bark has been peeled from the logs prior to being placed in the water.
 - i) On land storage, where sprinkling systems are used to prevent end checking of logs, drainage systems should be installed to prevent the excess runoff from sprinkled log decks containing leachate which may be detrimental to water quality.

- 8) **Mining** - Mining is the removal of naturally occurring materials from the earth for economic use. The removal of sand and gravel from shoreline areas of Washington usually results in erosion of land and silting of water.
- a) When rock, sand, gravel, and minerals are removed, and geothermal activities are conducted along shoreline areas, adequate protection against sediment and silt production should be provided.
 - b) Excavations for the production of sand, gravel, and minerals should be done in conformance with the Washington State surface mining act, and from the least sensitive biophysical areas.
 - c) Since mining developments may have lasting effect on the visual quality of the shorelines by leaving permanent scars, prudent judgment should be exercised in permitting areas to be developed for this particular use.
 - d) Removal of rock, sand, gravel, and minerals shall be strictly controlled or prohibited where the scenic and aesthetic qualities of the shorelines will be degraded and in areas having historical, geological, cultural, educational, and/or scientific values.

HISTORICAL / CULTURAL

As time passes and the culture, society, and general life style of a people changes, evidence of early life ways become significant to the subsequent residents of the area. In order to protect these cultural resources, the following goal must be realized.

GOAL:

PROTECT, PRESERVE, AND RESTORE THOSE HISTORICAL, CULTURAL, EDUCATIONAL, AND SCIENTIFIC SITES IN THE SHORELINES OF COWLITZ COUNTY FOR THE GENERAL PUBLIC.

The general history of Cowlitz County has a rich Indian past. The county was a route between fur trading centers. There are few sites presently identified; however, it is reasonable to presume that other sites will be considered in the shorelines.

In order that the above goal may be realized, these objectives must be attained.

OBJECTIVES:

1. Such sites should be regarded with the same concern for protection as an endangered or fragile species or ecosystem.

POLICIES:

Archaeological areas, ancient villages, military forts, old settlers homes, ghost towns, and trails were often located on the shorelines because of the proximity of food resources and because water provided an important means of transportation. These sites are non-renewable resources and many are in danger of being lost through present day changes in land use and urbanization.

- 1) Where possible, sites should be permanently preserved for scientific study and public observation. In areas known or suspected to contain archaeological data, local government should attach a special condition to a shoreline permit, providing for a site inspection and evaluation by an archaeologist to ensure that possible archaeological data are properly salvaged. Such a condition might also require approval by local government before work can commence or resume on the project following such an examination.
- 2) Shoreline permits, in general, should contain special provisions which require developers to notify local governments if any possible archaeological data are uncovered during excavations.
- 3) The National Historic Preservation Act of 1966 and Chapter 43.51 RCW provide for the protection, rehabilitation, restoration, and reconstruction of districts, sites, buildings, structures, and objects significant in American and Washington history, architecture, archaeology, or culture. The state legislation names the director of the Washington State Parks and Recreation Commission as the person responsible for this program.
- 4) Development which might destroy an archaeological or historic site may be delayed for six months until the appropriate agency or organization can be given the opportunity to purchase the site or obtain the desired data. Such delays will not be prolonged if little or not interest is shown, or if a group wanting protection tends to cause delay.

RECREATION

The shorelines in Cowlitz County are recognized as an extremely important recreational resource. Once shorelines become occupied with permanent urban development, the number and quality of recreational experiences available to the public often become severely limited.

GOAL:

TO ASSURE THAT RECREATIONAL OPPORTUNITIES, ADEQUATE TO SATISFY THE DIVERSITY OF DEMANDS FROM THE REGION'S POPULATION, ARE PROVIDED.

To assure that the supply of recreational opportunities outlined in this goal is maintained, the following objectives will apply:

OBJECTIVES:

- 1) Those recreational pursuits should be encouraged in a manner such that the balance of the natural system is not adversely affected.
- 2) A variety of recreational uses should be encouraged in order to meet the demands of the region without infringing on the rights to privacy and property of individuals.
- 3) Recreational and other uses should be compatible when proposed for the same or adjacent area of shoreline.
- 4) To encourage private enterprise and/or state and local government cooperation/coordination in the acquisition of additional shoreline property for public recreation uses.

POLICIES:

1) General Recreation Uses -

- a) Priority will be given to developments, other than single family residences which are exempt from the permit system of the act, which provide recreational uses and other improvements facilitating public access to shorelines.
- b) Access to recreational locations such as fishing streams and hunting areas should be a combination of areas and linear access (parking areas and easements, for example), to prevent concentrations of use pressure at a few points.
- c) This shoreline program should encourage the linkage of shoreline parks and public access points through the use of linear access. Many types of connections can be used such as hiking paths, bicycle trails, and/or scenic drives.
- d) Attention should be directed toward the effect the developments of a recreational site will have on the environmental quality and natural resources of an area.

- e) To avoid wasteful use of the limited supply of recreational shoreland, parking areas should be located inland away from the immediate edge of the water and recreational beaches. Access should be provided by walkways or other methods. Automobile traffic on beaches, dunes, and fragile shoreland resources should be discouraged.
- f) Recreational developments should be of such variety as to satisfy the diversity of demands from groups in nearby population centers.
- g) The supply of recreation facilities should be directly proportional to the proximity of population and compatible with the environment designations.
- h) Facilities for intensive recreational activities should be provided where sewage disposal and insect control can be accomplished to meet public health standards without adversely altering the natural features attractive for recreational uses.
- i) In locating proposed recreation facilities such as playing fields, and golf courses, and other areas which use large quantities of fertilizers and pesticides in their turf maintenance programs, provisions must be made to prevent these chemical from entering the water. If this type of facility is approved on a shoreline location, provision should be made for protection of water areas from drainage and surface runoff.
- j) State and local health agencies have broad regulations which apply to recreation facilities, recreation watercraft, and ocean beaches, which should be consulted in preparing use regulations and issuing permits.
- k) Regional, as well as local, needs shall be considered where recreational development takes place.

2) **Marinas –**

Marinas are facilities which provide boat launching, storage, supplies, and services from small pleasure crafts.

- a) In locating marinas, special plans should be made to protect the fish and shellfish resources that may be harmed by construction and operation of the facility.
- b) Marinas should be designed in a manner that will reduce damage to fish and shellfish resources and be aesthetically compatible with adjacent areas.
- c) Special attention should be given to the design and development of operational procedures for fuel handling and storage in order to minimize accidental spillage and provide satisfactory means for handling those spills that do occur.
- d) Shallow-water embayments with poor flushing action should not be considered for overnight and long-term moorage facilities.
- e) The Washington State Department of Fisheries has prepared guidelines concerning the construction of marinas. These guidelines should be consulted in planning for marinas.

- f) State and local health agencies have standards and guidelines for the development of marinas which shall be consulted.
- g) Propose marina sites shall be located near high-use or potentially high-use areas. Local as well as regional "need" data shall be considered as input in location selection.

RESIDENTIAL

The overall goal of this program addresses safe, orderly residential growth. In implementation of the above, the following goal should be attained.

GOAL:

ESTABLISH CRITERIA FOR SAFE, ORDERLY RESIDENTIAL GROWTH IN SUITABLE AREAS OF SHORELINES OF COWLITZ COUNTY.

The topography and geology of Cowlitz County in combination, have served to limit past major growth trends to the stream valley areas. Continued population growth is expected to occur in these same areas. Not all stream valleys are amenable to development, due to flood situations. The modification of floodplains and shorelines can increase the intensity of damage of downstream and upstream resources and private property. Realization of the following objectives should prevent haphazard growth patterns and assure safe habitation on the shorelines for present and future developments.

OBJECTIVES:

- 1) To determine the suitable density of residential development with regard to natural features, necessary supportive facilities, utilities, and sanitary requirements.
- 2) To assure that proposed residential developments are compatible with or enhance the aesthetic quality of the area.
- 3) To ensure that such proposed residential developments do not serve as focal points of environmental degradation by wastes generated or as a magnet for unwarranted other developments in the shorelines.
- 4) To the extent possible, planned unit development should be encouraged within the shoreline area.

POLICIES:

The following guidelines should be recognized in any residential development on the shorelines of the state. To the extent possible, planned unit developments should be encouraged within the shoreline area.

- 1) Subdivisions should be designed at a level of density of site coverage and of occupancy compatible with the physical capabilities of the shoreline and water.
- 2) Subdivisions should be designed so as to adequately protect the water and shoreline aesthetic characteristics.
- 3) Residential development over water should not be permitted.
- 4) Subdividers should be encouraged to provide public pedestrian access to the shorelines within the subdivision.

- 5) Floating homes are to be located at moorage slips approved in accordance with the guidelines dealing with marinas, piers, and docks. In planning for floating homes, local governments should ensure that waste disposal practices meet local and state health regulations, that the homes are not located over highly productive fish food areas, and that the homes are located to be compatible with the intent of the designated environments.
- 6) Residential developers should be required to indicate how they plan to preserve shore vegetation and control erosion during construction.
- 7) Sewage disposal facilities, as well as water supply facilities, must be provided in accordance with the appropriate state and local health regulations. Storm drainage facilities should be separate, not combined with sewage disposal systems.
- 8) Adequate water supplies should be available so that the ground water quality will not be endangered by overpumping.
- 9) Strictly regulate new residential development in problem areas such as steep slopes, floodplains, and ecologically fragile areas to assure minimum disruption of environment.
 - a) Each residential development proposal shall contain a restoration element which details the expected destruction of shoreline foliage and the proposed rehabilitation.
- 10) The relationship of introduced impervious surfacing (paving, roofing, etc.) to the open ground areas to be retained in a proposed development must be indicated and regarded for the potential impact on surface water runoff and groundwater recharge.

PUBLIC ACCESS

Since the water bodies of the state have been defined as a resource available to all citizens, and since those shorelines of statewide significance must incorporate an element of public access, the goal for this element which will attain satisfaction of the general goal statement, is:

GOAL:

TO ASSURE THE SAFE AND REASONABLE ACCESS, FOR THE PUBLIC, TO PUBLIC PROPERTY IN THE SHORELINES OF COWLITZ COUNTY.

To assure this reasonable and safe access, the following objectives may be ascribed to the above goal:

OBJECTIVES:

- 1) To retain existing public access and develop additional access where such will not endanger life or property nor interfere with the rights inherent with private property.
- 2) Such access should not have an adverse effect on unique or fragile natural features, nor alter ecological systems of the area.
- 3) Future roads, when built paralleling shorelines, shall provide multiple point access to the shoreline wherever possible to ease concentration.

OTHER GENERAL SHORELINE USES

The general goal of this section is:

GOAL:

DEVELOPMENT WITHIN THE SHORELINES OF COWLITZ COUNTY MUST BE FOR THE BETTERMENT OF THE LIFE STYLE OF THE CITIZENS OF COWLITZ COUNTY, AND SO LOCATED AS TO PREVENT ECOLOGICAL DEBILITATION FROM OCCURRING.

