

Goals, Policies, Objectives –
King County
Shoreline Management Master Program

(Adopted By Ordinance 3692 on May 1, 1978)

The houses know about riverside living. Even the modern weekend summertime places have learned. The old houses, the very old houses that were built of cedar shake and lodgepole by the first settlers at the turn of the eighteen-hundreds, were long ago jacked up and dragged back from the bank by borrowed teams of horses and logging oxen. Or, if they were too big to move, were abandoned to tip headlong into the water as the river sucked away the foundations.

Many of the settlers' houses were lost this way. They had all wanted to build along the river's edge in those first years, for convenience's sake, to be close to their transportation, their "Highway of Water," as the river is referred to frequently in yellowed newspapers in the Wakonda Library. The settlers had hurried to claim bankside lots, not knowing at first that their highway had a habit of eating away its banks and all that those banks might hold. It took these settlers a while to learn about the river and its habits...

A while to learn about the river and to realize that they must plan their homesites with an acknowledged zone of respect for its steady appetite; surrender a hundred or so yards to its hungry future. No laws were ever passed enforcing this zone. None were needed.

*--Ken Kesey in Sometimes
a Great Notion*

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MASTER PROGRAM ELEMENTS

The Shoreline Management Act of 1971 identifies seven land and water use elements that are to be dealt with in the development of area wide shoreline goals. They include: shoreline use, economic development, public access, conservation, recreation, historical/cultural and circulation. Master Programs are also encouraged to include any other elements which, because of present uses or future needs, are deemed appropriate to effectuate the policy of the Act.

Residential land use of shorelines of the state in King County makes up the largest share of the developed shorelines in the County. much of the undeveloped shoreline is in private ownership, subdivided into small lots and presently zoned to allow for residential use. Because of present and future needs of residential shoreline use, goals and policies have been formulated as part of a residential element to guide and plan for that development.

The following comprehensive set of shoreline goals provide the foundation and framework on which the balance of the Master Program has been developed. These goals and policies are reflective of the level of achievement believed to be intrinsically desirable for all shoreline uses, needs and developments, and establish a program policy commensurate with the intent and objectives of the Shoreline Management Act.

SHORELINE USE ELEMENT

An element which deals with the distribution, location and extent of: 1.) the use of shorelines and adjacent areas for housing, commerce, industry, transportation, public buildings and utilities, agriculture, education and natural resources, 2.) the use of the water for aquaculture, recreation and transportation, and 3.) the use of the water, shoreline and uplands for other categories of land and water uses and activities not specified in this Master Program.

GOAL: PRESERVE OR DEVELOP SHORELINES, ADJACENT UPLANDS AND ADJACENT WATER AREAS IN A MANNER THAT ASSURES A BALANCE OF SHORELINE USES WITH MINIMAL ADVERSE EFFECT ON THE QUALITY OF LIFE, WATER AND ENVIRONMENT.

Objectives

1. Shoreline land and water areas particularly suited for specific and appropriate uses should be designated and reserved for such uses.
2. Shoreline land and water uses should satisfy the economic, social and physical needs of the regional population, but should not exceed the physical carrying capacity of the shoreline areas.
3. Where appropriate, land and water uses should be located to restore or enhance the land and water environments.

4. Location of new development shall be prioritized as follows:
 - a. first priority should be given to those uses which are shoreline dependent and will have no adverse effect on the land and water environments;
 - b. next priority should be given to those uses which are shoreline dependent and which will have minimal adverse effect on the land and water environment;
 - c. next priority should be given to those uses which are shoreline dependent which may have significant adverse effect on the land and water environment;
 - d. next priority should be given to those uses which are shoreline dependent and which may have a substantial detrimental effect on either the land or water environment; and
 - e. lowest priority should be given to those uses which are not dependent on the shoreline.
5. Like or compatible shoreline uses should be clustered or distributed in a rational manner rather than be allowed to develop haphazardly.
6. Multiple uses of shoreline should be encouraged where location and integration of compatible uses or activities are feasible.
7. Unique and fragile areas of the shoreline should be protected from uses or activities that will have an adverse effect on the land or water environment.
8. Non-residential uses or activities which are not shoreline dependent should be encouraged to locate or relocate away from the shoreline.
9. King County shall consider the goals, objectives and policies within the Shoreline Master Program in all land use management actions regarding the use or development of adjacent uplands or the water areas, adjacent uplands and associated wetlands or streams with less than 20 cubic feet per second mean annual flow within its jurisdiction, where such use or development will have an adverse effect on designated shorelines.

ECONOMIC DEVELOPMENT ELEMENTS

An element which deals with the location and design of those industries, fisheries, transportation facilities, port and tourist facilities, commerce and other developments that are uniquely dependent upon the shoreline and water access.

GOAL: SHORELINE DEPENDENT DEVELOPMENT SHOULD PROVIDE LONG RANGE BENEFIT TO MAN AND HIS ECONOMIC PURSUITS

WHILE ASSURING COMPATIBIITY WITH THE ENVIRONMENTAL AND PHYSICAL GOALS FOR SHORELINE AREAS.

Objectives

1. Rather than being dispersed, shoreline industry and commerce should be encouraged to locate in present publicly identified and developed areas to the extent of the land and water carrying capacity.

Policy 1 - To relieve stress on less developed areas, new industry and commerce should be encouraged to locate in intensive use areas which can be upgraded and redeveloped.

Policy 2 - New economic development should be encouraged to cluster.

Policy 3 - Economic development should be designed to minimize actual shoreline space occupied.

Policy 4 - Economic development involving high intensity commercial land use should be confined to Urban Environments.

Policy 5 - Economic uses and activities should place inland all non-shoreline dependent elements. Those non-shoreline dependent uses which are allowed to remain may have moderate modification and reconstruction.

Policy 6 - Cooperative use of docking, parking, cargo handling and storage facilities should be encouraged.

2. Shoreline economic development should provide public physical and visual availability to the water, consistent with public health and safety.

Policy 1 - Overlook points, historic areas, structures and points of public access to the waterfront should be incorporated in industrial site planning.

Policy 2 - Port facilities should be designed to permit viewing of harbor areas by means of viewpoints, waterfront restaurants and similar public facilities that would not interfere with port operations.

3. Shoreline economic development which may have significant or substantial detrimental effect on either land or water environment should be constructed and operated in a manner to minimize these effects.

Policy 1 - New development should minimize temperature changes, accumulation of debris, bank erosion, turbidity and other changes in water quality.

Policy 2 - During excavation and other erosion and sediment activities, appropriate sediment control procedures and devices should be used to protect the water course.

Policy 3 - Structures placed in the water for economic purposes should be designed to minimize obstruction to natural circulation and movement of water, sediments and indigenous aquatic life.

Policy 4 - Economic development should be prohibited in identified unique and fragile areas.

Policy 5 - Economic development which reduces water surface or flood plain storage capacity should not be permitted, except where a shoreline dependent use serves an overriding public interest, the flood hazard is not increased, and there are no reasonable alternative construction sites.

4. Whenever feasible, waterfront economic sites should be planned so as to provide multiple uses of the shorelines of the state.

Policy 1 - Consistent with public safety, waterfront industrial developments should be encouraged to provide fishing piers, use of artificial reefs, boat ramps and other facilities.

Policy 2 - To lessen competition for landed sites, pens and structures for commercial aquaculture should be located away from Class I beaches.

Policy 3 - In siting economic development, that which is shoreline dependent should be given priority over economic development that is water-oriented.

5. Priority should be given those shoreline economic developments which maintain options for future users of the water.

Policy 1 - Economic activity which converts shoreline resources to irreversible uses should be minimized.

6. Tidelands, shorelands, beds and waters especially valuable for aquaculture or natural production of fish or shell fish should be publicly identified and protected.

Policy 1 - King County support should be given to State Departments of Game and Fisheries to improve stream conditions and open new spawning areas.

Policy 2 - Development of all fisheries for commercial and recreational applications should be encouraged.

Policy 3 - Mining, dredging, channelizing or filling of these shoreline areas should be discouraged.

7. Priority should be given shoreline economic development of renewable over non-renewable resources.

Policy 1 - To maintain a long range economic base in King County, economic development in shoreline recreation, fisheries, silvaculture and agriculture should be encouraged.

Policy 2 - Prompt and effective regeneration should be accomplished after harvest to assure a sustained yield.

Policy 3 - Mining and other resource extraction should be discouraged in waterbodies and shoreline areas.

PUBLIC ACCESS ELEMENT

An element making provision for public access to publicly-owned shorelines and assessing the need for providing public access to shoreline areas.

GOAL: INCREASE PUBLIC ACCESS TO SHORELINE AREAS PROVIDED THAT PRIVATE RIGHTS, PUBLIC SAFETY AND THE NATURAL SHORELINE CHARACTER ARE NOT ADVERSELY AFFECTED.

Objectives

1. Access development should respect and protect the enjoyment of private rights in shoreline property.

Policy 1 - Shoreline access areas should be planned to include ancillary facilities such as parking and sanitation when appropriate.

Policy 2 - Shoreline access and ancillary facilities should be designed and developed to provide adequate protection for adjacent private properties.

2. Public access should be maintained and regulated.

Policy 1 - Public access should be policed and improved consistent with intensity of use.

Policy 2 - The provision to restrict access as to nature, time, number of people and area may be appropriate for public pedestrian easements and other public access areas where there are spawning grounds, fragile aquatic life habitats or potential hazard for pedestrian safety.

Policy 3 - Facilities in public shoreline access areas should be properly maintained and operated.

3. Design of access should provide for the public health, safety and enjoyment.

Policy 1 - Appropriate signs should be used to designate publicly-owned shorelines.

Policy 2 - Within the shoreline environment pedestrian and non-motorized access should be encouraged.

Policy 3 - Public access to and along the water's edge should be available in publicly-owned shorelines that are tolerant of human activity.

