

LAND USE APPENDIX

I. INTRODUCTION

The existing land use and ownership pattern is the most powerful factor for determining future land use in the county. In order to develop the Land Use Chapter, a complete inventory of existing land use was made to show use and ownership patterns throughout the county. The inventory provides information on the existing development, densities, and acreage by land-use type. This information, along with information on economic and population forecasts and natural systems and resources was used in the development of the Land Use Chapter the Comprehensive Plan.

Most of the information for the Land Use Inventory was taken from Assessor’s records and transferred to Kitsap County’s Geographic Information System (GIS). The GIS allows data to be extracted in both written and graphic form. In order to provide a benchmark for comparison, a field survey of selected areas was made. The information gathered from the survey was compared to map and table information produced from the GIS. A side-by-side comparison revealed some discrepancies. After careful examination of the data and comparison with aerial photos, adjustments were made to the GIS database and the resulting land use information printed in both map and table form.

The land use information in the GIS is based on a standard land use classification system. The Land Use Map shows parcels as recorded by the Kitsap County Assessor. Each color in the non-residential categories represents a different land use type; these are not reflective of the plan designations. The seven residential categories vary by density, which is the number of dwelling units per acre. The classification scheme is broken down into the following 28 categories, which are defined in the Land Use Classifications section found later in this Appendix:

Miscellaneous	Residential	Commercial	Industrial
Water	Rural	Commercial Services	Light Industrial
Wooded Land	Estate	Commercial Retail	General Industrial
Open Land	Suburban	Auto/Highway	Heavy Industrial
Vacant Land	Urban Low	Hotel/ Motel	Mines & Quarries
Schools	Urban Standard	Off-Street Parking	
Parks	Urban Medium		
Institutional	Urban High		
Public Utilities	Mobile Home Parks		
Military			
Public Facilities			
Transportation			

The land use classification system is represented graphically on the land use map of Kitsap County. The Land Use map provides an overall view of development patterns, density, and land use types.

Summary of Recent Comprehensive Plans

The current Kitsap County Comprehensive Plan was adopted in 1977. Land use is addressed in this plan with four general goals. In addition, general policies were designed to address these goals, and specific policies for urban, semi-urban, semi-rural and rural areas are given. An environmental impact statement prepared as part of the Comprehensive Plan addresses the existing land use and development patterns, as well as housing.

The 1977 Comprehensive Plan allows a residential density for waterfront property in the rural areas of no more than two units per acre to take advantage of the limited shoreline property. It also recognizes existing development patterns and Kitsap residents' strong desire to live on or near Puget Sound. This characteristic is common in all counties and cities with waterfront on Puget Sound.

The 1977 Plan also allows for residential development at densities which exceed that which is considered rural in areas not planned for eventual transition to urban use. Designated as "Semi-Rural," these areas are often near the waterfront. Densities permitted range from one to three units per acre. Examples of areas designated Semi-Rural include Colby, Indianola, Point Jefferson and Lofall. These areas are generally served by public water systems and are not served by public sewer facilities.

Areas designated as "Semi-Urban" are also found on or near the waterfront. Suquamish, Port Gamble, Kingston, Manchester, Keyport and fringe areas of Silverdale, Bremerton and Port Orchard are examples. These areas are generally served by both public water and sewer. Densities permitted range from three to six units per acre with a maximum of 30 units per acre possible through a planned unit development approval.

While the 1977 Comprehensive Plan established land use designations, subsequent subarea plans refined and updated these designations and provided specific goals and policies for each designation. All of the subarea plans focused on the urban concentration concept, which provides the major core of future growth in and around already urban areas. The plans also developed transition areas which propose a series of concentric rings of decreasing density. The North Kitsap Subarea Plan was adopted in 1984, the Central Kitsap Subarea Plan was adopted in 1983, and the South Kitsap Subarea Plan was adopted in 1982.

Development Trends

Water is the lifeblood of the Puget Sound region. It has had significant impact in shaping Kitsap County, defining our boundaries, our economy and pattern of development.

Kitsap County comprises 396 square miles and ranks 36th out of the 39 Washington state counties in size. Despite its relatively small size, Kitsap County is the second, most densely populated county in Washington state with a 1995 density of 557 persons per square mile. King County has the highest density in the state with a density of 758.9 persons per square mile. Clark County comes in third with a density of 463.4 persons per square mile. A significant portion of the population

lives on or near Kitsap County's 228 miles of saltwater shoreline. It is estimated that approximately 35,000 people live within a half-mile of the marine waterfront outside of cities.

Kitsap County is also unique because it is virtually an island. Only a five-mile strip of land between Hood Canal and Case Inlet keep it from being an island. This relative isolation from the most densely populated areas on the eastern shore of Puget Sound have contributed to the perception of Kitsap County as a predominantly "rural" place. While this was true at one time, much of the county today is characterized by suburban and urban development.

Kitsap County has experienced a significant increase in population since the turn of the century, with the most significant growth occurring from 1900 to 1910 when the lumber industry was at its peak. During the early part of the century, development was concentrated in small settlements along the shoreline. Movement of people and goods depended on the water until road improvements began shifting development inland.