OBJECTIVES:

- 1) To encourage those uses which are necessary to maintain or improve the health, safety, and welfare of the citizens when such uses must occupy shorelines.
- 2) To locate those necessary uses and design facilities on the shorelines in such a manner as to retain or improve the physical and aesthetic quality of the natural environment.
- 3) To encourage multiplicities of use in proposed shoreline area developments.
- 4) To retain or improve the degree of public access to shorelines.

POLICIES:

- 1) **Dredging** - Dredging is the removal of earth from the bottom of a stream, river, lake, bay, or other water body for the purposes of deepening a navigational channel or to obtain use of the bottom materials for landfill.
 - a) Dredging operations shall be so controlled as to minimize damage to existing ecological values and natural resources of both the area to be dredged, and the area for deposit of dredged materials
 - b) This program must include long-range plans for the deposit and use of spoils on land. Spoils deposit sites in water areas shall also be identified by local government in cooperation with the state departments of natural resources, game, and fisheries. Depositing of dredge material in water areas shall be allowed only for habitat improvement, to correct problems of material distribution adversely affecting fish and shellfish resources, or where the alternatives of depositing material on land is more detrimental to shoreline resources than depositing it in water areas.
 - c) Dredging of bottom materials for the single purpose of extending ones property shall be discouraged.
 - d) Navigation channels, turning and moorage basins shall be identified. Future channel and basin areas which would be used in conjunction with potential future ports and marinas should be identified as non-deposit areas for spoils from other dredging operations.
- 2) **Landfill** - Landfill is the creation of dry upland area by the filling or depositing of sand, soil, or gravel into a wetland area.

- a) Shoreline fills or cuts shall be designed and located so that significant damage to existing ecological values or natural resources, or alteration of local currents will not occur, creating a hazard to adjacent life, property, natural resources systems, and aesthetics.
 - b) All perimeters of fills shall be provided with vegetation, retaining walls, or other mechanisms for erosion prevention. However, the use of unused automobiles or parts, including tires, shall be prohibited.
 - c) Fill materials shall be of such quality that it will not cause problems of water quality standards established by the department of ecology. Shoreline areas are not to be considered for sanitary landfills or the disposal of solid waste.
 - d) Priority shall be given to landfills for water-dependent uses and for public uses.
 - e) In evaluating fill projects and in designating areas appropriate for fill, such factors as total water surface reduction, navigation restriction, impediment to water flow and circulation, reduction of water quality, and destruction of habitat shall be considered.
 - f) All landfill materials and erosion control methods shall be subject to approval of the program administrator or his designee.
- 3) **Shoreline Protection Works** - Shoreline protection works shall include bulkheads, breakwaters, jetties, groins, levees, berms, retaining walls, riprapping, dikes, and the like.

NOTE: SPW means "Shoreline Protection Works"

- a) Shoreline protection works should be located and constructed in such a manner which will not result in adverse effects on "wetlands" and will minimize alterations of the natural shoreline.
- b) Consider the effect of a proposed SPW on public access to publicly owned shorelines.
- c) Shoreline protection works should be designed to blend in with the surroundings and not to detract from the aesthetic qualities of the shoreline.
- d) The construction of SPW should be permitted only where they provide protection to upland areas or facilities and not for the direct purpose of creating land by filling behind the SPW. Landfill operations should satisfy the policies under "Landfills".
- e) Riprapping and other bank stabilization measures should be located, designed, and constructed so as to avoid the need for channelization, and to protect the natural character of the streamway.
- f) The use of non-rock riprap material should be strongly discouraged. The use of abandoned automobiles for SPW is to be prohibited.
- g) Planned flood protection measures, such as dikes, should be placed landward of the streamway, including associated swamps and marshes, and other wetlands directly inter-related and inter-dependent with the stream proper.

- h) Flood protection measures which result in channelization should be avoided.
 - i) Special attention should be given to the effect these structures will have on fish and wildlife propagation, habitat, and movement.
- 4) **Piers** - A pier or dock is a structure built over or floating upon the water, used as a landing place for marine transportation or for recreation purposes.
- a) The use of floating docks should be encouraged in those areas where scenic values are high and where conflicts with recreational boaters and fishermen will not be created.
 - b) Open-pile piers should be encouraged where shore trolling is important, where there is significant littoral drift, and where scenic values will not be impaired.
 - c) Priority should be given to the use of community piers and docks in all new major waterfront developments. In general, encouragement should be given to the cooperative use of piers and docks.
 - d) In providing for boat docking facilities in the master program, local governments should consider the capacity of the shoreline sites to absorb the impact of waste discharges from boats including gas and oil spillage.
 - e) The risk and potential damage of contaminants must be determined for piers and the ability of the shoreline area to recover from such spills must be known. Where appropriate, contamination prevention and abatement measures will be required as part of any proposal to erect a pier.
- 5) **Restoration** - Past developments and the uses made of some areas have proven to be beyond the maintenance capability of the owners. Frequently, abandonment of the site has occurred leaving unsightly debris and dilapidated structures. Restoration to a natural state or aesthetic new uses of such areas may be desirable. The cost of removal of dilapidated structure remains and recontouring of land may present financial prohibitions to such restoration. Some method of financial compensation for rehabilitation of these areas should be considered.
- a) Those existing non-conforming uses in shorelines which are not currently active for the use intended, or pose a hazard to health, safety, or public welfare should be considered as potentially restorable sites.
 - b) Restoration of such areas to satisfy public needs within the physical parameters of the highest environmental classification possible should be considered.
 - c) In order that area improvements do not become an issue of public agencies in competition with free enterprise, all efforts toward a partnership between government and private enterprise for development should be regarded.
 - d) Compensation for the financial expenditures by private citizens involved in restoration and reclamation of derelict land areas should be made through (1) tax relief over to private enterprise, or (2) public acquisition procedures and subsequent re-sale or public facility development, or (3) public acquisition of use access.

- 6) **Solid Waste Disposal** - Generally, all solid waste is a possible source of much nuisance. Rapid, safe, and nuisance-free storage, collection, transportation, and disposal are of vital concern to all persons and communities.
- a) This program and use regulations must be consistent with approved county or multi-county comprehensive solid waste management plans and regulations of jurisdictional health agencies.
 - b) Local government must regulate sanitary landfills and solid waste handling in accordance with regulations for solid waste handling adopted by the department of ecology.

SHORELINES MANAGEMENT DISTRICTS

A system of categorizing shoreline areas is required by the state shorelines management act, in order to plan and effectively manage our shoreline resources. The shorelines of the county are divided into four environments below, (see Plate I). These environmental designations are based on the capabilities of the various shoreline areas to accommodate human activities, while at the same time furthering the goals of the shorelines management act and this section. Developments must be planned and constructed so that the objectives of the environments are achieved.

- 1) **NATURAL DISTRICT** - Those shoreline areas with unique natural features which would be severely affected by human intrusions.

OBJECTIVE:

To preserve those defined areas which should be relatively free of human impact.

- 2) **CONSERVANCY DISTRICT** - Those shoreline areas endowed with resources which may be harvested and naturally replenished. Also, those areas which, through flooding, slide prone soils, or other natural parameters, are not suitable for intensive agriculture or high density human use.

OBJECTIVE:

To maintain those defined areas for a sustained yield philosophy of resource management, establish suitable areas for non-intensive agriculture uses, non-intensive recreation uses, and limited intensive public access.

- 3) **RURAL DISTRICT** - Those shoreline areas with soil and land areas suitable for intensive agriculture, capable of recreation site development, public access, and limited residential development.

OBJECTIVE:

To establish open spaces which will satisfy positive human needs for recreation, limit urban sprawl into areas beyond service capabilities, and preserve the limited agricultural resource base.

- 4) **URBAN DISTRICT** - Those shoreline areas suitable for intensive recreation, residential, industrial, and commercial development.

OBJECTIVE:

To identify those defined areas which are currently in such use and potentially capable of such use to satisfy the socio-economic needs of the present and future population of the county.

USE ACTIVITY REGULATIONS

INTRODUCTION

Shoreline use Activities, Policies and Regulations

The shoreline management act final guidelines have established twenty-one sets of shoreline use activities which are to be included within local government shoreline master programs. These use activity categories consist of specific uses or groups of similar uses which are characteristic of the shoreline corridor. They have been formulated as implementing tools to assist in carrying out the goals and policies of the master program, county comprehensive plan, and the shoreline management act. The policies and regulations developed for each use activity category are intended to serve as the primary set of criteria for evaluating proposed developments and alterations to the shoreline environment.

The use regulations supplement specific requirements of other county land use regulations. They address those shoreline management issues which are not effectively provided for by existing federal, state, or county regulations and which must be provided for if the adopted goals and policies of the master program and comprehensive plan are to be implemented.

Unidentified Use Activities

Shoreline use activities not specifically identified and for which policies and regulations have not been developed will be evaluated on a case-by-case basis and will be required to satisfy the goals and general development policies of the master program, comprehensive plan, the policies of the shoreline management act, and shall be consistent with the management policy and character of the shoreline environment in which they are proposed to be located.

SUBSTANTIAL DEVELOPMENT PERMITS

Applicants for substantial development permits shall be required to provide such documentation, illustrations, maps, and accurate engineering data as the administrator may deem necessary to adequately appraise the development proposed, the potential impact on the environment, and ensure compliance with the shorelines management act and substantial development permit.

Within fifteen days of the second publication (of the notice of application) the applicant shall be informed of all such identifiable data required.

The application for and/or issuance of a substantial development permit shall in no way set aside the requirements that may be imposed by any other permit, ordinance, regulation or law.

If conflicts between this master program and adopted comprehensive plans or regulations are identified, the source of conflict may be cause for review and possible adjustment to this master program.

All development must conform to the regulations and requirements of federal, state, and local agencies including, but not limited to:

- County and Municipal Codes and Ordinances
- Department of Ecology
- Department of Fish and Wildlife
- Department of Natural Resources
- Department of Social and Health Services
- Regional Air Pollution Control Authorities
- U. S. Army Corps of Engineers

CONDITIONAL USES

Conditional uses are those uses which either do not need a shoreline location or are considered unsuitable for siting within a particular shoreline environment. Uses classified as subject to the issuance of a conditional use permit can be permitted only by meeting such performance standards that make the use compatible with other permitted uses within that area. Conditional use permits shall be granted only after the applicant can demonstrate all of the following.

- 1) The use will cause no unreasonable adverse effects on the environment or other uses within the area.
- 2) The use will not interfere with the public use of public shorelines.
- 3) The design of the proposed use will be compatible with the environment in which it will be located.
 - a) Specific performance standards shall be imposed and/or developed for any given use, to make that use compatible to the natural or conservancy environments, in which that use will locate.
- 4) The proposed use will not be contrary to the goals, policy statements or general intent of the shoreline environments of this master program.

VARIANCES

A variance deals with specific requirements of the master program and its objective is to grant relief when there are practical difficulties or unnecessary hardship in the way of carrying out the strict letter of the master program. The property owner must show that if he complies with the provisions he cannot make any reasonable use of his property. The fact that he might make a greater profit by using his property in a manner contrary to the intent of the program is not a sufficient reason for variance. A variance will be granted only after the applicant can demonstrate the following.