4. Priority for access acquisition should consider resource desirability, availability and proximity of population.

Policy 1 - A shoreline element in the parks acquisition and development program should be encouraged so that future shoreline access is acquired and developed by established criteria and standards as part of an overall master plan.

5. Public access should be provided in new shoreline development.

Policy 1 - There should be incentives to encourage private property owners to provide shoreline access.

Policy 2 - Public pedestrian easements should be provided in future land use authorizations and in the case of King County projects along lakes, rivers, streams, ponds and marine-lands whenever shoreline features are appropriate for public use. Shorelines of the state that include but are not limited to any of the following conditions should be considered for pedestrian easements:

a. Where a proposed trail in the King County Trail System utilizes a route along the shoreline.

b. Areas of significant, historical, geological and/or biological circumstances.

c. Areas presently being legally used or historically having been legally used by the public along the shoreline for access.

d. Where public funds have been expended on or related to the waterbody.

6. Shorelines of the state should be available to all people for sensory gratification.

Policy 1 - Viewpoints, lookouts and vistas of shorelines of the state and wetlands should be publicly accessible.

Policy 2 - New developments should minimize visual and physical obstruction of the water from shoreline roads and upland owners.

7. General Policies:

Policy 1 - Where appropriate, utility and transportation rights-of-way on the shoreline should be made available for public access and use.

Policy 2 - Publicly-owned street ends which abut the shoreline should be retained and/or reclaimed for public access.

Policy 3 - Shoreline recreational facilities and other public access points should be connected by trails, bicycle pathways, and other access links where appropriate.

Policy 4 - Public pedestrian easements and access points should be of a nature and scale that would be compatible with the abutting and adjacent land use as well as natural features including aquatic life.

Policy 5 - Access development should respect and protect ecological and aesthetic values in the shorelines of the state.

CONSERVATION ELEMENT

An element which deals with the preservation of natural shoreline resources, considering but not limited to such characteristics as scenic vistas, parkways, vital estuarine areas for fish and wildlife protection, beaches and other valuable natural or aesthetic features.

GOAL: ASSURE PRESERVATION OF UNIQUE AND NON-RENEWABLE NATURAL RESOURCES AND ASSURE CONSERVATION OF RENEWABLE NATURAL RESOURCES FOR THE BENEFIT OF EXISTING AND FUTURE GENERATIONS AND THE PUBLIC INTEREST.

Objectives

1. Shorelines which are of unique or valuable natural character should be acquired for public benefit commensurate with preservation for preservation of the ecosystem.

Policy 1 - Unique and fragile areas in shoreline areas should be designated and retained as open space. Access and use should be restricted or prohibited when necessary for their preservation.

Policy 2 - When appropriate, King County should acquire those shoreline areas which are unique or valuable. Subsequent use of such areas should be governed by their ecological carrying capacity.

2. All renewably natural resources should be managed so that use or consumption does not exceed replenishment.

Policy 1 - In shoreline areas, after logging operations have been completed, reforestation or other planting should be undertaken and completed within one year whenever possible.

Policy 2 - Through policies and actions, King County should encourage the management and conservation of fish, shellfish, wildlife, timber and other renewable resources.

3. Resource conservation should be an integral part of shoreline planning.

Policy 1 - When feasible, King County should initiate programs to reverse any substantial adverse impacts caused by existing shoreline development.

Policy 2 - All future shoreline development should be planned, designed and sited to minimize adverse impact upon the natural shoreline environment.

4. Scenic, aesthetic and ecological qualities of natural and developed shorelines should be recognized and preserved as valuable resources.

Policy 1 - When appropriate, natural flora and fauna should be preserved or restored.

Policy 2 - In shoreline areas, the natural topography should not be substantially altered.

Policy 3 - Shoreline structures should be sited and designed to minimize view obstruction and should be visually compatible with the shoreline character.

Policy 4 - Wildlife and aquatic habitats, including spawning grounds, should be protected, improved, and, if appropriate, increased.

5. Resources should be managed to enhance the environment with minimal adverse effect.

Policy 1 - Agriculture, aquaculture, and silviculture in shoreline areas should be conducted with all reasonable precautions to insure the preservation of the natural character and quality of the shoreline.

Policy 2 - Shoreline activities and developments should be planned, constructed, and operated to minimize adverse effects on the natural processes of the shoreline, and should maintain or enhance the quality of air, soil, and water on the shorelines.

Policy 3 - Consumptive and extractive industries should allow the natural shoreline systems to function with a minimum of disruption during their operations and should return the shoreline to as near natural a state as possible upon their completion.

Policy 4 - Any structure or activity in or near the water should be constructed in such a way that it will minimize adverse physical or chemical effects on water quality, vegetation, fish, shellfish or wildlife.

Policy 5 - Uses or activities, which substantially degrade the natural resources of the shoreline should not be allowed.

RECREATION ELEMENT

An element for the preservation and expansion of all types of recreational opportunities through programs of acquisition, development and various means of less-than-fee acquisition.

GOAL: PROVIDE ADDITIONAL SHORELINE DEPENDENT AND WATER ORIENTED RECREATION OPPORTUNITIES THAT ARE DIVERSE, CONVENIENT, AND ADEQUATE FOR THE REGIONAL POPULATION CONSISTENT WITH THE CARRYING CAPACITY OF THE LAND AND WATER RESOURCE.

Objectives

1. Areas containing special shoreline recreation qualities not easily duplicated should be available for public use and enjoyment.

Policy 1 - Opportunities should be provided for the public to understand natural shoreline processes and experience natural resource features.

Policy 2 - Public viewing and interpretation should be encouraged at or near industrial, commercial, and governmental shoreline activities when consistent with security and public safety.

2. Shoreline recreational use and development should enhance environmental quality with minimal adverse effect on the natural resources.

Policy 1 - Stretches of relatively inaccessible and unspoiled shoreline should be available and designated as low intensity recreational use areas with minimal development; service facilities such as footpaths, periphery car parks and adequate sanitary facilities should only be allowed where appropriate.

Policy 2 - Beaches and other predominantly undeveloped shorelines already popular should be available and designated as medium intensity recreational use areas to be free from expansive development; intensity of use should respect and protect the natural qualities of the area.

Policy 3 - Small or linear portions of the shoreline suitable for recreational purposes should be available and designated as transitional use areas that allow for variable intensities of use, which may include vista points, pedestrian walkways, water

entry points, and access from the water; utilizing stream floodplains, streetends, steep slopes and shoreline areas adjacent to waterfront roads.

Policy 4 - At suitable locations, shorelines should be made available and designated as high intensive use areas that provide for a wide variety of activities.

Policy 5 - Overall design and development in shoreline recreational areas should be responsive to the site characteristics of those areas and be consistent with the level of use in the area concerned.

Policy 6 - Recreation areas on the shoreline should have adequate surveillance and maintenance.

Policy 7 - The public should be provided with additional off-site and on-site guidance and control to protect the shoreline resource.

Policy 8 - Where a wide berm is needed for dry beach recreation, and physical conditions permit sand retention, consideration should be given to creating a Class I beach when such developments does no destroy valuable biota or unique physical conditions.

Policy 9 - Access to recreational shoreline areas afforded by water and land circulation systems should be determined by the concept of optimum carrying capacity and recreational quality.

Policy 10 - Non water oriented recreational facility development should be kept inland away from the water's edge except where appropriate in high intensive shoreline use areas.

3. The provision of adequate public shoreline recreation lands should be based on an acquisition plan with clear public intent.

4. A balanced variety of recreational opportunities should be provided regionally for people of different ages, health, family status and financial ability.

Policy 1 - Appropriate specialized recreation facilities should be provided for the handicapped or others who might need them.

Policy 2 - Shoreline recreation areas should provide opportunities for different use intensities ranging from low (solitude) to high (many people).

Policy 3 - Opportunities for shoreline recreational experiences should include a wide range of accessibility and duration of use.

Policy 4 - Shoreline recreational experiences should include a wide range of different areas from remote-outdoor undeveloped areas to highly developed indoor-outdoor areas.

Policy 5 - Recreational development should meet the demands of population growth consistent with the carrying capacity of the land and water resource.

HISTORICAL/CULTURAL ELEMENTS

An element for the protection and restoration of buildings, sites, and shorelines, having historic, cultural, educational or scientific value.

GOAL: SHORELINE FEATURES HAVING HISTORIC, CULTURAL, SCIENTIFIC OR EDUCATIONAL VALUE, LOCALLY OR REGIONALLY, SHOULD BE DESIGNATED AND THEN RETAINED AND PROTECTED.

Objectives

1. Public and private cooperation in site preservation and protection should be encouraged.

Policy 1 - King County should create the means for establishing a County register of historic buildings, sites and districts including those on shorelines.

Policy 2 - There should be incentives to encourage private owners to preserve such designated sites.

Policy 3 - Heritage sites should be restored or modified as an aspect of King County's Heritage Site Program.

Policy 4 - Whenever possible, public or private developments should be prevented from destroying or destructively altering any designated site having historic, cultural, scientific or educational value as identified by the appropriate authorities.

Policy 5 - King County should attempt to preserve sites on County property with historic, cultural, educational or scientific value.

Policy 6 - King County should coordinate with adjacent municipalities in the preservation and enhancement of mutually relevant sites and areas.

Policy 7 - King County should consider the purchase of appropriate sites to assure the preservation of representative number of natural areas for scientific purposes as identified by the proper authorities.

2. Suspected significant and newly discovered sites should remain free from other intrusions until their value for retention is determined.

Policy 1 - An assessment of the historic, cultural, educational or scientific value of proposed substantial developments should be included as part of the shoreline permit process.

Policy 2 - As part of King County's continual updating of its Inventory and Master Program, sites of suspected or potential value should be inventoried.