- 1) The hardship which serves as basis for granting of variance is specifically related to the property of the applicant.
- 2) The hardship results from the application of the requirements of the act and master program and not from, for example, deed restrictions or the applicant's own actions.
- 3) The variance granted will be in harmony with the general purpose and intent of the master program.
- 4) Public welfare and interest will be preserved; if more harm will be done to the area by granting the variance than would be done to the applicant by denying it, the variance will be denied.

Any permit for a variance or a conditional use approved by local government under approved master programs must be submitted to the department of ecology for its approval or disapproval.

CONSTRUCTION AND OPERATIONS REGULATIONS

The following regulations cover the construction practices that must be observed for substantial developments.

- 1) No construction equipment shall enter any shoreline body of water, except as authorized under the terms of a substantial development permit.
- 2) Vegetation along the water shall be left in its natural condition unless the substantial development permit allows otherwise.
- 3) During construction, care will be taken to assure that waste material and foreign matter are not allowed to enter the water.
- 4) All fuel and chemicals shall be kept, stored, handled and used in a fashion which assures that there will be not opportunity for entry of such fuel and chemicals into the water.
- 5) Protection from siltation and erosion shall be provided for on all earthworks projects.
- 6) Land being prepared for development shall have an adequate drainage system to prevent runoff from entering water bodies.
- 7) Side casting of excess road building material into streams will not be permitted.
- 8) All construction debris such as fuel and oil containers and barrels and other miscellaneous litter shall be removed from the shoreline area. No equipment shall be abandoned within the shoreline area.
- 9) State and federal water quality standards for both inter-state and intra-state waters already are established. These shorelines regulations need only allude to these and other regulations already in effect. Any activities within the shorelines must, as a minimum, meet all these other regulations.

AGRICULTURE

REGULATIONS

- 1) The act specifically exempts the "construction of a barn or similar agricultural structure on wetlands" from the permit system. The regulations below, therefore, apply only to those agricultural activities and practices which, because they are not specifically exempted by law, are implicitly subject to control under it.

NATURAL DISTRICT

- 1) Agriculture within natural shorelines shall be prohibited.

CONSERVANCY DISTRICT

- 1) Passive agriculture will be permitted: home gardens of less than one (1) acre; grazing of natural vegetation or cutting it for hay are considered passive agriculture. Intensive agriculture is not permitted.
- 2) Planned uses of any agriculture chemicals shall follow regulations as set forth in the forest practices and shorelines management special report under use of chemicals on pages and .
- 3) A shorelines permit for feedlot operations may be granted as a conditional use, subject to the following minimum conditions:
 - a) Provide at least 100 feet of vegetated area between confinement lots and streams.
 - b) Locate confinement lots both away from hillsides leading directly to streams and outside the fifty-year floodplain, where defined.
 - c) Apply, where applicable, operational guidelines for livestock waste management found in **"Livestock Waste Management Guidelines" (E.M. 3479), Cooperative Extension Service, W. S. U., June 1971, or in "Guidelines for Handling Livestock Wastes for Western Washington"**, to be issued by the department of ecology.

RURAL DISTRICT

Agriculture (intensive) shall be permitted on rural shorelines subject to conservancy district regulations No. 2 and No. 3.

Buffer strips of permanent vegetative cover shall be maintained between agricultural use lands and bodies of water to retard erosion, siltation, leaching of animal wastes and dangerous chemicals, and to avoid increasing water temperatures by virtue of removing shade from the shorelines.

URBAN DISTRICT

Agriculture in urban areas shall be permitted. Other urban area regulations would normally take care of inherent possible problems such as odor nuisances, etc. Regulations No. 2 and No. 3 of conservancy district shall apply. Regulation No. 2 of rural district shall apply.

AQUACULTURE

NATURAL, CONSERVANCY, RURAL AND URBAN DISTRICTS

- 1) Any water-diversion facility, or other installed features of aquaculture developments, in all environments, shall be installed in a manner not to detract from public's use of the shorelines in pursuing normal shoreline activities.

NATURAL AND CONSERVANCY DISTRICTS

- 1) Aquaculture within natural and conservancy shorelines shall be considered as a conditional use.

RURAL AND URBAN DISTRICTS

Aquaculture shall be permitted on rural and urban shorelines subject to the following regulations:

- 1) Facilities for any necessary water-diversion for such aquaculture developments will:
 - a) be built of lasting materials and so constructed as to prevent their deterioration;
 - b) be built in a manner so as to blend in, and not detract from the aesthetics of the area;
 - c) be constructed so as to create a minimum of a barrier which would trap debris during high waters; and become an eye-sore.
- 2) Any effluent or wastes from such point-source facility (an aquaculture project) would have to have necessary permits (which include usual review by interested agencies, etc.).
- 3) Any buildings or other permanent above-ground structure which is part of the aquaculture facility will be set back a minimum of ten (10) feet as measured on a horizontal plane from the normal high water mark.

ARCHAEOLOGICAL AREAS AND HISTORIC SITES

NATURAL, CONSERVANCY, RURAL, AND URBAN DISTRICTS

- 1) In all developments, whenever an archaeological area, or a historic site is discovered by new construction of an area, the developer shall:
 - a) Notify the shorelines administrator, before knowingly or intentionally doing anything that will destroy the find;
 - b) Cease all further operations in the immediate area of discovery;
 - c) Rope off or otherwise adequately mark area of discovery.
- 2) Upon receiving information of an archaeological or historical find, the shorelines administrator shall:
 - a) Notify the director of the Washington State parks and recreation commission, not later than one (1) work day after receiving above information, as well as, publish said find in a newspaper of general circulation in order to so inform any interested parties.
 - b) Establish procedures whereby to protect the site from damage (be it accidental or malicious) until a "determination of significance" is announced.
 - c) The administrator shall notify the developer in writing within seven (7) working days after receiving information about the significance of the find.
 - d) If the developer does not receive any written notice of significance within fifteen (15) days from the date of the notification to the shorelines administrator, he may proceed with normal development procedures.
 - e) If the find is termed "significant", the matter of site preservation and excavation will become the responsibility of the director of the Washington State parks and recreation commission; who will operate under the rules and regulations provided in Public Law 89-665, Senate Bill 363, Historic Preservation Act.

COMMERCIAL DEVELOPMENT

REGULATIONS

- 1) Commercial and industrial uses are of such varied nature that many may be considered a conditional use in any district and to be permitted must meet conditions; except independent commercial parking lots, which shall be prohibited in all environments.
- 2) Airport and aircraft landing strips shall be prohibited in natural and conservancy districts and shall be considered a conditional use in rural and urban environments.

NATURAL DISTRICT

- 1) Commercial development or activity shall be considered as a conditional use on natural shorelines.

CONSERVANCY DISTRICT

- 1) Commercial development shall be considered as a conditional use on conservancy shorelines except for those recreational developments or activities which do not substantially change the character of that environment.
- 2) A permit for commercial development may be granted subject to the following regulations:
 - a) Any commercial structure or facility exceeding \$1,000 in value, except one which requires or is dependent on direct, contiguous access to the water shall be set back from the ordinary high water mark by a minimum of 100 feet, as measured on a horizontal plane.
 - b) Any commercial structure or facility which is built shall be no higher than 35 feet and of inconspicuous appearance so that it either blends with its surroundings or at minimum does not detract from them.
 - c) Any proposed commercial development or activity shall be screened by vegetation or topography.
 - d) Parking facilities shall remain outside the shoreline area, except where parking elsewhere is rendered impractical by topography or constitutes a severe economic hardship to the commercial enterprise, in which exceptional cases it shall remain as far from the ordinary high water mark as feasible.

RURAL DISTRICT

- 1) Commercial development or activity shall be considered as a conditional use on rural shorelines except for those developments or activities which do not substantially change the character of that environment. Such developments may include: restaurants, campgrounds, group camps and similar recreational facilities; craft or antique stores and the like; hunting and fishing and other private club structures; game preserves and private parks; and commercial uses in restoration of historical structures.

- 2) A permit for commercial development may be granted subject to the following regulations:
 - a) Any commercial structure or facility exceeding \$1,000 in value, except one which requires or is dependent on direct, contiguous access to the water shall be set back from the ordinary high water mark by a minimum of 50 feet, as measured on a horizontal plane.
 - b) Parking facilities shall not be located within ten (10) feet of the ordinary high water mark, as measured on a horizontal plane.

URBAN DISTRICT

- 1) Because shorelines suitable for urban uses are a limited resource, emphasis should be given to development within already developed areas and particularly on water-dependent industrial and commercial uses requiring frontage on navigable waters.
- 2) A permit for commercial development may be granted subject to the following regulations:
 - a) Commercial buildings of more than 35 feet above average ground grade shall be allowed as a conditional use.
 - b) Any commercial structure or facility except on which requires or is dependent on direct, contiguous access to the water shall be set back from the ordinary high water mark by a minimum of ten feet, as measured on a horizontal plane.
 - c) Parking facilities shall not be located within ten (10) feet of the ordinary high water mark, as measured on a horizontal plane.

RESIDENTIAL DOCK AND FLOATING STRUCTURES (PIERS)

REGULATIONS

- 1) For information on public recreational docks, see regulations for marinas, page 46.

NATURAL DISTRICTS

- 1) All docks and floating structures within natural shorelines shall be considered as a conditional use.

CONSERVANCY, RURAL, AND URBAN DISTRICTS

Boat Dock Regulations

- 1) Only one boat dock shall be permitted for each waterfront residential site or each community waterfront tract serving more than one residence.
- 2) Boat docks shall not extend any further than 50 feet from the line of ordinary high water mark; except that a variance may be requested to satisfy those problems whereby either the water bottom contour or water fluctuation is such that a dock of more than 50 feet in length is required to obtain a water depth suitable for moorage purposes.
- 3) The top deck of a boat dock shall not be more than five feet above the high water level mark. Railings or fences attached to the dock may not exceed three feet in height above the deck of the dock.
- 4) Covered waterfront docks or boat houses shall not exceed a height of fifteen feet above the deck level of the dock.
- 5) Boat docks must be set back from adjacent property lines a minimum of ten feet; except that by mutual agreement of two abutting property owners one dock to serve both properties maybe sited adjacent to, or astride of, the mutual property line. In the latter case, no other dock will be permitted within the two property boundaries.
- 6) If electrical service is provided to the dock, that service must be installed in such a manner that it complies with the safety requirements as set forth in the Washington State electrical code.

Floats Regulations

- 1) In addition to a boat dock, one floating structure is permitted per waterfront tract.
- 2) Float installation shall comply to those conditions set forth under boat dock regulations 1, 2, 5, and 6.
- 3) The size of the float shall not exceed 144 square feet. The height of the float shall not extend two feet above the water level.
- 4) Covers, railing, fences or other similar attachments are not permitted on the float; handrails may be permitted if necessary for public safety.

FOREST PRACTICES AND SHORELINE MANAGEMENT

NATURAL DISTRICT

Harvesting of timber shall be permitted on natural shorelines only where it is necessary to:

Prevent an epidemic of insect or disease infestations throughout the designated areas and to adjoining areas when no other means of epidemic control will work.

Cleanup and restore an area devastated by disaster, such as extensive wind throw or fire.

In instances where timber harvesting on natural shorelines is permitted, monetary value shall not be used to justify the timber harvesting but only to determine the economic feasibility of such restorative work.