3. Where appropriate, access to such sites should be made available to the general public and should be designed to give maximum protection to the resource.

Policy 1 - Parks, trails and other forms of recreational open space should be coordinated with such sites when appropriate for their protection.

Policy 2 - Access to areas of scientific significance should be restricted where appropriate to the resource being protected.

4. The need to provide clear interpretation of historical/cultural sites to visitors should be recognized.

Policy 1 - Such sites should be marked by appropriate signs noting the historical or cultural significance of the location. The signs should be designed to blend with the surrounding environment.

Policy 2 - When practical, and not in conflict with the objective of protection of the resource, more extensive interpretive services should be provided.

Policy 3 - Archeological sites should not be marked by signs or other interpretive data if this would greatly increase the danger of vandalism.

CIRCULATION ELEMENT

An element dealing with the location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other public facilities and coordinating those facilities with the shoreline use of elements.

GOAL: CIRCULATION SYSTEMS IN SHORELINE AREAS SHOULD BE LIMITED TO THOSE WHICH ARE SHORELINE DEPENDENT OR WOULD SERVE SHORELINE DEPENDENT USES AND THE PHYSICAL AND SOCIAL ENVIRONMENT SHALL BE PROTECTED FROM THE ADVERSE EFFECT OF THOSE SYSTEMS ON THE QUALITY OF WATER, LIFE OR ENVIRONMENT.

Objectives

1. New surface transportation development should be designed to provide the best possible service with the least possible infringement upon the shoreline environment.

Policy 1 - New transportation facilities and improvements to existing facilities that substantially increase levels of air, noise, odor, visual or water pollution should be discouraged.

Policy 2 - Transportation corridors should be designed to harmonize with the topography and other natural characteristics of the shoreline through which they traverse.

Policy 3 - Surface transportation facilities in shoreline areas should be set back from the ordinary high water mark far enough to make unnecessary such protective measures as rip-rap or other bank stabilization, landfill, bulkheads, groins, jetties or substantial site regrade.

2. Shoreline circulation systems should encourage alternative routes and modes of travel.

Policy 1 - Future development and maintenance of regional ferry services should be encouraged and integrated with the overall transportation system.

Policy 2 - Circulation routes should provide for non-motorized means of travel.

Policy 3 - The concepts contained in King County's Urban Trails Plan should be incorporated into the shoreline circulation system.

3. Circulation systems should be located and attractively designed so as not to unnecessarily or unreasonably pollute the physical environment or reduce the benefits people derive from their property.

Policy 1 - Motorized vehicular traffic on beaches and other natural shoreline areas should be prohibited.

Policy 2 - Transportation facilities providing access to shoreline developments should be planned and designed in scale and character with the use proposed.

4. Circulation systems disruptive to public shoreline access and other shoreline uses should be relocated where feasible.

Policy 1 - Transportation elements disruptive to the shoreline character which cannot feasibly be relocated should be conditioned or landscaped to minimize visual and noise pollution.

5. Shoreline circulation systems should be adaptable to changes in technology.

Policy 1 - King County should promote and encourage modes of transportation which consume the least amount of energy while providing the best efficiency with the least possible pollution.

6. General Policies

Policy 1 - New transportation developments in shoreline areas should provide turnout areas for scenic stops and off-road rest areas where the topography, view and natural features warrant.

Policy 2 - Shoreline roadway corridors with unique or historic significance or of great aesthetic quality should be retained and maintained for those characteristics.

Policy 3 - New transportation facilities crossing lakes, streams, rivers or wetlands should be encouraged to locate in existing corridors except where any adverse impact can be minimized by selecting an alternate corridor.

Policy 4 - Shoreline terminals and transfer points should be sited and designed to minimize their impact on the environment and adjacent shoreline uses.

RESIDENTIAL ELEMENT

An element dealing with housing densities, residential subdivisions, shoreline access, necessary support services and locations of single-family dwellings (including mobile homes), multi-family dwellings and houseboats without distinction between part-time or full-time occupancy.

GOAL: SHORELINE RESIDENTIAL AREAS SHALL PERMIT A VARIETY OF HOUSING TYPES AND DESIGN WITH DENSITIES AND LOCATION CONSISTENT WITH THE ABILITY OF PHYSICAL AND NATURAL FEATURES TO ACCOMMODATE THEM.

Objectives

1. Residential developments should be excluded from shoreline areas known to contain development hazards.

Policy 1 - Residential development should be prohibited in flood plains within the 100 year flood level.

Policy 2 - Residential development should be prohibited in areas of severe or very severe landslide or avalanche hazard.

Policy 3 - Residential development should be prohibited in shoreline areas with slopes of 40% or greater which are hazardous.

Policy 4 - Shoreline areas containing other potential hazards (e.g., geological conditions, unstable subsurface conditions, erosion hazards, ground water or seepage problems) should be limited or restricted for development. The burden of proof that development of these areas is feasible, safe and ecologically sound is the responsibility of the developer.

2. Residential developments should have minimal impact on the land and water environment of the shoreline and minimize visual and physical obstruction.

Policy 1 - Residential development should be prohibited in identified unique and fragile areas.

Policy 2 - Residential development on piers or over water should not be permitted.

Policy 3 - Landfill for residential development that reduces water surface or flood plain capacity would not be permitted.

Policy 4 - In residential developments, the water's edge should be kept free of buildings and fences.

Policy 5 - Every reasonable effort should be made to insure the retention of natural shoreline vegetation and other natural features of the landscape during site development and construction.

Policy 6 - Planned unit developments that provide public access and open space for the general public as well as to residents of the project are preferred, whether single-family or multi-family developments.

3. Residential use of shorelines should not displace or encroach upon shoreline dependent uses.

Policy 1 - Housing should be located to prevent interference with shoreline dependent uses that are more important to the area.

4. Residential densities should be determined with regard for the physical capabilities of the shoreline areas, public services requirements and effects such densities have on the environment.

Policy 1 - Subdivisions and new developments should be designed to adequately protect the water and shoreline aesthetic characteristics.

Policy 2 - New residential developments should only be allowed in those shoreline areas where the provision for sewage disposal and drainage ways are of such a standard that adjoining water bodies would not be adversely affected by pollution or siltation.

Policy 3 - Residential development along shorelines should be set back from the ordinary high water mark far enough to make unnecessary such protective measures as filling, bulkheading, construction groins or jetties, or substantial regrading of the site.

5. General Policies

Policy 1 - New floating homes should be prohibited in unincorporated King County.

Policy 2 - Residential developments should be designed to enhance the appearance of the shoreline and not substantially interfere with the public's view and access to the water.

SHORELINE ENVIRONMENTS

In order to more effectively implement the goals, objectives and policies of this Master Program and the Shoreline Management Act, the shorelines of the state within King County have been categorized into five separate Environment designations. The purpose of these designations is to differentiate between areas whose geographical features imply differing objectives regarding their use and future development.

Each environment represents a particular emphasis in the type of uses and the extent of development that should occur within it. The system is designed to encourage uses in each Environment which enhance the character of the Environment while at the same time requiring reasonable standards and restrictions on development so that the character of the Environment is not destroyed.

The determination as to which designation should be given to any specific shoreline areas has been based on and is reflective of the existing development pattern, the biophysical capabilities and limitations of the land and the goals and aspirations of the local citizenry.

Each environment category includes: 1.) a definition describing the development, use and/or features which characterize the area, 2.) a purpose which clarifies the meaning and intent of the designation. and 3.) general policies designed to regulate use and development consistent with the character of the Environment.

URBAN ENVIRONMENT

The Urban Environment is an area of high-intensity land use including residential, commercial, recreational and industrial development. The Environment is particularly suitable to those areas presently subjected to extremely intensive use pressure, as well as areas planned to accommodate urban expansion. Shorelines planned for future urban expansion should present few biophysical limitations for urban activities and not have a high priority for designation as an alternative environment.

The purpose of designating the Urban Environment is to ensure optimum utilization of shorelines within urbanized areas by permitting intensive use and by managing development so that it enhances and maintains the shoreline of a multiplicity of urban uses. The Environment is designed to reflect a policy of increasing utilization and efficiency of urban areas, to promote a more intensive level of use through

redevelopment of areas now under-utilized and to encourage multiple use of the shoreline if the major use is shoreline dependent.

General Policies

1. Emphasis should be given to development within already developed areas.
2. Priority should be given to shoreline dependent and water oriented uses over other uses. Uses which are neither shoreline dependent or water oriented should be discouraged except for residential.
3. Emphasis should be given to developing visual and physical access to the shoreline in the Urban Environment.
4. To enhance the waterfront and insure maximum public use, industrial and commercial facilities should be designed to permit pedestrian waterfront activities consistent with public safety and security.
5. Multiple use of the shoreline should be encouraged.
6. Redevelopment and renewal of substandard areas should be encouraged in order to accommodate future users and make maximum use of the shoreline.
7. Aesthetic considerations should be actively promoted by means of sign control regulations, architectural design standards, planned unit development standards, landscaping requirements and other such means.
8. Development should not significantly degrade the quality of the environment, including water quality and air quality, nor create conditions which would accentuate erosion, drainage problems or other adverse impacts on adjacent Environments.

RURAL ENVIRONMENT

The Rural Environment is intended for shoreline areas characterized by agricultural uses, low density residential where most urban services are not available, and areas which provide buffer zones and open space between predominantly urban areas. Undeveloped shorelines not planned for urban expansion or which do not have a high priority for designation in an alternative Environment and recreational uses compatible with agricultural activities are appropriate for the Rural Environment.

The purpose of designating the Rural Environment is to preserve agricultural land, restrict intensive development along undeveloped shorelines, function as a buffer between urban areas, and maintain open spaces and opportunities for recreational uses within the ecological carrying capacity of the land and water resource. New developments in a Rural Environment should reflect the character of the surrounding area by limiting density, providing permanent open space and by maintaining adequate

building setbacks from water to prevent shoreline resources from being destroyed for other rural types of uses.