In instances where timber harvesting is permitted on natural shorelines, it shall be subject to forest management practices set forth below.

CONSERVANCY, RURAL, AND URBAN DISTRICTS

Timber harvesting and any tree-felling, vegetation-removing, road-building or other forest-management operation is permitted anywhere along conservancy, rural and urban shorelines, subject to forest practices standards set forth below.

I) ROADS

To establish minimum standards that will provide the maximum practical protection to maintain forest productivity, water quality, and fish and wildlife habitat during road construction and maintenance.

- 1) **Road Location:** Road should be located on stable soils and constructed in such a manner as to minimize the risk of material entering waterways.
 - a) Fit the road to the topography so that minimum alteration of natural features will be necessary.
 - b) Avoid steep, narrow canyons, slide areas, slumps, marshes, wet meadows or natural drainage channels. Also, utilize available topographic surveys, soils, and geologic data to assist in selecting locations which avoid steep and/or unstable areas.
 - c) Where possible, locate roads far enough away from waterways to leave buffer zones.
 - d) Minimize the number of waterway crossings and avoid unnecessary duplication of road systems by making use of existing road where practical. Where roads traverse land in another ownership, but still adequately serve the operation, attempt to negotiate with the owner for use before resorting to location of new roads.
 - e) Minimize side hill cuts and fills near waterways.

- 2) **Road Specifications:** Establish specification criteria for each road so that it is best adapted to the terrain and soil properties providing for a drainage system which will control the dispersal of surface runoff water from roads and exposed soils in order to minimize turbid waters from draining into waterways.
- a) Balance cuts and fills or provide waste and borrow areas which minimize damage to soil and water.
 - b) Roads and waterway crossings should be planned no wider than necessary to accommodate the anticipated use.
 - c) Specify cut and fill and slopes at the normal angle of repose or less.
 - d) Where culverts are installed in large fills, use some form of headwall (usually riprap) to prevent erosion of the fill. Provide adequate protection to prevent fill erosion (e.g. mulching, seeding, and/or armorplating).
 - e) Specifications for bridges, culverts, and other waterway devices shall take into account flood frequency and flood debris hazards.
 - f) Plan roads to drain by outsloping, crowning, waterbars and through grade changes wherever possible.
 - g) Design the road drainage (whether from culverts, cross-drainage, or ditches) onto the forest floor, preferably on benches so that sediment can settle out before drainage water reaches waterway.
 - h) In order to reduce fish passage or spawning problems and pipe abrasion, design to use bridges or "true arch" (bottomless) culverts on steep slopes. Orient crossing with natural waterways and extend them beyond the fill slopes. For fish passage and spawning, obtain and adhere to requirements of the department of fisheries hydraulic project approval.
- 3) **Road Construction:** Roads should be constructed in such a manner as to prevent the entry of construction or waste material into waterways while adhering to road design, specifications, and requirement of the hydraulic project approval.
- a) Until such time as adequate identification can be made throughout the county of the 50- or 100-year flood level, deposit excess material in stable locations above the ordinary high water level.
 - b) Clear drainage ways of all debris generated during road construction and/or maintenance which potentially interferes with drainage or water quality.
 - c) Where roadside material is potentially unstable or erodable, it shall be stabilized by use of seeding, compacting, riprapping, benching, or other suitable means.
 - d) In the construction of road fills, properly compact the material to reduce the entry of water and to minimize the settling of fill material.

- e) Waterway crossings either temporary or permanent shall be constructed to result in minimum disturbance to banks and existing channels. Remove temporary crossings and abutment fills promptly after use where applicable. To prevent erosion, abandoned roads shall be water barred, or outsloped.
 - f) Activity in waterways shall only be permitted in compliance with hydraulics permits (normally restricted to summer seasons). (See permits and requirements, pages 41-43).
 - g) Install drainage structures as soon as feasible during the pioneer stage of road construction. Uncompleted road grades subject to washing before grading should be adequately cross-drained.
 - h) Road and bridge construction should be carried out in that time of year which will prevent serious soil erosion or when this is not practical, measures to prevent erosion shall be taken.
 - i) Quarry drainage should provide for adequate protection against sediment entering into the waterways.
 - j) Obtain road rock and gravel from dry quarries wherever possible. Use of gravels from waterways should be discouraged, when necessary, compliance with hydraulics permit is required.
- 4) **Road Maintenance:** Adequately maintain all portions of the road system to prevent water quality degradation.
- a) Clean culvert inlets, outlets, ditches and trash racks to diminish danger of clogging and the possibility of washouts and overflows.
 - b) When it is the intention of the land owner to discontinue active use of the road, the road shall be left in such a state as to provide for adequate drainage and soil stability without continuous active maintenance.
 - c) Retain road drainage by performing proper maintenance grading.
 - d) Use mechanical equipment in preference to herbicides for control of road side brush.

II) **TIMBER HARVESTING:**

Timber harvesting shall be conducted in such a manner as to maintain forest productivity, water quality, and fish and wildlife habitat.

- 1) **Pre-Harvesting Considerations:** Plan the size, shape and location of logging areas on an analysis of such things as forest regeneration, logging economics, fire control, wildlife production, soil protection, aesthetic appeal and water quality maintenance.

- a) Whenever possible, avoid landings within designated wetlands. When necessary within these wetlands, locate landings on firm ground above the high water level of any waterway. Avoid unstable areas or excessive excavation.
- b) Consult with state fisheries and/or game agencies to determine the value of each stream. If the specific area has unique value, special logging techniques or special precautions may be required.
- c) On land areas permanently unsuited for the production of wood fibre, such as lakes, bogs, springs, swamps, wet meadows or grasslands, an attempt should be made to maintain protective and vegetative cover.
- d) Neither an optimum nor a minimum width can be set arbitrarily for buffer strips. It must be realized that buffer strip widths will vary with steepness of terrain, other topographic features, the kind of soil, and the amount of timber that is to be removed.

The operator must provide for soil stabilization and water quality maintenance by vegetation along waterways by one or more of the following:

- (i) Leave non-merchantable or low value trees, shrubs, grasses, rock, wherever they afford shade over a waterway or maintain the integrity of the soil near such a waterway.
 - (ii) Where insufficient non-merchantable tree species exist to maintain a buffer zone, a fringe of undisturbed merchantable trees may be required. This requirement may be waived if an acceptable harvest plan of staggered cuttings or other means is developed which will not result in a significant decrease of water quality or remove a substantial amount of cover necessary for wildlife.
 - (iii) Plan the removal of the mature timber from the buffer strip in such a way that shading and filtering effects are not destroyed.
 - (iv) Where it is difficult to leave buffer strips timber to shade a waterway, a plan to re-establish cover must be submitted and approved.
- e) Where major scenic attractions, archaeological or historic sites, highways, recreation areas, or other high use areas are located within or traverse forest land, special consideration should be given to scenic values by prompt cleanup and regeneration.
 - f) Consider the use of helicopters, balloons, or modified cable systems for logging of areas that would have high conventional yarding costs or for fragile, sensitive areas.
 - g) Local governments should ensure that timber harvesting on shorelines of statewide significance does not exceed the limitations established in RCW 90.58.150 except as provided in cases where selective logging is rendered ecologically detrimental or is inadequate for preparation of land for other uses.

- 2) **Harvesting Operations:** Plan thoroughly and then fall, buck, and yard the logs carefully in order to prevent soil disturbance and other water quality hazards along skid trails, on landings, and over the watershed in general.
 - a) Felling shall be done in a manner to minimize breakage.
 - b) Trees should be felled, bucked, and limbed so that the tree or any part thereof will not fall into or across any waterway.
 - c) Protect the buffer strip by leaving stumps high enough to prevent any subsequently-felled, up-slope trees from sliding or rolling through the strips resulting in vegetative and/or waterway damage.
 - d) If debris should enter the waterway(s) as a result of this project, such debris shall be removed concurrently with the yarding operation and before removal of equipment from the project site. Removal of debris shall be accomplished in such a manner that natural streambed conditions and stream bank vegetation are not disturbed.
- 3) **Log Yarding:** Plan thoroughly and then yard the logs carefully in order to prevent soil disturbances and other water pollution hazards along skid trails, on landings, and over the watershed in general.
 - a) Locate skid trails carefully and drain them adequately so that muddy and turbid waters will be kept out of waterways. Keep all skid trails out of waterways and off banks. Use temporary log or metal culverts wherever such trails must cross a waterway, and keep the number of such crossings to as few as possible.
 - b) Avoid tractor yarding on all saturated areas and on all slopes steeper than 30 percent and no yarding through waterways.
 - c) Protect all waterway banks by bridging or at least by lifting the logs over waterways rather than dragging them through the waterways.
- 4) **Post Harvesting:**
 - a) Waste resulting from logging operations such as crankcase oil, filters, grease and oil containers, machine parts, old wire rope and used tractor tracks shall be disposed of immediately following termination of harvesting operations. At no time shall such materials be placed in waterways.
 - b) Re-establish drainage on landings after use to insure against future soil movement.
 - c) Cross-drains, dips, water bars, and other water diversions shall be provided and/or maintained to prevent soil from entering waterways.
 - d) Potentially unstable or erodible exposed soils shall be stabilized by seeding with grass species or other suitable means. Consideration shall be given to game forage plants suitable to the area.
 - e) Relocate all potentially water-borne woody logging debris four inches (4") in diameter and eight feet (8') long resulting from this project above the ordinary high water mark.

III) REFORESTATION:

That portion of the shoreline management enforcement area defined as wetland not left as buffer strip shall be re-forested in compliance with the Washington State forest practices act.

IV) CHEMICAL APPLICATION:

- 1) **Maintenance of Equipment If Leakproof Condition:** Equipment used for transportation, storage, or application of chemicals shall be maintained in leakproof condition. If there is evidence of chemical leakage, the further use of such equipment must be suspended until the deficiency has been satisfactorily corrected.
- 2) **Protection of Water Quality During Mixing of Chemicals:** Whenever water is taken from any waterway or water impoundment for use in the mixing of chemicals, precautions shall be taken to prevent contamination of the sources.
 - a) Provide an air gap or reservoir between the water source and the mixing tank; or
 - b) Use a portable pump with the necessary suction hose, feed hoses and check valves to supply tanks with water from streams, such pump to be used only for water.
- 3) **Protection of Waterways and Areas of Open Water When Spraying:** Protect waterways and areas of open water such as swamps or impoundments from contamination when spraying by aircraft by leaving a buffer strip of at least one swath width untreated on each side of every waterway. When broadcast spraying from the ground, leave unsprayed a buffer strip of at least ten (10) feet on each side of every waterway or area of open water. Spray application immediately adjacent to buffer strips shall be made parallel to waterways, and must be applied prior to application to the remainder of the area to be treated. No buffer strip is required in the application of fertilizers except that precautions shall be taken to avoid direct application of fertilizers into waterways. All chemical application must comply with the standards established by the state department of agriculture.
- 4) **Selection and Maintenance of Mixing and Landing Areas:** Mix chemicals or clean tanks or equipment only where the chemicals will not contaminate waterways. Mixing areas and aircraft landing areas shall be located where spillage of chemicals will not contaminate water. If any chemical is inadvertently spilled, immediate appropriate procedures shall be taken to contain or neutralize it.
- 5) **Application of Chemicals in Accordance with Limitations:** Apply chemicals only in accordance with currently recognized limitations of temperature, humidity, wind, and other factors.