General Policies

1. Industrial and commercial uses should be restricted to those associated and in character with this Environment.
2. Industrial, commercial and residential development should not encroach on prime agricultural lands.
3. Recreational access to the shorelines should be encouraged. Recreational facilities should be located and designed to minimize conflicts with agricultural activities.
4. Agricultural practices should be conducted in a manner that will prevent pollution of the water and minimize erosion and sedimentation within the shoreline area.
5. New developments should reflect the character of the surrounding area by limiting residential density, providing permanent open space and maintaining adequate building setbacks from the water.

CONSERVANCY ENVIRONMENT

The Conservancy Environment consists of shoreline areas which are primarily free from intensive development. It is the most suitable designation for shoreline areas of high scenic or historical values, for areas unsuitable for development due to biophysical limitations and for commercial forestlands.

Conservancy areas are intended to maintain their existing character. This designation is designed to protect, conserve, and manage existing natural resources and valuable historic and cultural areas. The preferred uses are those which are nonconsumptive of the physical and biological resources of the area.

General Policies

1. New developments should be restricted to those which are compatible with the natural and biophysical limitations of the land and water.
2. Commercial and industrial uses other than commercial forestry, agriculture, fisheries and mining should be discouraged.
3. Diverse recreational activities which are compatible with the Conservancy Environment should be encouraged.
4. Development which would be of a hazard to public health and safety or would materially interfere with the natural processes should not be allowed.

5. Residential development should be regulated to maintain an overall density of less than one dwelling unit per acre.
6. The flood hazard overzone regulations shall apply to development within flood plains.
7. Structural flood control devices should be strongly discouraged in the Conservancy Environment.
8. In areas with poorly draining soils developments should not be allowed unless connected to a sewer line.
9. Developments should be regulated so as to minimize the following: erosion or sedimentation, the adverse impact on aquatic habitats and substantial degradation of the existing character of the Conservancy Environment.
10. King County should encourage sustained yield management of natural resources within the Conservancy Environment.

NATURAL ENVIRONMENT

The Natural Environment consists of areas characterized by the presence of some unique natural features considered valuable in their undisturbed or original condition and which are relatively intolerant of intensive human use. Such areas should be essentially free from development or be capable of being easily restored to natural condition, and they should be large enough to protect the value of the resource.

The purpose of designating the Natural Environment is to preserve and restore those natural resource systems existing relatively free of human influence. These systems require severe restrictions of intensities and types of uses permitted so as to maintain the integrity of the Natural Environment.

General Policies

1. Natural areas should remain free from all development which would adversely affect their natural character.
2. The intensity and type of uses permitted should be restricted in order to maintain the natural systems and resources in their natural condition.
3. Limited access should be allowed to those areas in the Natural Environment.
4. Uses which are consumptive of the physical and biological resources or which may degrade the actual or potential value of the Natural Environment should be prohibited.
5. Uses and activities in locations adjacent to natural areas should be strictly regulated to insure that the integrity of the Natural Environment is not compromised.

SHORELINE USE ACTIVITIES

Shoreline use activities are specific uses or groups of similar uses that have been outlined by the Department of Ecology Final Guidelines as being characteristic of the shorelines of the state. They have been formulated as implementing tools to further carry out the intent and policy of this Master Program and the Shoreline Management Act. They also represent a major criterion to be used in evaluating proposed development and alterations to the shoreline environment, with their ultimate influence, to a large extent, dependent upon how well they are enforced.

The policies that make up each use activity have been developed, founded on the premise that all reasonable and appropriate uses require regulatory control. Other provisions such as a view enhancement, public access, erosion control, water quality, long term benefits and aesthetic considerations have also been reflected in policy statements.

Shoreline uses and activities not specifically identified, and for which policies have not been developed, will be evaluated on a case-by-case basis and will be required to meet the intent of the goals and objectives of this Master Program, the policy of the Shoreline Management Act of 1971, and shall be consistent with the management policy and character of the shoreline Environment in which they propose to locate.

AGRICULTURE

The best farming soils of King County are predominantly located in the river valleys where many years of river flooding have formed flat-floored lowlands of fertile alluvial deposits. These soils, the Oridia-Seattle-Woodinville Association, covering about seven percent of King County, require little or no irrigation and lie over a gravelly subsoil below which the water table drops during the growing season.

Agricultural activities have tended to locate along the river edge in places where the ground water table is accessible and drainage is good. Dairy farms, mostly pasture dependent, are located on the Enumclaw plateau and along the Snoqualmie Rive Basin. They provide for about 25% of the Puget Sound demand for milk and milk products. Vegetable and small fruit crops are grown in portions of the Green River Valley, Sammamish Valley and on Vashon Island, accounting for up to 50% of the celery, cabbage, lettuce, rhubarb and blueberries grown and sold in the State.

Allocating land to agriculture is a vital commitment of resources although some agricultural land is being lost to other uses. Prime agricultural land lost through conversion must be replaced through additional applications of energy to less naturally productive lands (for example, a ton of synthetic nitrogen fertilizer requires the burning of more than 40,000 cubic feet of natural gas).

Essentially, all rural shoreline agricultural activities include some source of non-point water pollution. In King County, seven pollution types are characteristic and need

control considerations: sediment, nutrient, additives, pesticides, salt loads, organic loads and microbial (pathogens).

Alluvial soils which make good farmlands and are found in river valleys generally are small particles of earth. They have been deposited over long periods of time through natural erosion. Because of the size of soil particles and the intermittent absence of vegetative cover, croplands and other farmlands are highly susceptible.

Urbanization on plateaus surrounding valleys increases the rate and amount of runoff increasing the potential for erosion of valley soils. As a result, cropland may be the principal source of the total sediment yield in rivers. This source of sediment may contain pollutants. Additionally, commercial fertilizers and pesticides applied to crops may permeate into the water table of the subsoil and concentrate in ground water storage where normal valley drainage is impaired.

Both dairy and cropland farming methods may result in herbicide and pesticide pollution in both the soil and water element. Microbial and organic loads are particularly characteristic of dairy activity surrounding feedlots. Water-soluble ammonia from cattle nitrogenous waste may be carried in the breeze close to the ground for hundreds of feet to pollute adjoining waters.

Public access to the shorelines of farms poses additional problems. Public safety from farm machinery and chemicals is a major concern of farm owners. Liability for accidents makes farmers cautious to allow public access to rivers. Farm security is also of concern where damage to crops and animals as well as structures may occur. Extensive areas of farms and continuous operation requirements make supervision of public access difficult for the farm owner.

General Policies

1. Property owners in agriculture areas should be encouraged to provide shoreline recreational opportunities consistent with the goal, objectives and policies of the public access element.
2. Shoreline areas with soil particularly suitable for agriculture should be protected from activities which would compromise the agricultural potential of those areas.
3. Lakes and bogs surrounded by farmlands should be maintained and protected as wildlife habitats.
4. In agricultural areas where cattle could gain access to the water body, fences should be constructed upland of a natural vegetation strip to preclude potential pollution from animal wastes, and sediment created through destruction of the stabilized soil.
5. In agricultural areas abutting the shoreline, a strip of natural vegetation should exist above the ordinary high water mark between the water and agricultural activity to stabilize the soil and entrap sediment.

6. In agricultural areas subject to the dangers of a high water table or flooding, consideration should be given to those activities, crops, or open space which would require no new bank stabilization or flood control measures.

AQUATIC RESEARCH PRACTICES

Despite expanding world consumption and harvesting of fish and shellfish products, U.S. fish and shellfish landings have been nearly constant over the last twenty years. As a result, the U.S. catch has provided less than a quarter of the fish and shellfish consumed in the United States while national import has been increasing at an annual rate of 14%. During this period, Washington State has accounted for about 6% of the national landings and ranked 8th in dollar value.

Of all facets of economic shoreline activity, production from fisheries is the most vulnerable to massive destruction from an error in environmental control. Close monitoring of water quality and an aggressive policy of pollution abatement and control are mandatory for full realization and sustenance of this economic base.

King County shares a responsibility for the fisheries in three of the seven major Puget Sound estuaries. These three estuaries have much to do with the biological productivity of Puget Sound, the only large estuary in the United States. This estuary is one of only three in the world not dead to commercial fish harvesting.

Aquaculture addresses state hatcheries, commercial hatcheries and beds, and natural hatcheries and beds within King County shorelines. Underwater aquaria are considered as aquaculture although the use is principally recreational.

Aquaculture has two modes:

1. The harvest of uncontained plant and animal populations that exist on the nutrients and foods available in the environment, restock themselves according to the fecundity of the population, and survive as the food and nature allow. On King County shorelines, clam and geoduck digging are examples.

2. Artificial stocking or raising of stock in feedlots or pens using selective breeding and controlled feeding programs for increasing production and rearing a uniform product. In King County, state hatcheries and state distribution of oyster spat are examples.

Pen culture requires confinement and the presence of fixed structures that compete for space. Pens, rafts and hatcheries require certain environmental conditions to assure the survival of their contained populations. Some of these conditions are small wave forces, good flow, good water quality, temperature limits, good anchoring ground and accessibility and, possibly, good natural food and nutrient supply.

The confinement of fish or shellfish in concentration imposes an extreme biological load in a small area. Dense populations degrade water quality and deposit heavy fecal sediments below the pens or on the floor of embayments. The principal impacts of aquacultural activity within the shoreline are:

1. Pollutants in the water body such as fish organic wastes and additives for feeding and disease control.
2. Navigation hazards such as holding pens, rafts, nets, and stakes.
3. Watercourse alteration to supply water.
4. Netting and flooring of river beds for spawning channels.
5. Shoreline access limitations where shellfish are being protected and contained.

General Policies

1. King County support should be given to State Departments of Fisheries and Game to improve stream conditions, open new spawning areas, and establish new fish runs.
2. Pens and structures for commercial aquaculture should not be located on Class I beaches, or swimming beaches.
3. Aquacultural enterprises should be located in areas which would not significantly restrict navigation.
4. In aquaculture enterprises, development of multiple aquaculture systems should be encouraged.
5. Aquacultural structures should use open pile construction where significant littoral drift occurs.
6. Prior to use of an area for aquacultural enterprises, consideration should be given to the capability of the water body to absorb potential wastes.
7. Shoreline areas having extremely high natural potential for aquaculture should be preserved for that purpose.

FOREST MANAGEMENT PRACTICES

Almost fifty percent of the total land area of King County is forestland and of this over sixty percent is classified as principal forest. At the same time these forestlands contain a bountiful resource. As a result, industries based on timber and fish resources have flourished in the County since pioneer days. Today, both industries are still vitally important to our economy. If they are to flourish in the future, however, the resources must be managed wisely.

The West Coast Douglas-Fir Region supports five species of anadromous salmon and two species of anadromous trout as well as resident fish. Resident fish live in fresh water streams and lakes all year, and several anadromous species spend up to their first year in such areas before going to the ocean. Salmon and trout require a high quality environment, preferring clean, cool, well-oxygenated streams, and they have been known to use streams which flow as little as 0.01 cfs. In order to preserve our fish resource in forested areas, we must protect all streams at all times of the year. This means not only wise stream management but wise forest management. The following set of general policies is aimed at controlling the activities of forest harvesters for the protection of forest and fish resources for present and future use, not only by timber and fisheries interest, but also for all the residents of the County and the state.

1. All forest management and harvesting practices in shoreline areas should be conducted to cause the least possible adverse impacts on the land and water environment, should respect the natural character of the shoreline, and should make every effort to preserve wildlife, aquatic life, and their habitats.
2. Shorelines having outstanding scenic qualities should be left in a substantially natural condition. Timber harvest in such areas should be limited to selective cutting, and logging roads which would destroy the natural views of these areas should be prohibited.
3. Timber harvest in unique and fragile areas should be prohibited, except as a measure to enhance or protect the area.
4. All roads, railroads and trails should be constructed and maintained to minimize or preclude erosion.
5. Road and bridge construction should be carried out in that time of year which will prevent harmful effects on wildlife, aquatic life and their habitat, and serious soil erosion.
6. All cut, filled, and side cast slopes should be planted or seeded with appropriate ground cover or otherwise treated to prevent erosion of the slope.
7. All ruts and erodable soil conditions caused by timber harvest operations should be water-barred or planted with appropriate ground cover.
8. All road design and construction should minimize the number of waterway crossings and avoid unnecessary duplication of road systems by making use of existing roads where practical. Where roads traverse land in another ownership, but still adequately serve the operation, attempts should be made to negotiate with the owner for use of such roads before construction of new roads.
9. Land being harvested of timber prior to changing the land to a non-timber production use need not be regenerated if the new use is substantially within one year of the harvest.

However, proper erosion control measures should be taken in cases where stream degradation is possible in the interim period.

10. In shoreline areas which are unsuited for the production of wood fiber, such as lakes, marshes, bogs, swamps, springs, wet meadows or grasslands, protective and vegetative cover should be maintained as wildlife habitats.

11. Whenever seeding, planting, or other soil stabilizing measures are specified, it should be done as soon as practical according to good forest practices.

COMMERCIAL DEVELOPMENT

Commercial development pertains generally to the use or construction of facilities for transaction and sale of goods and services as opposed to industrial development (treatment together with ports) which pertains to the design and fabrication of products.

Commercial uses which are not shoreline dependent or water oriented are encouraged to site on upland plateaus.

Commercial developments in King County shorelines range from small businesses within residences to high-rise office buildings. In general shoreline dependent and water-oriented commerce are one or a combination of two types: commercial non-sales and commercial sales.

Commercial non-sales consist primarily of commercial moorage and boat launching. Terminal transfer facilities which are a form of non-sales commerce, are addressed in the "Ports and Industry" Use Activity. Commercial sales include storage, rental and sales of water vehicles and equipment, access, shoreline artifacts, food and services.

The principal impact factors upon the shoreline from commercial development are pollutants (e.g., erosion, sedimentary, chemical and microbial) and aesthetic destruction. Erosive pollutants from commercial development are generated from surface runoff and both surface and sub-surface subsidence. Chemical pollution is derived from fuel spillage. Microbial loading arises from poor containment of organic wastes associated with human habitation and recreational activities.

General Policies

1. Boat moorage, launching facilities and other services should be located where existing vehicular access and parking are available or can be made available without disruption of the shoreline environment.

2. Shoreline embankments of launching and servicing facilities should be stabilized both above and below the water's edge.

3. Consideration should be made of the effect a structure will have on a scenic value.

4. Commercial structures and ancillary facilities that are not shoreline dependent or water-oriented should be placed inland away from the immediate water's edge.
5. Overwater commercial structures should be discouraged but, where allowed, should provide safe public access to the water and promote aesthetic and visual values for public benefit.
6. The use of porous materials should be encouraged for paved areas to allow water to penetrate and percolate into the soil. Use of holding systems should be encouraged to control the runoff rate from parking lots and rooftops.
7. Commercial enterprises locating within shoreline areas should be constructed to withstand normal rain and flooding conditions without contributing pollution to the watercourse or shoreline.
8. Commercial development, which is not shoreline dependent, should provide a buffer zone of vegetation for erosion control.

PLEASURE BOAT MARINAS

Marinas are essentially port facilities for land-water transfer that provide launching, storage, moorage supplies and service of pleasure boats, as well as parking areas for automobiles. They also serve as fueling stops, havens of refuge, and destination points for boaters. In addition to their utilitarian use, they offer a great variety of activities for just watching. Marina construction is of two basic types: open-type construction (floating breakwater and/or open pile work), and solid-type construction (bulkhead and/or landfill). Boat storage associated with marinas can be wet, dry, covered, uncovered or stacked.

Due to a high percentage of boat ownership in King County and the Puget Sound area, and the great demand for boat storage and launching facilities, the County's shorelines will continue to be heavily pressured for this type of use.

Depending on their size, marinas are hubs of activity for boat and automobile traffic. They generate noise, air and water pollution and are prominent space users of land, shoreline and water. Depending on the type of construction, marinas affect fish and shellfish habitats.

The following policies are directed toward marina and other boat launch development on King County shorelines. They should take minimal shoreline space, be separated from swimming areas and be designed to protect fish and shellfish habitats and water quality.

General Policies

1. Marinas should be distributed regionally for convenient and water access only to the extent of the region's land and water carrying capacity and balanced against other shoreline dependent uses.
2. Local governments should coordinate in the planning and development of regional marina facilities for multi-jurisdictional use.
3. Marinas should be located with regard to most favorable physiographic conditions, such as wind and current protection, and adequate water depth for expected boat drafts.
4. Shallow water embayments with poor flushing action should not be considered for overnight and long-term moorage facilities.
5. Marinas should be located and designed in a manner that will minimize environmental pollution.
6. Marinas should be located within existing or potential high intensity use areas and at shoreline locations adjacent to waters used for navigation.
7. Marina development and ancillary facilities should be designed to use minimal shoreline.
8. Vehicular access to marinas should be confined so that which supports a shoreline dependent use.
9. Parking areas that serve marinas shall conform to the parking regulations of the "Transportation Facilities Use Activity".
10. Land-water access to marinas should be planned to minimize traffic congestion and to minimize pedestrian/vehicle conflicts.
11. Boats should be dry stored whenever possible to retain shoreline for other shoreline dependent uses or so that the greatest number of boats per front foot of shoreline can be accommodated.
12. The general public should be allowed use of the marina except in specific areas that may require security.
13. Viewpoints, walkways, picnic facilities, benches, telephones, restrooms, drinking fountains and other public use facilities should be encouraged.
14. Covered moorage should be discouraged except for repair or construction activity.

MINING

The Puget Sound area is particularly rich in reserves of non-metallic minerals. Sand, gravel, clay, coal, cement, and stone are produced in quantity for the construction industry, and comprise over ninety-six percent of the total recorded mineral production value in the area.

Although the total amount of land that is presently occupied by mines or will be needed for future mineral industries is extremely small, the need for land for these industries is extremely critical.

In King County, in the 115 years of mining, a total of approximately 700 acres of land has been disturbed by surface mining activities (or about one square mile), and although the land area involved is very small, the dollar value of minerals produced is rather large. Thus there is tremendous pressure to exploit further our mineral resources.

Many of the most valuable deposits of sand and gravel are located on the marine shoreline and in or near the beds of rivers. The conflicts between economic interest and environmental concern in these situations is obvious, but with good management of both the shoreline resource and the mineral resource those conflicts can be addressed and resolved without harm to either. These policies do not attempt to disallow utilization of the mineral resource. Rather, their intent is to protect the shoreline resource.

General Policies

1. Mining in unique and fragile areas should not be allowed.
2. Consumptive and extractive industries should allow the natural shoreline systems to function with a minimum of disruption during their operations and should return the site to as near natural a state as possible upon their completion.
3. Mining in or under the waters of shorelines of the state in King County should be discouraged.

OUTDOOR ADVERTISING SIGNS AND BILLBOARDS

Outdoor advertisements and signs are publicly displayed messages designed to provide information, direction or advertising, and may be pleasing or distracting depending upon their number, design, and location. The proliferation of signs has generally resulted in the reduced effectiveness of individual signs as well as having caused dangerous conflicts between advertising signs and traffic control signs. The uncontrolled use of signs and their insistent demand for attention can be detrimental to surrounding property values and may seriously detract from the enjoyment, pleasure, and the natural beauty of the shoreline. The following policies and regulations are written from the perspective that the shoreline character and attractiveness should be protected to the greatest extent possible from the ill effects of signs.