6) **Cleaning and Re-Use of Chemical Containers:** Rinse chemical containers with the carrier used in mixing at least three (3) times. Apply the flushing solution in the form of spray to the area. Do not re-use chemical containers unless properly treated. Remove containers from forest and dispose in an appropriate manner.

7) **Daily Records of Chemical Applications:**

- a) Whenever insecticide or herbicide sprays are applied on forest land, the operators shall maintain a daily record of spray operations which includes:
 - (i) Name of monitor or name of applicator (pilot or ground applicator);
 - (ii) Location of project;
 - (iii) Temperature (hourly);
 - (iv) Wind velocity and direction (hourly);
 - (v) Contractor's name and pilot's name when applied aerially; contractor's name and/or employer's name for ground application.
 - (vi) Insecticides or herbicides used, including name, mixture, application rate, and carrier used.
- b) Whenever rodenticides or fertilizers are applied, the operator shall maintain a daily record of such application which includes i, ii, and v above, the name of the chemical and application rate.
- c) The records required in a) and b) above shall be kept for three (3) years.

8) **Reporting of Chemical Spills:** Immediately report all chemical spills to the Cowlitz County sheriff.

V) **SLASH DISPOSAL: MAINTENANCE OF PRODUCTIVITY AND RELATED VALUES:**

Operations on forest land shall be planned and conducted in a manner which will provide adequate consideration to treatment of slash.

- 1) In those areas where slash treatment is necessary for protection or regeneration, one or more of the following methods may be used:
 - a) scattering of slash accumulations;
 - b) piling or windrowing of slash;
 - c) mechanized chopping or compaction of slashing;
 - d) controlled burning;
- 2) Dispose of or disperse unstable slash accumulations around landings to prevent their entry into waterways.
- 3) Where burning is used, protect streamside buffer strips from fire damage.
- 4) Slash four inches (4") or more in diameter and eight feet (8') or more in length to be relocated above the ordinary high water mark.

A. PERMITS AND REQUIREMENTS:

Chapter 248.54 WAC, Public Water Supplies - Timber harvesting practices in shorelines of the state shall be conducted to maintain the state board of health standards for public water supplies.

Building Permit:	Department of Building and Planning Cowlitz County Administration Building 207 Fourth Avenue North Kelso, Washington 98626 PH: 577-3052
Floodplain Management Permit:	Department of Building and Planning Cowlitz County Administration Building 207 Fourth Avenue North Kelso, Washington 98626 PH: 577-3052
Flood Control Zone Permit:	Department of Building and Planning Cowlitz County Administration Building 207 Fourth Avenue North Kelso, Washington 98626 PH: 577-3052
Shoreline Management Permit:	Department of Building and Planning Cowlitz County Administration Building 207 Fourth Avenue North Kelso, Washington 98626 PH: 577-3052
Hydraulics Project Approval:	Department of Fish and Wildlife, Habitat Management 1111 Washington Street S. E. 600 Capitol Way North, Mail Stop 43155 Olympia, Washington 98501-1091 PH: 902-2534
Corps of Engineers Permit:	U. S. Army Corps of Engineers P. O. Box C-3755 Seattle, Washington 98124-2255 PH: 764-3780
Burning Permit:	Department of Natural Resources 601 Bond Drive P. O. Box 280 Castle Rock, Washington 98611 PH: 577-2025 All outdoor fires must comply with DNR regulations. Written permits required for certain burning are not issued on weekends from October 15 to March 15. See map for fire districts not under DNR fire control.
Surface Mining Permit:	Department of Natural Resources 601 Bond Drive P. O. Box 280 Castle Rock, Washington 98611 PH: 577-2025 Needed if extracting more than 10,000 tons or 2,000 yards in one location in a twelve (12) month period, or if opening a pit more than two acres in size.

Aquaculture Permit:

**Department of Natural Resources
601 Bond Drive
P. O. Box 280
Castle Rock, Washington 98611 PH: 577-2025**

Needed for culture of food fish, shellfish, or other aquatic animals by private interests for commercial purposes.

Timber Cutting Permit:

**Department of Natural Resources
601 Bond Drive
P. O. Box 280
Castle Rock, Washington 98611 PH: 577-2025**

Required when cutting in a stand that contains more than 2,000 board feet per acre.

Operating Permit:

**Department of Natural Resources
601 Bond Drive
P. O. Box 280
Castle Rock, Washington 98611 PH: 577-2025**

Required for the use of power equipment in the removal of standing, dead, and down timber.

Forest Debris Dumping Permit:

**Department of Natural Resources
601 Bond Drive
P. O. Box 280
Castle Rock, Washington 98611 PH: 577-2025**

Required for the dumping of mill waste or forest debris on any forest lands.

B.) APPEALS:

- 1) This committee recognizes that an activity within the shorelines, dependent upon natural parameters (which may not be entirely predictable) may prove to require considerations in specific instances which broad standards cannot address.

Recognizing that such situations may arise, particularly in forest management activities, this committee strongly recommends:

- a) That there be created a board of appeals, consisting of members who are qualified by experience and training to pass upon matters of forest management and water-oriented activities.
- b) That this board of appeals be appointed by the board of county commissioners, and shall hold office at its pleasure. The board shall adopt reasonable rules and regulations for conducting its investigations.

2) **Basis for Appeals**

- a) In the event that it becomes apparent that adherence to the above standards in whole or in part will not attain the objectives of the master plan, alternative standards may be considered for approval by the board of appeals.
- b) In the event that these standards have been essentially adhered to and some unforeseen circumstance causes the objective to not be met, alternate courses of action may be sought through the board of appeals.
- c) This board of appeals may be called upon for issues of interpretation of standards presented.

LANDFILL AND DREDGING

REGULATIONS

NATURAL DISTRICT

- 1) Dredging operations or landfills shall be prohibited on natural shorelines, except where necessary to protect or preserve the character of that environment or where operations do not change the character of that district.

CONSERVANCY DISTRICT

- 1) Dredging operations or landfills shall be prohibited on conservancy shorelines, except where they do not substantially change the character of that district along navigable waters deemed necessary for adequate navigation as determined by U. S. Army Corps of Engineers, and where they are a necessary accessory to a project which is clearly dependent on a location near or adjacent to a body of water.
- 2) Dredging operations or landfills allowed under No. 1 shall comply with all applicable standards and regulations given under rural Nos. 1, 2, and 3 below.

RURAL DISTRICT

- 1) Dredging operations or landfills shall be permitted on rural shorelines subject to the regulations below, provided they do not substantially change the character of the environment or are accessory to a project which is dependent on a location near or adjacent to a body of water.
- 2) All dredging or spoils disposal operations shall be subject to the following regulations:
 - a) Dredging operations shall conform to the operating standards specified on any federal and state permits required for such operations. Operations not requiring federal or state permits shall have similar standards imposed as conditions of obtaining a permit.
 - b) Dredge spoils exceeding the department of ecology criteria for toxic sediments shall be disposed of on land. The results of chemical and physical analyses of the spoils material shall be forwarded to the administrator prior to the beginning of dredging operations.
 - c) Dredge spoils disposal sites shall be completely enclosed by dikes of sufficient capacity to allow for the settling of sediment before entrapped water leaves the diked area.

The outside face of the dikes shall be sloped at 1-1/2 to 1 (horizontal to vertical) or flatter and seeded with grass or otherwise protected to prevent erosion. Outlet structures in dikes shall be placed so that water discharged within the dikes will take the longest possible time to reach the outlet and shall be designed so that only the clearest water is allowed to return to the receiving waters.

- 3) All landfills shall be subject to the following standards and regulations:
 - a) The "**Criteria Governing the Design of...Landfills...for Protection of Fish and Shellfish Resources**" adopted by the Washington State Department of Fisheries and Game in 1971, which criteria are incorporated herein by reference, and are to be adjusted to local tidal levels.
 - b) Landfills shall consist of clean materials with a minimum potential for degrading water quality.
 - c) Landfills shall be protected against erosion with retaining walls or similar structures or by vegetation established during the first growing season following completion of the landfill.
- 4) Filling to provide land for septic tank drain fields shall be prohibited except where alternative treatment methods or locations cannot be utilized.

URBAN DISTRICT

- 1) Dredging or landfill operations with urban shorelines are to be considered as a conditional use.
- 2) Regulations under rural Nos. 2 and 3 shall apply.

MARINAS

REGULATIONS

NATURAL DISTRICT

- 1) Marinas shall be considered as a conditional use on natural shorelines.

CONSERVANCY DISTRICT

- 1) Marinas shall be limited in conservancy shorelines. Regulations under rural district Nos. 2 and 3 shall apply.

RURAL DISTRICT

- 1) Marinas which can be sited, designed and built in such a way as to minimize conflicts with agricultural and other uses of rural shorelines which require open space shall be permitted on rural shorelines.
- 2) Any person proposing to undertake a marina development, construction, expansion and/or alteration, or any phase thereof which constitutes a complete project, shall apply for a permit.
- 3) A permit for marina development, construction, expansion and/or alteration or, any phase thereof which constitutes a complete project, may be granted subject to the following regulations:
 - a) The latest revision "Criteria Governing the Design of...Marinas...for Protection of Fish and Shellfish Resources" adopted by the Washington State Department of Fisheries in 1971, which criteria are incorporated herein by reference, and are to be adjusted to local tidal levels.
 - b) Parking facilities shall be set back from the ordinary high water mark at its location following marina development by a minimum of twenty (20) feet measured on a horizontal plane to provide public access to and viewing from the immediate shoreline area.
 - c) Sewage pump-out and treatment facilities shall be installed within two years of the establishment of U. S. Coast Guard regulations on marine sanitation devices or at the beginning of operations of any new marina or of an expansion of any "existing" marina, whichever date is latest.
 - d) Development of marinas shall comply with state and local health agencies, regulations.
 - e) A single, joint-use moorage facility shall be required of any subdivisions, motels, multi-family residences, or commercial and industrial enterprises in close proximity to each other.
 - f) Special attention shall be given to the design development of operational procedures for fuel handling and storage in order to minimize accidental spillage and provide satisfactory means for handling those spills that do occur.

URBAN DISTRICT

- 1) Regulations under rural district Nos. 2 and 3 shall apply.

MINING

REGULATIONS

NATURAL DISTRICT

- 1) Mining shall be considered as a conditional use on natural shorelines.

CONSERVANCY DISTRICT

- 1) Mining operations which do not substantially change the character of the environment shall be permitted on conservancy shorelines.
- 2) Any person proposing to undertake or engage in a mining operation shall apply for a permit.
- 3) A permit for mining operation may be granted subject to the following regulations:
 - a) The operator of a surface mine, which is subject to the 1970 Surface Mine Land Reclamation Act, shall present to the county one copy each of the surface mining plan and of the reclamation plan as provided in RCW 78.44.
 - b) A surface mining plan or a reclamation plan judged by the county to be insufficient for the protection or restoration of the shoreline environment shall be grounds for denial of a permit.
 - c) Any gravel removal alongside, upstream or downstream from spawning areas shall be in conformance with the technical provisions of the hydraulics project approval by the Washington State Department of Fish and Wildlife.
 - d) Mining operations shall be strictly controlled or prohibited where historical, cultural, educational, or scientific value will be degraded.