General Policies

1. Vistas and viewpoints should be free from unnecessary signs.

2. Signs, when permitted, should be placed so as not to impair view of the water or impair view upland from the water except where dangerous conditions require warning signs.
3. Warning signs should be installed by King County or by other appropriate entities where hazardous conditions may exist.
4. Advertising signs when permitted should be limited to shoreline areas of high intensity use.
5. Signs in shoreline areas should be maintained in a state of security, safety, and repair.
6. Any new sign codes for King County should recognize the unique aesthetic character and ecological qualities of shoreline areas.

UTILITIES

Few, if any, utility systems could be installed completely without coming under the jurisdiction of this Master Program. The focus of the policies in this section is on how these utility facilities within the wetland area can be planned, designed, constructed, maintained, and rehabilitated to be consistent with the intent of the Shoreline Management Act of 1971.

Types of utility facilities in King County vary from regional transmission by trunklines, pipelines, and transmission lines to subregional distribution facilities. These are essentially pipes and wires. Regional facilities generally are high voltage or high-pressure systems with substantial potential impact in case of failure. Their impacts on the environment are generally greater also because of their scale and safety requirements.

The types of utilities covered are communications (radio, television, telephone), energy distribution (petroleum products, natural gas, and electricity), water, sanitary sewers, and storm sewers. Solid waste utilities are discussed as a separate Use Activity in this Master Program.

General Policies

1. Utilities which lead growth should not be extended into any wetland or along shorelines without prior approval of such extension by appropriate land use authority.
2. Utilities located in wetlands inappropriate for developments should not make service available to those areas.
3. In developed wetlands not served by utilities, utility construction should be encouraged to locate where it can be shown that water quality will be maintained or improved.

4. King County should be consulted prior to or at the time of application for construction of regional utility facilities to be located in or along shorelines or wetlands.
5. Utility corridors crossing shorelines of the state should be encouraged to consolidate and concentrate or share rights-of-way where:
 - a. Public access (including view) would be improved.
 - b. Concentration or sharing would not hinder the ability of the utility systems to be installed, operated or maintained safely.
 - c. Water quality would be as good or better than if separate corridors were present.
6. Public access consistent with public safety and security should be encouraged where right-of-way for regional utility facilities cross-shorelines of the state.
7. New utility facilities should be located so as neither to require extensive shoreline protection nor to restrict water flow, circulation or navigation.
8. Utility facilities and rights-of-way should be selected to preserve the natural landscape and minimize conflicts with present and planned uses of the land on which they are located.
9. New utility routes should be designed to minimize detrimental visual impact from the water and adjacent uplands.

PORTS AND INDUSTRIES

King County principal port lands extend up the Duwamish River a little over a mile and one-half from Seattle City Limits. An Industrial Development District, authorized by Legislation in 1951, in Seattle and King County is being developed by the Port of Seattle. Financial support of the District is achieved primarily through fees for facility or land leasing, tax levies, bonds, and a percentage of State tidelands lease money.

The right bank of the waterway is lined with large industries, some of which are neither shoreline dependent nor water oriented. The left bank is largely undeveloped flat land backed by a major thoroughfare, West Marginal Way South. Users of this land have little interaction with the watercourse, but are so located for access to the thoroughfare. A navigable channel one hundred feet wide is maintained to depths of nine to thirteen feet.

A wide variety of deep and shallow water oriented industries could be located along the Duwamish Waterway. These Industries may compete for the shoreline when the Duwamish River is adequately prepared for them. Examples are: Public and private terminal facilities, marine construction, boat builders, sand and gravel, etc.

Puget Sound will be impacted by changing bulk shipping technology. By 1980, 200,000 to 300,000 ton bulk carriers requiring channel depths from 60 to 90 feet will be standard. The unique deep water of Puget Sound will be attractive for the operation of these ships. Obviously, increasing pressure will be brought to bear for accommodation such as:

1. Offshore facilities, floating docks, artificial islands, submerged pipes, barges and other mechanisms for loading and unloading ships.

2. Deep water piers or docks established along the coastline where no harbor exists.

Other industrial shoreline concentrations exist on streams, lakes and marine waters in King County. A number of these industries are not water oriented. The principal impacts upon the shoreline from port and industrial users are pollutants (e.g., sedimentary, chemical, thermal and microbial), intensive use, erosion, aesthetic destruction, and natural habitat alteration.

General Policies

1. To preclude wasteful use of the shoreline, allocation for port use should be made on a regional basis.

2. Industrial docks and piers should be designed to minimize adverse impact of such facilities upon other shoreline dependent uses and other shoreline resources.

3. Ports and shoreline dependent industry should be encouraged to provide public access to the watercourse, consistent with public safety, public health, and security

4. Industrial and commercial activities should share overwater structures and shoreline facilities.

5. Maintenance of continuous, good quality water flow in cut-off oxbows resulting from channel alteration for port use should be considered to help retain available fish and wildlife habitats, and increase recreational opportunities.

6. Erosion resistant vegetation cover should be planted between cleared land and the shoreline to protect the water element.

7. Industrial uses which are not shoreline dependent should be located away from the shoreline.

8. Shorelines of the State in King County should not include port and storage facilities for deep draft oil tankers.

9. Offshore facilities, floating docks and artificial islands for deep water port expansion should not be permitted until it is known with certainty that such development of expansion will not harm the marine environment or diminish the natural productivity of the estuarine system of Puget Sound.

10. Water reclamation and power plants and sewage treatment facilities should be located where they are compatible and do not interfere with recreational, residential, or other public uses of the shoreline.

BREAKWATERS

Breakwaters are offshore structures often linked to the shore, designed to absorb and reflect back onto the water body the energy of waves so as to protect the shore behind them. They are generally constructed either as solid walls which tend to be most effective in reducing wave energy behind the structure, or as floating structures which often are not sufficient to withstand waves of high energy. In that beach accumulation and general sand mobility is caused by wave, current and tidal action, breakwaters may have dramatic effects on beach formation and sand movement. Solid breakwaters tend to have a greater impact on sand movement than do floating breakwaters. Conversely, floating breakwaters tend to be more expensive.

General Policies

1. Breakwater construction should only be considered in marine shoreline environments where protection from high wave action is desirable and essential.
2. Breakwaters should be constructed only where shoreline dependent users are located seaward of the existing shoreline.
3. Reduction of the opportunity to use surface water area which may result from breakwater construction should be weighed against the benefits of reduced wave action.
4. Applicants for breakwaters should consider both solid and floating breakwaters and the advantages and disadvantages of each type on debris accumulation, sand movement, and aquatic habitats at the proposed location.
5. Breakwater design should include provisions for compatible recreational uses when consistent with navigation and when public safety can be assured.
6. Care should be exercised in location, design, construction, and expansion of breakwaters relative to the shoreline environment and other shoreline dependent uses.

JETTIES AND GROINS

Jetties and groins are structures constructed primarily to affect the movement of sand. Jetties are constructed of rock, steel, or concrete at the mouths of rivers to prevent sand from blocking river channels and hindering navigation. Groins, on the other hand,

are barrier-type structures of rock, wooden piling or other materials constructed across the beach itself and extending into the water. The effects of both jetties and groins are to obstruct the sand contained in the littoral drift. Jetties trap it away from navigation routes while groins trap it for beach purposes. Where there is a relatively small amount of sand available in the littoral drift, both types of structures may tend to starve those areas down drift.

Trapping sand, similar to beach feeding and some other types of land augmentation, will have an effect upon plant and animal life to some degree. In areas of significant sand migration along the shoreline sand may cover aquatic life while the consequential effects in other areas may be very small. In each case, seasonal changes in wind direction, the locations of sources of beach parent material and the quantity of sand trapped by such structures effect the impacts they may have.

General Policies

1. Beach feeding should be considered where jetties or groins starve down drift shorelines.
2. Jetties and groins should not be constructed in areas where they tend to significantly disturb the natural cycles of aquatic and terrestrial biota.
3. Public access for shoreline dependent or water oriented activities to jetties and groins should be encouraged when consistent with public safety.
4. Care must be exercised in location, design, construction and expansion of jetties and groins relative to the shoreline environment and other shoreline dependent uses.

LANDFILL

The earth's surface evolved over several million years producing a topography consistently in a state of natural fluctuation. Man, among his other activities on the earth's surface, has participated in manipulating surface substance adding his own influence to the fluctuation. Landfill has been used within King County to create usable land by adding or displacing material in order to remove obstructions for developments. Since the purpose has been to create land usable for specific developments from land not previously useable for the developments, seldom were the natural systems considered. Fill commonly destroys vegetation subsequently eliminating habitat. It may also cover animal life or breeding and spawning grounds. The policies contained herein are intended to focus on these and other aspects of natural systems affected by man-made landfill, cuts, excavations and site grading actions, while at the same time, recognizing man's needs.

General Policies

1. Landfill, except for beach feeding, should be discouraged in areas of high shoreline erosion potential.

2. Landfill should be deposited so as to minimize disruption of normal surface and ground water passage.
3. Landfill should allow surface water penetration into the ground water supply where such conditions existed prior to fill.
4. Landfill should be located landward of the ordinary high water mark, except for beach feeding and for landfill serving shoreline dependent or public uses having an over-riding public interest, provided that such landfill shall be allowed only after full consideration is given to factors such as total water surface reduction, impediment to water flow and circulation, reduction of water quality and destruction of habitat. Landfill within the 100 year flood plain should not reduce the river channel or flood plain water storage capacity or in any way increase flood hazard so as to endanger public safety.
5. Land should be filled only after some ultimate use of the property is approved by King County in accordance with the Comprehensive Plan and this Shoreline Master Program.
6. Landfill should be done at such time as to minimize damage to water quality and aquatic life.
7. Beach feeding areas may be established and approved by King County on Lake Washington, Lake Sammamish and the marine shoreline.
8. Landfill should be permitted only in conjunction with shoreline dependent uses; landfill for uses not so dependent should be discouraged.