RURAL DISTRICT

- 1) Mining operations shall be permitted on rural shorelines subject to conservancy Nos. 1, 2, and 3 above and insofar as they do not substantially change the character of the rural environment.

URBAN DISTRICT

- 1) Mining operations shall be permitted on urban shorelines subject to conservancy Nos. 1, 2, and 3 above.

OUTDOOR ADVERTISING, SIGNS AND BILLBOARDS

REGULATIONS

- 1) Off-premise outdoor advertising will be limited to areas of high-intensity land use such as commercial and industrial areas.

NATURAL DISTRICT

- 1) Signs shall be allowed in a natural environment only when:
 - a) marking a foot trail or hiking trail;
 - b) marking a place of historic or cultural value; and
 - c) necessary for public safety.

CONSERVANCY AND RURAL DISTRICTS

- 1) Outdoor advertising, signs and billboards shall be allowed, provided, if they are:
 - a) official in nature (i.e. traffic control);
 - b) a commercial sign advertising commodities for sale, non-illuminating, 32 square feet or less in size, and does not exceed ten (10) feet in height at its highest point from the ground;
 - c) a real estate sign offering for sale, lease, or rent, non-illuminating, 32 square feet or less in size, and does not exceed ten (10) feet at its highest point from the ground;
 - d) of any nature placed on the side of a building, 32 square feet or less in size, and non-illuminating;
 - e) not obstructing or degrading a view or scenic vista;
 - f) integral in nature marking monuments, historic or cultural places; and
 - g) does not obstruct sight distance to motorized travelers.

URBAN DISTRICT

- 1) Signs shall be allowed as above; illuminating signs may be allowed in urban environment provided they are non-view obstructing.

PORTS AND WATER-RELATED INDUSTRIES

REGULATIONS

NATURAL DISTRICT

- 1) Such uses and log storage shall be considered as conditional uses on natural shorelines.

CONSERVANCY DISTRICT

- 1) Deep-draft ports or water-related industries other than those activities covered in other sections of this program shall be considered as conditional uses on conservancy shorelines.
- 2) Log storage areas shall be permitted subject to regulations Nos. 4 and 5 under urban district.

RURAL DISTRICT

- 1) Deep-draft ports or water-related industries other than those activities covered in other sections of this program shall be considered as conditional uses on rural shorelines.
- 2) Log storage areas shall be permitted subject to regulations Nos. 4 and 5 under urban district.

URBAN DISTRICT

- 1) Port facilities and water-related industries shall be permitted on urban shorelines.
- 2) Any person proposing a development, expansion or alteration, or any phase thereof which constitutes a complete project, of a port facility or water-related industry, shall apply for a permit.
- 3) A permit for a port facility or water-related industry, or any expansion or alteration thereof which constitutes a complete project, may be granted a permit subject to compliance with local ordinances and the following regulations:
 - a) Demonstration of compliance with the regulations specified on any federal and state permits required for such facilities and operations, by presentation of an application for each permit or other means satisfactory to the administrator.
 - b) Compliance with other applicable use regulations in this program is required.
- 4) Water storage of logs shall be permitted subject to the following minimum regulations:
 - a) No feasible dry land storage area is available, except emergency or short-term storage of logs may be in water regardless of the availability of dry and storage areas. Logs shall not be stored so that a complete waterway is blocked for public boating or public access through log storage areas along waterway.

- b) Operation shall be in accordance with applicable recommendations listed on pages 3 and 4 of the publication Log Storage and Rafting in Public Waters, a task force report approved by the Pacific Northwest Pollution Control Council, August 1971.
- 5) Dry land storage of logs shall be permitted subject to the following minimum regulations:
- a) Unpaved storage areas underlain by permeable soils shall have at least a four-foot separation between ground surface and the winter water table.
 - b) Dikes, drains, vegetated buffer strips or other means shall be used to ensure that surface runoff is collected and discharged from the storage area at one point, if possible. It shall be demonstrated that state water quality standards or criteria will not be violated by such runoff discharge under any conditions of flow in nearby water courses. If such demonstration is not possible, treatment facilities for runoff shall be provided meeting state and federal standards.

RECREATION

REGULATIONS

- 1) Except for those facilities which require a location adjacent to a body of water, setback and height regulations on all shorelines for recreational facilities shall correspond to those for single-family residences.

NATURAL DISTRICT

- 1) Recreational uses within the natural shorelines shall be considered as a conditional use.

CONSERVANCY DISTRICT

- 1) Low-intensity recreational uses shall be permitted on conservancy shorelines, subject to the following regulations:
 - a) A recreational facility or structure which detracts from the character of the local environment shall be prohibited.
 - b) Access roads to recreational facilities shall comply with regulations under the use activity roads.
 - c) Parking facilities shall be prohibited within twenty (20) feet of the shoreline as measured on a horizontal plane and surface runoff must meet all city, county, and state requirements in view of water quality.
 - d) Little or no major change of environment by man-made structures, contrivances shall be permitted.

RURAL DISTRICT

- 1) Low to medium intensity recreational uses shall be permitted on rural shorelines, subject to the following regulations.
 - a) Regulation under conservancy No. 1 (a), (b), and (d) shall apply.

URBAN DISTRICT

- 1) Any recreational use shall be permitted on urban shorelines, subject to the following regulations:
 - a) Regulation under conservancy No. 1 (a), (b), and (d) shall apply.

RESIDENTIAL DEVELOPMENT

REGULATIONS

NATURAL DISTRICT

- 1) All single-family residences within natural shorelines shall be regarded as a conditional use, subject to all regulations, and specific performance standards set forth in this program.
- 2) All residential development requiring shoreline permits shall be prohibited in natural environments.

CONSERVANCY DISTRICT

- 1) All single-family residences within conservancy shorelines shall be permitted.
- 2) All residential development requiring shoreline permits shall be considered as a conditional use in conservancy districts.
- 3) Mobile home developments shall be considered as a conditional use; except single units which shall be regarded as single-family residential development.
- 4) Floating homes shall be located in moorage slips approved in accordance with the guidelines dealing with marinas, piers, and docks, and shall be considered as a conditional use, subject to all existing regulations, and specific performance standards as set forth in this program. In planning for floating homes, local governments shall ensure that waste disposal practices meet local and state health regulations, that the homes are not located over highly productive fish food areas, and that the homes are located to be compatible with the intent of the designated environment.
- 5) Residential parking area shall be prohibited within twenty (20) feet of the ordinary high water mark as measured on a horizontal plane.
- 6) Residential development shall be prohibited within ten (10) feet of the ordinary high water mark as measured on a horizontal plane.
- 7) Residential development built out over water shall be prohibited.
- 8) Buildings exceeding 35 feet in height above average grade level, must be at least 50 feet from the ordinary high water mark, as measured on a horizontal plane, and shall be considered as a conditional use.
- 9) All residential development shall be consistent with the county comprehensive plan and all applicable county land use regulations.
- 10) Residential developers shall be required to indicate how they plan to preserve shore vegetation and control erosion during construction; which shall be filed with the application for a building permit.
- 11) Sewage disposal facilities, as well as water supply facilities, must be provided in accordance with appropriate state and local health regulations. Storm facilities shall be separate, not combined with sewage disposal systems so that ground water quality shall not be endangered.

RURAL DISTRICT

- 1) All single-family residences within rural shorelines shall be permitted.
- 2) All residential development requiring shoreline permits shall be considered as a conditional use in rural districts.
- 3) Mobile home developments shall be considered as a conditional use; except single units which shall be regarded as single-family residential development.
- 4) Floating homes shall be located in moorage slips approved in accordance with the guidelines dealing with marinas, piers, and docks. In planning for floating homes, local governments shall ensure that waste disposal practices meet local and state health regulations, that the homes are not located over highly productive fish food areas, and that the homes are located to be compatible with the intent of the designated environment.
- 5) Residential parking area shall be prohibited within twenty (20) feet of the ordinary high water mark as measured on a horizontal plane.
- 6) Residential development shall be prohibited within ten (10) feet of the ordinary high water mark as measured on a horizontal plane.
- 7) Residential development built out over water shall be prohibited.
- 8) Buildings exceeding 35 feet in height above average grade level, must be at least 50 feet from the ordinary high water mark, as measured on a horizontal plane.
- 9) All residential development shall be consistent with the county comprehensive plan and all applicable county land use regulations.
- 10) Residential developers shall be required to indicate how they plan to preserve shore vegetation and control erosion during construction; which shall be filed with the application for a building permit.
- 11) Sewage disposal facilities, as well as water supply facilities, must be provided in accordance with appropriate state and local health regulations. Storm facilities shall be separate, not combined with sewage disposal systems so that ground water quality shall not be endangered.

URBAN DISTRICT

- 1) All residential development within urban shorelines shall be permitted.
- 2) Residential parking area shall be prohibited within ten (10) feet of the ordinary high water mark as measured on a horizontal plane.
- 3) Residential development shall be prohibited within ten (10) feet of the ordinance high water mark as measured on a horizontal plane.
- 4) Residential development built out over water shall be prohibited.

- 5) Buildings exceeding 35 feet in height above average grade level, must be at least 50 feet from the ordinary high water mark as measured on a horizontal plane.
- 6) All residential development shall be consistent with the county comprehensive plan and all applicable county land use regulations.
- 7) Residential developers shall be required to indicate how they plan to preserve shore vegetation and control erosion during construction; which shall be filed with the application for a building permit.
- 8) Sewage disposal facilities, as well as water supply facilities, must be provided in accordance with appropriate state and local health regulations. Storm facilities shall be separate, not combined with sewage disposal systems so that ground water quality shall not be endangered.

ROADS AND RAILROADS

REGULATIONS

- 1) Whenever necessary to locate roads, location shall be subject to road location standards set forth in the Forest Practices and Shoreline Management Special Report, found under Forest Practices and Shoreline Management, pages 34 - 36.

NATURAL DISTRICT

- 1) Non-motorized trails only shall be permitted within natural shorelines.
- 2) Where roads are necessary for salvage operations, regulations shall be subject to Road Specifications under the Forest Practices and Shoreline Management Special Report, found under Forest Practices and Shoreline Management, pages 34 - 36.

CONSERVANCY DISTRICT

- 1) Non-motorized trails shall be permitted within conservancy shorelines.
- 2) All public roads and railroads shall be considered as a conditional use.
- 3) All private roads must meet the road specifications as outlined in the Forest Practices and Shoreline Management Special Report, found under Forest Practices and Shoreline Management, pages 34 - 36.

RURAL DISTRICT

- 1) Non-motorized trails shall be permitted within rural shorelines.
- 2) All public roads and railroads shall be considered as a conditional use.
- 3) All private roads must meet the road specifications as outlined in the Forest Practices and Shoreline Management Special Report, found under Forest Practices and Shoreline Management, pages 34 - 36.