SOLID WASTE

King County is Washington's most populous county. In addition, it lies within an area that is rapidly growing and urbanizing. As such, King County generates the largest volume of solid waste in the state. However, urban pressures make disposal of such waste an ever-increasing problem. As more vacant land gives way to urban expansion, there is not only the problem of more people and more solid waste, but there is at the same time becoming less and less space available for the disposal of waste. This does not mean that we need be careless in siting solid waste disposal facilities. Rather, it points to the necessity of coordinated planning for those facilities.

Solid waste disposal can be a threat to health and safety wherever it occurs, but it poses particular problems in shoreline areas. Not only is it a physical and visual blight, but leachate from solid waste landfill can contaminate lakes and streams, thus endangering public health and wildlife. It is the intent of the following policies to protect the shoreline resource from the potential of solid waste.

General Policies

1. Shorelines should not be used for transfer stations, storage or disposal of solid waste. Where such activities are presently on shorelines they should be phased out and rehabilitated as soon as possible.
2. King County shall endorse and assist in the implementation of a regional solid waste disposal comprehensive plan.

DREDGING

Dredging is one of the most extensive construction activities in the rivers and harbors of the Pacific Northwest. Each year dredging operations remove and redeposit millions of cubic yards of materials in Washington alone. Dredge spoil varies from clean river sand to organic sludge. Some of this material is deposited on land, but a significant portion is dumped back into the water or immediately adjacent to the water.

Of all activities on shorelines, dredging poses one of the largest threats to water quality and aquatic life. In most cases, dredging occurs in shallow areas and may disturb the aquatic environment in the following ways: 1.) temporary reduction of water clarity from suspended sediments, 2.) loss of aquatic plants and animals by direct removal or from the sedimentation of suspended materials, 3.) alternation of the nutrient and oxygen levels of the water column, and 4.) suspension of toxic materials from the sediments into the water column.

General Policies

1. Dredging and excavation in unique and fragile areas should not be allowed.
2. In all cases, dredging and excavation operations should be conducted to minimize adverse effects on the shoreline development.
3. Dredging operations should be scheduled so as to not materially interfere with the movements of fish.
4. When dredge spoil has suitable organic and physical properties, dredging operators should be encouraged to recycle dredged material into areas of the County suitable for agricultural practices.
5. Local and regional planning for development of long-term disposal sites for dredging spoils should be initiated by King County.
6. Shoreline areas where dredging and excavation and the disposal of dredge and excavation spoil are prohibited should be defined and designated.

SHORELINE PROTECTION

Shoreline protection is action taken to reduce adverse impacts caused by current, flood, wake, or wave action. This action includes all structural and non-structural means

to reduce these impacts due to flooding, erosion, and accretion. Specific structural and non-structural means included in this use activity are bulkheads, riprap, bank stabilization and other revetments, dikes, levees, flood control dams, berms and other means of shoreline protection.

The means taken to reduce damage caused by erosion, accretion and flooding must recognize the positive aspects of each, so that the benefits of these natural occurrences will be retained, even as the problems are dealt with. Valleys are caused by erosion over time during which a river establishes its drainageway. Erosion does not exist without accretion of material eroded, be it a bench or a sandbar. Likewise, accretion cannot occur unless material has been eroded. Floods may be reduced by structural means to prevent flooding of specific areas. Dams may reduce flooding over a larger area. Damage from floods can often be reduced simply by restricting the type of development within a 100-year flood plain. While floods produce damage, it is the flood-borne silt which created the alluvial flood plain soils.

General Policies

1. Structural solutions to reduce shoreline damage should be allowed only after it is demonstrated that non-structural solutions would not be able to reduce the damage.
2. Planning of shoreline protection should encompass entire river systems and/or sizable stretches of lake or marine shorelines. This planning should consider off-site erosion, accretion or flood damage that might occur as a result of shoreline protection structures or activities.
3. Shoreline protection on marine and lake shorelines should not be used as the reason for creating new or newly usable land.
4. Shoreline protection structures should allow passage of ground and surface waters into the main water body.
5. Shoreline protection should not reduce the volume and storage capacity of rivers and adjacent wetlands or flood plains.
6. River shoreline protection should be planned, designed and constructed to allow for channel migration whenever possible.
7. Whenever shoreline protection is needed, natural berms and vegetation should be favored over artificial means.
8. The burden of proof for the need for shoreline protection to protect existing or proposed developments rests on the applicant (s).
9. Shoreline protection activities which may necessitate new or increased shoreline protection on the same or other affected properties where there has been no previous need for protection should be discouraged.

10. New development not shoreline dependent should be encouraged to locate so as not to require shoreline protection.
11. Urban areas requiring a stabilized land-water boundary may use shoreline protection measures.
12. Areas of significance in the spawning, nesting, rearing or residency of aquatic and terrestrial biota should be given special consideration in reviewing of shoreline protection actions.
13. Shoreline protection actions should be discouraged in areas where they would block beach parent material.
14. Multiple use of shoreline protection structures or non-structural solutions should be encouraged.

TRANSPORTATION FACILITIES

The circulation network use category, comprising transportation facilities such as roads [Logging road standards and regulations are part of the “Forest Management Practices” Use Activity], railroads, airports, bridges, trails and related terminals, accounts for only one percent of the total shoreline inventory of land uses in King County [King County Summary Shoreline Inventory, December 1972]. However, the impact of those facilities on shorelines has been substantial. Many of the existing facilities were constructed to serve transportation needs of the moment with a minimum expenditure and very little assessment of their primary or secondary impacts on shoreline aesthetics, public access to the water and resultant effects on adjacent properties and water quality. Planning for new transportation facilities within the shoreline area today requires a greater awareness of the environmental impacts those transportation facilities will have on shorelines in addition to the necessity for integrating future shoreline land use plans with the transportation system that serves developments on the shoreline.

General Policies

1. Pedestrian access should be built where access to public shorelines is desirable and has been cut off by linear transportation corridors. New linear facilities should enable pedestrian access to public shorelines where access is desirable.
2. New surface transportation facilities not related to and necessary for the support of shoreline activities should be set back from the ordinary high water mark far enough to make unnecessary protective measures such as rip rap or other bank stabilization, landfill, bulkheads, groins, jetties or substantial site regrade.
3. Shoreline transportation facilities should be encouraged to include in their design and development multi-modal provisions where public safety can be assured.

4. Shoreline transportation facilities should be planned to fit the topography, to minimize cuts and fills, and should be designed, located and maintained to minimize erosion and degradation of water quality and to give special consideration to shoreline aesthetics.
5. Transportation and utility facilities should be encouraged to coordinate joint use of rights-of-way and to consolidate crossings of water bodies when adverse impact to the shoreline can be minimized by doing so.
6. Transportation facilities should avoid shoreline areas known to contain development hazards (e.g. slide and slump areas, poor foundation soils, marshes).
7. Transportation facilities should minimize shoreline rights-of-way by orienting generally perpendicular to the shoreline where topographic conditions will allow.
8. Shoreline roadways should have a high priority for arterial beautification funds.
9. Transportation facilities crossing 100-year flood plains should be constructed on a low profile design so as not to serve as dikes or levees to flood waters.
10. Water surface mass transit should be encouraged.
11. Abandoned road or railroad rights-of-way which contain unique shoreline amenities should be acquired for public benefit.
12. Roads should not be cantilevered over any streamway in King County if there are feasible alternatives.
13. King County should extend its trail and bicycle trail system, particularly as it relates to shorelines, to eastern King County.
14. All transportation facilities in shoreline areas should be constructed and maintained to cause the least possible adverse impacts on the land and water environments, should respect the natural character of the shoreline, and should make every effort to preserve wildlife, aquatic life and their habitats.

PIERS AND MOORAGES

A pier is a structure built over or floating upon the water extending from the shore. Some are used as a landing place for marine transport or for recreational watercraft. Piers are designed and constructed as either water (floating) or pile supported, both of which have positive and negative environmental aspects. Floating piers generally have less of a visual impact than those on piling and they provide excellent protection for swimmers from boat traffic. Floating piers, however, interrupt littoral drift and can starve down current beaches where pile piers do not. Pile piers can provide a diverse habitat for marine life and both types create impediments to boat traffic and near-shore trolling. Pier construction requires regulation to protect navigation rights,

to preserve shoreline aesthetics and to maintain the usable water surface and aquatic lands for life forms characteristic and important to those areas.

1. Open pile pier construction should be preferred where there is significant littoral drift, where scenic values will not be impaired and where minimal alternation to the shoreline and minimal damage to aquatic resources can be assured.
2. Floating pier construction should be preferred in those areas where scenic values are high.
3. Piers should be discouraged where conflicts with recreational boats and other recreational water activities would be created by pier construction.
4. The random proliferation of single purpose piers should be discouraged. Preference should be given to shared use of piers in all shoreline areas.
5. Temporary moorages should be permitted for vessels used in the construction of shoreline facilities. The design and construction of such moorages shall be such that upon termination of the project the aquatic life can be returned to their original condition within one year at no cost to the environment or the public.
6. Shoreline structures that are abandoned or structurally unsafe should be abated.
7. Substantial additions or alterations, including but not limited to substantial developments should be in conformance with the policies and regulations set forth in the Master Program.
8. Piers on streamways under King County's jurisdiction should be limited to piers for shoreline dependent uses and should only be located within navigable segments of estuarine classified zones [King County Shoreline Summary, December 1972] of those streamways.
9. Piers, docks, buoys and other moorages should only be authorized after consideration of:
 - a. the effect such structures have on wildlife and aquatic life, water quality, scenic and aesthetic values, unique and fragile areas, submerged lands, and shoreline vegetation, and
 - b. the effect such structures have on navigation, water circulation, recreational and commercial boating, sediment movement and littoral drift and shoreline access.
10. The policies contained herein should be enforced through the applicable chapter of the King County Code.

11. Moorage buoys should be preferred over floating and pile constructed piers on all tidal waters.

RECREATION

Recreational experiences that depend on or utilize the shoreline include: harvesting activities of fish, shellfish, fowl, minerals, and driftwood; various forms of boating, swimming, and shoreline pathways; watching or recording activities, such as photography, painting, or the viewing of water dependent commercial, industrial or port activities. Principal focal points are at parks and access beaches, road ends, viewpoints, features of special interest, water-access points and destination points for boaters. Additional focal points could be at commercial, industrial, and port-activity areas. Facilities at these focal points may include fishing piers, swimming floats, paths, and parking areas; boat ramps; moorings and marinas, and accessory recreational facilities.

The management of recreational land is determined by balancing the recreational carrying capacity (or impact of the environment on people), and the ecological carrying capacity (the impact of people on the environment). Measures to accomplish this are by designation of areas for use-intensity, interpretation and regulation. The use-intensity areas range from low development and low-use intensity, to more refined and intensive development and high-use intensity. These different recreational-use areas very generally coincide with the four Environments – Natural, Conservancy, Rural, and Urban. There are multiple benefits derived from the park program; for example: recreational lands contribute substantially to open space by conservation of land, preserving historic sites, offering aesthetic relief and variety, contributing to a healthful environment, and shaping and preserving the regional form. In addition to the provisions of recreational opportunities, King County coordinates with other governmental agencies, commercial and volunteer groups to provide these opportunities for the public. The policies are directed toward providing an optimum variety of shoreline dependent and water oriented recreational opportunities. They are also directed at protecting health and safety by separating incompatible activities and channeling them into their most appropriate Environments.

General Policies

1. The development of recreational acquisition plans should give emphasis to the acquisition of prime recreation lands prior to their being preempted for other uses.
2. In open spaces having an established sense of nature, improvements should be limited to those that are necessary and unlikely to detract from the primary values of the site.
3. The siting of all developments should aim to enhance and protect the area concerned.
4. Structural forms should harmonize the topography, reinforce the use area, minimize damage to natural resources, and support recreation with minimal conflict.

5. New buildings should be made sympathetic to the scale, form, and proportion of older development, to promote harmony in the visual relationships and transitions between new and older buildings.
6. Whenever possible, natural materials should be used in developing shoreline recreational areas.
7. Artificial irrigation and fertilization should be restricted to high-intensity use areas.
8. Existing buildings that enhance the character of the shoreline should be used for recreation wherever possible.
9. Underwater parks should be extensions of shoreline parks, or be created by or enhanced by artificial reefs where natural conditions or aquatic life could be observed minimally interfered with.
10. Public recreational shoreline areas should serve as emergency havens of refuge for boaters.
11. Physical and/or visual access to the water should use steep slopes, viewpoints from bluffs, stream valleys, and features of special interest, where it is possible to place pathways consistent with public safety without requiring extensive flood or erosion protection.
12. The acquisition of public easements to the shoreline through private or quasi-public shorelines should be encouraged.
13. Existing public recreation shorelines should be restored where it is possible to revegetate, re-site roads and parking areas that are close to the shoreline, remove stream channelization and shoreline protection devices, when the facility has either deteriorated or is inconsistent with the general goals of this program.
14. Prime fishing areas should be given priority for recreational use.
15. Boating activities that increase shore erosion should be discouraged.
16. Effective interpretation should be provided to raise the quality of visitor experiences and to provide an understanding of the resource.

RESIDENTIAL DEVELOPMENT

The developed shorelines in King County are currently more widely used for residential purposes than for any other competing use. Much of the undeveloped shoreline is privately owned, subdivided into small lots and zoned to permit residential development.

The pressure to develop additional shorelines for residential uses has continued to result in property subdivision and escalating waterfront land values. Residential development of shorelines is accomplished in a variety of ways from large plats and subdivisions for multi-family dwellings to single lot development for recreational housing any of which, if poorly planned, can culminate in the degradation of the shoreline environment and water resource.

The Shoreline Management Act of 1971 specifically exempts “construction on wetlands by an owner, lessee or contract purchaser of a single family residence for his own use or the use of his family...” from its permit requirements. However, even though single family homes are not considered substantial developments the intent of the Act has established the basis for planning and regulating them.

General Policies

1. Residential developments should be permitted only where there are adequate provisions for utilities, circulation, access, site layout and building design.
2. The use of the planned unit development (PUD) concept should be encouraged for residential developments within the shoreline area so that all facets of the development can be examined at the time of initial application.
3. Subdivisions should be designed at a level of density, site coverage and occupancy compatible with the physical capabilities of the shoreline and waterbody.
4. Residential development plans submitted for approval should contain provisions for protection of groundwater supplies, erosion control, landscaping and maintenance of the shoreline integrity.
5. Residential subdivisions should be designed so as to protect water quality, shoreline aesthetic characteristics, vistas and normal public use of the water.
6. Subdivisions should provide public pedestrian access to the shorelines within the development in accordance with Public Access Element of this Master Program.
7. The established velocity, quantity and quality of storm water discharge should be considered in terms of the sensitivity of the proposed receiving environment. The disposal mode selected should minimize changes in infiltration, runoff and groundwater recharge.
8. Developers of recreational projects such as summer-homes, cabins, campgrounds and similar facilities should satisfactorily demonstrate:
 - a. the suitability of the site to accommodate proposed development without adversely affecting the shoreline environment and water resource,
 - b. adequate provisions for all necessary utilities including refuse disposal,

c. the compatibility of the development with adjacent properties and surrounding land uses, and

d. that recreational opportunity exists on the site and does not depend on adjacent public land to furnish the activity.

9. Streets, roadways and roadway easements, whether publicly or privately owned, within the boundaries of any waterfront parcel, should not be used to compute lot area, lot dimensions, yards, open space or other required conditions of land subdivision or development.

GLOSSARY

Billboard - A sign containing a commercial message or other visual communication unrelated to any use or activity on the property on which the sign is located.

Buffer Zone or Buffer Strip - An area of land which 1.) serves to reduce the adverse impacts between land uses of different intensities or 2.) serves to separate or identify transitions between land uses of the same intensity.

Campground - An outdoor recreational facility or resort with permanent camping sites or installations.

Cull - Defective or low grade timber.

Designated Shorelines - Shorelines of statewide significance.

Embankment Fill Slopes - Fill slopes compacted by equipment.

End Haul - The transportation of excess excavation material along the road surface to construct a road of balanced design.

Fetch - The distance from one shore to the opposite shore measured perpendicular to the shoreline.

Forest Management - The application of scientific, economic, and social principles to the administration and working of a forest property for specific objectives.

Freestanding Sign - A single or multiple-faced sign, supported from the ground by one or more columns, uprights or braces.

Ground Water Table (Level) - The upper surface of the underground zone of saturation.

Impervious - Impenetrable, not allowing fluid flow.

Jetty - An artificial barrier used to change the natural littoral drift to protect inlet entrances from clogging by excess sediment.

Landing - A place at which logs are assembled for transportation in loads or rafts.

Left Bank - The left shore of a river or stream as determined by facing downstream.

Merchantable - That portion of a tree or stand which can be marketed under given economic conditions, even if so situated as not to be immediately accessible for logging.

Mulching - The addition of materials (usually organic) to the land surface to curtail erosion or to retain soil moisture.

Multiple Use - The combining of compatible uses within one development. The major use or activity must be shoreline dependent. The major use or activity must be in terms of both dollar value and commitment of land.

Node - A concentration of activity or development generally located at a point along a route.

Non-designated Shorelines - Those shorelines on streams upstream of a point where the mean annual flow is twenty (20) cubic feet per second or less, and the wetlands associated with such upstream segments; those shorelines on lakes less than twenty (20) acres in size and the wetlands associated with such lakes.

Regeneration - The renewal of a tree crop, whether by natural or artificial means.

Right Bank - The right shore of a river or stream as determined by facing downstream.

Run-off - That part of precipitation that flows over the land surface from the area upon which it falls.

Side Cast Slopes - Slopes compacted by natural settling over time.

Shorelands - Lands bordering on the shores of a navigable lake or river not subject to tidal flow, between the line or ordinary high water and the line of navigability.

Shoreline Dependent and Shoreline Dependent Uses - All uses which can only exist in a location where the land water interface provides biological or physical conditions necessary for the use.

Specific Gravity - The weight per unit of a material by the weight per unit of water. Materials with a specific gravity less than 1.0 float on water.

Subdivision - For the purpose of this Master Program subdivision means the division of land into two or more lots, tracts, sites, or divisions for the purpose of sale, lease, transfer or development and shall include all re-subdivision of land and planned unit developments.

Stringer Bridge - A bridge constructed of lengths of timber supporting a number of small transverse members.

Tidelands - The beds and shores of navigable tidal waters lying between the line of ordinary high tide and the line of extreme low tide.

Tolerant of Human Activity - Those areas that are not ecologically sensitive, hazardous or scientifically significant.

Unique and Fragile Areas - Those portions of the shoreline which 1.) contain or substantially contribute to the maintenance of endangered or valuable forms of life; or 2.) contain steep slopes, marshes or other areas having unstable or potentially hazardous topographic, geologic, or hydrologic features; or 3.) have significant historical, cultural, scientific, or educational value.

Water Barring - Diverting surface water by a berm, ditch, log, or other diversion method away from an area.

Water Oriented Uses - All uses which gain substantial benefit from the proximity of water but are able to function independent of the water environment.

Yarding - The operation of transporting timber from the cutting area to a yard or landing.