URBAN DISTRICT

- 1) Non-motorized trails shall be permitted within urban shorelines.
- 2) Railroads shall be permitted within urban shorelines.
- 3) Future construction of all roads, highways, freeways, and access roads shall assure compliance with existing county rules and regulations addressing such construction.
- 4) All public roads and railroads shall not impede non-motorized public access to public shorelines.
- 5) All private roads must meet the road specifications as outlined in the Forest Practices and Shoreline Management Special Report, found under Forest Practices and Shoreline Management, pages 34 - 36.

SEWAGE COLLECTION AND TREATMENT

REGULATIONS

NATURAL, CONSERVANCY, RURAL, AND URBAN DISTRICTS

- 1) Sewage disposal facilities for any proposed use shall meet all applicable state and local regulations, including those of the Department of Social and Health Services, Department of Ecology, Cowlitz County Health Department and those found in zoning subdivision ordinances.
- 2) If a community sewage collection and treatment system is located on or near a proposed use, or within 1,000 feet and is accessible, connection shall be made to that system and an individual sewage disposal facility shall be prohibited. All subdivision developments within one mile of a public sewer require approved dry sewers in anticipation of future sewer hookups.
- 3) Any use for which a sewage disposal facility using a soil absorption system (drainfield) is proposed shall be on a lot which at a minimum shall meet the following standards:
 - a) The lot shall have suitable soils, no high water table, slope less than 15%, and other physical characteristics as required by the Cowlitz County Health Department in proposed drainfield areas.
 - b) The lot shall have sufficient suitable area meeting the requirements in (a) above to allow an alternate soil absorption system to be installed should the first one fail or, if applicable, shall have the minimum area required for a residential development, whichever area is larger.
 - c) The lot shall not be located within a flood hazard area where drainfield would be within 50-year floodplain, below seasonal high water mark elevation, or where approved drainfield cannot be installed greater than 1200 feet from river as measured on a horizontal plane.
- 4) Soil absorption systems (drainfields) shall be prohibited closer than 100 feet from the ordinary seasonal high water mark or within 50-year floodplain. Setbacks greater than 100 feet may be required by the administrator in order to adequately protect water supplies or water quality.
- 5) Soil absorption systems (drainfields) shall be prohibited on sites declared unsuitable for that purpose by the Cowlitz County Health Department.
- 6) Filling to provide land for soil absorption systems (drainfields) shall be prohibited except where alternative treatment methods or locations cannot be utilized; this fill will act as a cover being no deeper than one foot and drainfield must be installed in original soil below fill.

SHORELINES WORKS AND STRUCTURES

REGULATIONS

- 1) Riprapping and other bank stabilization measures shall be located, designed and constructed so as to avoid the need for channelization and to protect the natural character of the streamway.

In all environments, the use of non-rock riprap material shall be considered as a conditional use, and the use of abandoned automobiles for SWS shall be prohibited.

NATURAL DISTRICT

- 1) Shoreline works and structures on natural shorelines shall be considered as a conditional use.

CONSERVANCY DISTRICT

- 1) Shoreline works and structures shall be prohibited on conservancy shorelines, except where they do not substantially change the character of that district and where they are a necessary part of a project which is clearly dependent on a location near or adjacent to a body of water.
- 2) Shoreline works and structures allowed under No. 1 shall comply with all applicable standards and regulations given under No. 2 below.

RURAL DISTRICT

- 1) Shoreline works and structures allowed anywhere on rural shorelines subject to the regulations given below, provided they do not substantially change the character of the environment and are part of a project which is permitted by other provisions of the program.
- 2) Shoreline works and structures shall be subject to the following regulations, where applicable:
 - a) Shoreline works and structures conform to the standards specified on any federal or state permits required for such projects. Shoreline works and structures not requiring federal or state permits shall, as a condition of obtaining a permit, have similar standards imposed.
 - b) The "*Criteria Governing the Design of Bulkheads, Landfills, and Marinas... for Protection of Fish and Shellfish Resources*" adopted by the Washington State Department of Fisheries in 1971, which criteria are incorporated herein by reference, and are to be adjusted to local tidal levels.
 - c) The builder of any shoreline protection structure shall be responsible for determining in advance the nature and extent of any possible adverse effects on fish and wildlife or on the property of others caused by his construction and shall propose and take all necessary actions to minimize such effects.

URBAN DISTRICT

- 1) Shoreline works and structures are allowed anywhere on urban shorelines.

SOLID WASTE DISPOSAL

REGULATIONS

- 1) All solid waste disposal sites requiring permits from the Cowlitz County Health Department shall conform to the regulations of the department applying to such sites and to the state minimum functional standards for solid waste handling (WAC 173-301).
- 2) All solid waste disposal sites shall conform to the **Solid Waste Management Plan --Cowlitz County.**
- 3) Solid waste disposal sites, where allowed, shall be designed to minimize adverse visual impacts. Natural or planted vegetation shall completely screen on all sides of the site.
- 4) Feasible plans shall be presented for subsequent use of any solid waste landfill, including wood-waste fills, prior to the granting of a permit.

NATURAL DISTRICT

- 1) Solid waste disposal sites of all kinds shall be prohibited on natural shorelines.

CONSERVANCY DISTRICT

- 1) Solid waste disposal sites shall be prohibited on conservancy shorelines.

RURAL DISTRICT

- 1) Solid waste land disposal sites shall be permitted on rural shorelines only when disposal site includes inert wastes only; such as soil, sand, concrete, or rock.
- 2) Solid waste disposal sites shall be prohibited on biologically productive wetland sites, such as tidal marshes, bogs, or swamps.

URBAN DISTRICT

- 1) Solid waste disposal sites shall be prohibited on urban shorelines.

UTILITIES

REGULATIONS

NATURAL DISTRICT

- 1) Utility systems, such as permanent electric lines, pipelines, sewer trunk lines, water main lines, and similar facilities shall be prohibited on natural shorelines, except where unavoidably necessary to cross a body of water.

CONSERVANCY DISTRICT

- 1) Utility systems, such as permanent electric lines, pipelines, sewer trunk lines, water main lines, and similar facilities shall be permitted on conservancy shorelines.
- 2) Any person proposing to install or construct a utility system shall apply for a permit.
- 3) A permit may be granted subject to the following regulations:
 - a) All such utility systems shall be underground unless such undergrounding would not be feasible.*
 - b) Where such utility systems occupy shoreline areas, clearing necessary for installation or maintenance shall be kept to the minimum width necessary to prevent interference by trees and other vegetation with the proposed transmission facilities.
 - c) Upon completion of installation of such utility systems or of any maintenance project which disrupts the environment, the disturbed area shall be regraded to compatibility with the natural terrain and replanted to prevent erosion and provide an attractive, harmonious vegetation cover.
- 4) Utility hookup linkages to shoreline use facilities shall be underground where feasible.*

RURAL DISTRICT

- 1) Regulations Nos. 2, 3, and 4 under conservancy district shall apply to rural shorelines.

URBAN DISTRICT

- 1) Regulations Nos. 2 and 3 under conservancy district shall apply to urban shorelines.
- 2) Utility hookup linkages to shoreline-use activities shall be underground where feasible.*

***Feasibility of undergrounding electrical facilities will be evaluated among other things by applying established policies and practices of Cowlitz PUD.**

DEFINITIONS

A

abatement:

The method of reducing the degree or intensity of pollution, also the use of such a method.

advanced waste treatment:

Waste water treatment beyond the secondary or biological stage that includes removal of nutrients such as phosphorus and nitrogen and a high percentage of suspended solids. Advanced water treatment, known as tertiary treatment, is the "polishing stage" of waste water treatment and produces a high quality effluent.

agricultural pollution:

The liquid and solid wastes from all types of farming, including runoff from pesticides, fertilizers and feedlots; erosion and dust from plowing, animal manure and carcasses and crop residues and debris. It has been estimated that agricultural pollution in the U. S. has amounted to more than 2-1/2 billion tons per year.

anadromous:

Type of fish that ascent rivers from the sea to spawn.

aquifer:

An underground bed or stratum of earth, gravel, or porous stone that contains water.

B

benthic region:

The bottom of a body of water. This region supports the benthos, a type of life that not only lives upon, but contributes to the character of the bottom.

biochemical oxygen demand (BOD):

A measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. Large amounts of organic waste use up large amounts of dissolved oxygen, thus the greater the degree of pollution, the greater the BOD.

biota:

All the species of plants and animals occurring within a certain area.

bog:

Wet, spongy land usually poorly drained, highly acid and rich in plant residue.

boom:

A floating device that is used to contain oil on a body of water.

broadcast application:

With respect to pesticides, the application of a chemical over an entire field, lawn, or other area.

C

CFS:

Cubic feet per second, a measure of the amount of water passing a given point.

channelization:

The straightening and deepening of streams to permit water to move faster, to reduce flooding or to drain marshy acreage for farming. However, channelization reduces the organic waste assimilation capacity of the stream and may disturb fish breeding and destroy the stream's natural beauty.

chemical oxygen demand (COD):

A measure of the amount of oxygen required to oxidize organic and oxidizable inorganic compounds in water. The COD test, like the BOD test, is used to determine the degree of pollution in an effluent.

clarifier:

In waste water treatment, a settling tank which mechanically removes settleable solids from wastes.

coliform index:

An index of the purity of water based on a count of its coliform bacteria.

coliform organism:

Any of a number of organisms common to the intestinal tract of man and animals whose presence in waste water is an indicator of pollution and of potentially dangerous bacterial contamination.

combined sewers:

A sewerage system that carries both sanitary sewage and storm water runoff. During dry weather, combined sewers carry all waste water to the treatment plant. During a storm, only part of the flow is intercepted because of plant overloading; the remainder goes untreated to the receiving stream.

D

decomposition:

Reduction of the net energy level and change in chemical composition of organic matter because of the actions of aerobic and anaerobic microorganisms.

development:

Shall be defined as set forth in RCW 90.58.030 3(d).

dissolved oxygen (DO):

The oxygen dissolved in water or sewage. Adequately dissolved oxygen is necessary for the life of fish and other aquatic organisms and for the prevention of offensive odors. Low dissolved oxygen concentrations generally are due to discharge of excessive organic solids having high BOD, the result of inadequate waste treatment.

dredging:

A method for deepening streams, swamps or coastal waters by scraping and removing solids from the bottom. The resulting mud is usually deposited in marshes in a process called filling. Dredging and filling can disturb natural ecological cycles. For example, dredging can destroy oyster beds and other aquatic life; filling can destroy the feeding and breeding grounds for many fish species.

dump:

A land site where solid waste is disposed of in a manner that does not protect the environment.

E**ecological impact:**

The total effect of an environmental change, either natural or man-made, on the ecology of the area.

ecology:

The inter-relationships of living things to one another and to their environment or the study of such inter-relationships.

ecosystem:

The interacting system of a biological community and its non-living environment.

effluent:

A discharge of pollutants into the environment, partially or completely treated or in its natural state. Generally used in regard to discharges into waters.

enrichment:

The addition of nitrogen, phosphorus and carbon compounds or other nutrients into a lake or other waterway that greatly increases the growth potential for algae and other aquatic plants. Most frequently, enrichment results from the inflow of sewage effluent or from agricultural runoff.

environment:

The sum of all external conditions and influence affecting the life, development, and, ultimately, the survival of an organism.

environmental impact statement:

A document prepared by a federal agency on the environmental impact of its proposals for legislation and other major actions significantly affecting the quality of the human environment. Environmental impact statements are used as tools for decision-making and are required by the national environmental policy act.

erosion:

The wearing away of the land surface by wind or water. Erosion occurs naturally from weather or runoff but is often intensified by man's land-clearing practices.

eutrophication:

The normally slow aging process by which a lake evolves into a bog or marsh and ultimately assumes a completely terrestrial state and disappears. During eutrophication the lake becomes so rich in nutritive compounds, especially nitrogen and phosphorus, that algae and other microscopic plant life become super-abundant, thereby "choking" the lake, and causing it eventually to dry up. Eutrophication may be accelerated by many human activities.

eutrophic lakes:

Shallow lakes, weed-choked at the edges and very rich in nutrients. The water is characterized by large amounts of algae, low water transparency, low dissolved oxygen and high BOD.

F**fecal coliform bacteria:**

A group of organisms common to the intestinal tracts of man and of animals. The presence of fecal coliform bacteria in water is an indicator of pollution and of potentially dangerous bacterial contamination.

feedlot:

A relatively small, confined land area for raising cattle. Although an economical method of fattening beef, feedlots concentrate a large amount of animal wastes in a small area. This excrement cannot be handled by the soil as it could be if the cattle were scattered on open range. In addition, runoff from feedlots contributes excessive quantities of nitrogen, phosphorus and potassium to nearby waterways, thus contributing to eutrophication.

filling:

The process of depositing dirt and mud in marshy areas to create more land for real estate development. Filling can disturb natural ecological cycles. See dredging.

G**game fish:**

Those species of fish sought by sports fishermen; for example, salmon, trout, black bass, striped bass, etc. Game fish are usually more sensitive to environmental changes and water quality degradation than "rough" fish.

germicide:

A chemical or agent that kills micro-organisms such as bacteria and prevents them from causing disease. Game fish are usually more sensitive to environmental changes and water quality degradation than "rough" fish.

green belts:

Certain areas restricted from being used for buildings and houses; they often serve as separating buffers between pollution sources and concentrations of population.

groundwater:

The supply of freshwater under the earth's surface in an aquifer or soil that forms the natural reservoir for man's use.

groundwater runoff:

Groundwater that is discharged into a stream channel as spring or seepage water.

H**habitat:**

The sum total of environmental conditions of a specific place that is occupied by an organism, a population, or a community.

hydrology:

The science dealing with the properties, distribution, and circulation of water and snow.

I**implementation plan:**

A document of the steps to be taken to ensure attainment of environmental quality standards within a specified time period. Implementation plans are required by various laws.

impoundment:

A body of water, such as a pond, confined by a dam, dike, floodgate, or other barrier.

infiltration:

The flow of a fluid into a substance through pores or small openings. Commonly used in hydrology to denote the flow of water into soil material.

interstate waters:

According to law, waters defined as: (1) rivers, lakes and other waters that flow across or form a part of state or international boundaries; (2) waters of the Great Lakes; (3) coastal water -- whose scope has been defined to include ocean waters seaward to the territorial limits and water along the coastline (including inland streams) influenced by the tide.

JKL**leachate:**

Liquid that has percolated through solid waste or other mediums and has extracted dissolved or suspended materials from it.

limnology:

The study of the physical, chemical, meteorological and biological aspects of fresh waters.

M**marsh:**

A low-lying tract of soft, wet land that provides an important ecosystem for a variety of plant and animal life but often is destroyed by dredging and filling.

monitoring:

Periodic or continuous determination of the amount of pollutants or radioactive contamination present in the environment.

N

nutrients:

Elements or compounds essential as raw materials for organism growth and development; for example, carbon, oxygen, nitrogen and phosphorus.

O

oil spill:

The accidental discharge of oil into oceans, bays or inland waterways. Methods of oil spill control include chemical dispersion, combustion, mechanical containment and absorption.

organic:

Referring to or derived from living organisms. In chemistry, any compound containing carbon.

outfall:

The mouth of a sewer, drain, or conduit where an effluent is discharged into the receiving waters.

oxidation:

A chemical reaction in which oxygen unites or combines with other elements. Organic matter is oxidized by the action of aerobic bacteria; thus oxidation is used in waste water treatment to break down organic wastes.

P

peat:

Partially decomposed organic material.

percolation:

Downward flow or infiltration of water through the pores or spaces of a rock or soil.

pesticide:

An agent used to control pests. This includes insecticides for use against harmful insects; herbicides for weed control; fungicides for control of plant diseases; rodenticides for killing rats, mice, etc.; and germicides used in disinfectant products, algaecides, slimicides, etc. Some pesticides can contaminate water, air, or soil and accumulate in man, animals and the environment, particularly if they are misused. Certain of these chemicals have been shown to interfere with the reproductive processes of predatory birds and possibly other animals.

pH:

A measure of the acidity or alkalinity of a material, liquid or solid. pH is represented on a scale of 0 to 14 with 7 representing a neutral state, 0 representing the most acid and 14, the most alkaline.

plankton:

The floating or weakly swimming plant and animal life in a body of water, often microscopic in size.

pollutant:

Any introduced gas, liquid, or solid that makes a location or quantity produce undesired environmental effects.

pollution:

The presence of matter or energy whose nature, location, or quantity produces undesired environmental effects.

potable water:

Water suitable for drinking or cooking purposes from both health and aesthetic considerations.

ppm:

Parts per million. The unit commonly used to represent the degree of pollutant concentration where the concentrations are small. Larger concentrations are given in percentages. Thus BOD is represented in ppm while suspended solids in water are expressed in percentages. In air, ppm is usually a volume/volume ratio; in water, a weight/volume ratio.

primary treatment:

The first state in waste water treatment in which substantially all floating or settleable solids are mechanically removed by screening and sedimentation.

pumping station:

A station at which sewage is pumped to a higher level. In most sewer systems pumping is unnecessary; waste water flows by gravity to the treatment plant.

QR**raw sewage:**

Untreated domestic or commercial waste water.

receiving waters:

Rivers, lakes, oceans, or other bodies that receive treated or untreated waste waters.

reservoir:

A pond, lake, tank, or basin, natural or man-made, used for the storage, regulation, and control of water.

riparian rights:

Rights of a land owner to the water on or bordering his property, including the right to prevent diversion or misuse of upstream water.

river basin:

The total area drained by a river and its tributaries.

rough fish:

Those fish species considered to be of poor fighting quality when take on tackle or of poor eating quality; for example, gar, suckers, etc. Most rough fish are more tolerant of widely changing environmental conditions than are game fish.

runoff:

The portion of rainfall, melted snow or irrigation water that flows across ground surface and eventually is returned to streams. Runoff can pick up pollutants from the air or the land and carry them to the receiving waters.

S**sanitation:**

The control of all the factors in man's physical environment that exercise or can exercise a deleterious effect on his physical development, health, and survival.

sanitary landfilling:

An engineered method of solid waste disposal on land in a manner that protects the environment; waste is spread in thin layers, compacted to the smallest practical volume and covered with soil at the end of each working day.

sanitary sewers:

Sewers that carry only domestic or commercial sewage. Storm water runoff is carried in a separate system (see sewer).

secondary treatment:

Waste water treatment, beyond the primary stage, in which bacteria consume the organic parts of the wastes. This biochemical action is accomplished by use of trickling filters or the activated sludge process. Effective secondary treatment removes virtually all floating and settleable solids and approximately 90 percent of both BOD₅ and suspended solids. Customarily, disinfection by chlorination is the final stage of the secondary treatment process.

seepage:

Water that flows through the soil.

septic tank:

An underground tank used for the deposition of domestic wastes. Bacteria in the wastes decompose the organic matter, and the sludge settles to the bottom. The effluent flows through drains into the ground. Sludge is pumped out at regular intervals.

sewage:

The total or organic waste and waste water generated by residential and commercial establishments.

sewer:

Any pipe or conduit used to collect and carry away sewage or storm water runoff from the generating source to treatment plants or receiving streams. A sewer that conveys household and commercial sewage is called a sanitary sewer. If it transports runoff from rain or snow, it is called a storm sewer. Often storm water runoff and sewage are transported in the same system or combined sewers.

sewerage:

The entire system of sewage collection, treatment, and disposal. Also supplies to all effluent carried by sewers whether it is sanitary sewage, industrial wastes or

storm water runoff.

shorelines:

Shorelines shall be defined as set forth in RCW 90.58.030 2(c).

shorelines of the state:

Shorelines of the state shall be defined as set forth in RCW 90.58.030 2(c).

shorelines of statewide significance:

Shorelines of statewide significance shall be defined as set forth in RCW 90.58.030 2(e).

silt:

Finely divided particles of soil or rock. Often carried in cloudy suspension in water eventually deposited as sediment.

skimming:

The mechanical removal of oil or scum from the surface of water.

solid waste:

Useless, unwanted or discarded material with insufficient liquid content to be free flowing. Also see waste. (1) agricultural -- solid waste that results from the raising and slaughtering of animals, and the processing of animal products and orchard and field crops; (2) commercial -- waste generated by stores, offices, and other activities that do not actually turn out a product; (3) industrial -- waste that results from industrial processes and manufacturing; (4) institutional -- waste originating from educational, health care, and research facilities; (5) municipal -- residential and commercial solid waste generated within a community; (6) pesticide -- the residue from the manufacturing, handling or use of chemicals intended for killing plant and animal pests; (7) residential -- waste that normally originates in a residential environment. Sometimes called domestic solid waste.

solid waste management:

The purposeful, systematic control of the generation, storage, collection, transport, separation, processing, recycling, recovery, and disposal of solid waste.

spoils

Dirt or rock that has been removed from its original location, specifically materials that have been dredged from the bottoms of waterways.

strip mining:

A process in which rock and top soil strata overlying ore or fuel deposits are scraped away by mechanical shovels. Also known as surface mining.

substantial development:

Shall be defined as set forth in RCW 90.58.030 3(e).

T

tailings:

Second grade or waste material derived when raw material is screened or processed.

tertiary treatment:

Waste water treatment beyond the secondary or biological stage that includes removal of nutrients such as phosphorus and nitrogen, and a high percentage of suspended solids. Tertiary treatment, also known as advanced waste treatment, produces a high quality effluent.

thermal pollution:

Degradation of water quality by the introduction of a heated effluent. Primarily a result of the discharge of cooling waters from industrial processes, particularly from electrical power generation. Even small deviations from normal water temperatures can affect aquatic life. Thermal pollution usually can be controlled by cooling towers.

U

urban runoff:

Storm water from city streets and gutters that usually contains a great deal of litter and organic and bacterial wastes.

V

variance:

Sanction granted by a governing body for delay or exception in the application of a given law, ordinance or regulation.

W

water quality standard:

A plan for water quality management containing four major elements: the use (recreation, drinking water, fish and wildlife propagation, industrial or agricultural) to be made of the water; criteria to protect those uses; implementation plans (for needed industrial-municipal waste treatment improvements) and enforcement plans, and an anti-degradation statement to protect existing high quality waters.

watershed:

The area drained by a given stream.

water table:

The upper level of ground water.

XYZ