Many communities established along the water continued to grow after the timber supply had been depleted, depending on other industries such as agriculture. Cities such as Port Orchard, Poulsbo and Bremerton grew to become centers of activity. In a large part, the growth of these urban areas has been fueled by Navy facilities such as Puget Sound Naval Shipyard, Manchester Fuel Depot, Keyport and, most recently, Bangor. The siting of the Submarine Base at Bangor in the mid-1970s and the subsequent location of a regional shopping center in the early 1980s has lead to Silverdale becoming the county's center for commercial and business activity.

Over the past 30 years, the trend has been to distribute low-density single family development in several parts of the county. Major transportation corridors linking urban areas with the ferries and bridges have encouraged settlement in areas not previously developed. The majority of land in the east half of the county has been divided into parcels of less than 10 acres, and in many areas below 2.5 acres. While not all of these parcels have been developed, if current trends continue many more will be developed in the next 20 years.

Shoreline development has also continued at a steady pace. The predominantly single-family houses are often located on long, narrow lots along the shoreline. This type of development rings the county with somewhat intensive residential development which may or may not be associated with incorporated municipalities. Much of the development is not served by public sewer. Living on or near the waterfront is highly desirable to most people and still affordable when compared to other areas of Puget Sound. This, and the fact that there are still undeveloped areas along the shoreline, only increases development pressure.

There are many areas along the shoreline where urban densities are present, often without the benefit of urban services. Some waterfront settlements, such as Indianola, were developed on substandard lots at urban densities at a time when there were few development standards. Many of these lots were intended for vacation and weekend use. Gradually, permanent homes have been built, resulting in the density seen today. These communities are usually not adjacent to existing urban areas, and in many cases are separated from existing urban areas by rural and forest lands.

This same development pattern can be found around most lakes in the county. These lakes were, and in some cases still are, popular recreation areas. Homes that once served as summer and weekend retreats have become permanent residences. The deep, narrow lot pattern intensifies the impact of septic failures and stormwater runoff on the water quality of many of these lakes.

For waterfront communities such as Hansville, Indianola, Suquamish, Manchester, South Colby, Southworth and Olalla, preservation of the existing character is a primary goal of residents in these areas. Recognition of these communities in the Comprehensive Plan is needed in order to assess whether they are to grow and by how much. Numerous areas along the waterfront, including many of these old established communities, will need increased public sewer and other services to protect the water quality of Puget Sound. These areas are not necessarily associated with a city nor proposed for urban growth areas, yet they offer opportunities to locate future residential development and thus help protect natural resource lands located in the county's interior.

Natural Development Limitations

The purpose of this section of the Land Use Inventory is to describe the implications of development in Kitsap County on the environment. A detailed discussion of natural systems is included in the Natural Systems Appendix.

Kitsap County has a number of environmentally sensitive areas -- from forested wetlands and steep slopes to saltwater shorelines and estuaries. These areas are especially sensitive to urbanization and have a number of building limitations. Soil conditions, aquifer recharge areas, topography, wetlands, sensitive shorelines and streams and a number of species of fish and wildlife all must be considered.

Kitsap County contains some areas with limitations for building because of specific soil conditions and/or geologic hazardous areas. Steep, unstable slopes exist along many shorelines. These areas have a history of landslides and are very difficult to build on. Such areas exist along the eastern shore of the north end of the county south of Hansville to Kingston. They are also present along the shoreline from Brownsville to Manette; along the south shore of Sinclair Inlet between Gorst and Port Orchard; and along Colvos Passage from the Southworth Ferry Terminal to Olalla. Steep slopes are also found inland along stream corridors such as Big Beef Creek and Blackjack Creek.

Aquifer recharge areas are particularly important in Kitsap County where approximately 80% of the potable water comes from below ground. Development can have an adverse impact on groundwater recharging in a variety of ways. The density at which an area develops has a direct impact on recharging capability and therefore development approval must mitigate these impacts. Shallow aquifers (less than 100 feet) are especially susceptible to surface contamination. Well contamination has not been a widespread problem, but it is a serious problem for some smaller water systems with wells drilled to shallow depths. Saltwater intrusion is another problem that develops with over-drafting of water from an aquifer. This problem has developed in some individual shallow wells drilled near the shoreline.

Approximately 50,000 homes in Kitsap County are on septic systems. On-site systems are composed of a septic tank and drainfield. They are economical and provide an adequate level of treatment if installed, operated and maintained properly. Recent watershed studies in Kitsap County have indicated that approximately 5% of the existing septic systems are failing. A failing system is one which the chemical and biological processes that treat the effluent before it reaches groundwater, or a restrictive layer, do not occur. Bacteria, viruses and/or hazardous chemicals reach the surface or groundwater. When on-site systems fail, they are potential health and environmental hazards. Failure can be the result of a number of factors: poor design, improper installation, improper use and lack of monitoring.

Another important factor in septic system failure in Kitsap County is the existence of old systems installed before sanitary wastewater disposal regulations existed. Many of the systems were installed on small lots in marginal soil conditions. Some were originally platted as vacation sites and never intended as permanent home sites. This lot pattern is most often found in old established shoreline communities and around many of the larger lakes. Communities such as Indianola, Driftwood Keys, Island Lake, Chico, Wildcat Lake and Colby in South Kitsap represent this type of high-density development.

Development of shoreline areas at densities greater than one unit per acre has particular implications for on-site sewage disposal. Although it is possible to install a system on less than half an acre, the impact of a number of small lots concentrated near the shoreline is significant if soil conditions are poor or there is a high seasonal water table. Drainfields are more likely to fail in these conditions, threatening water quality and public health.

Failing septic systems are one type of threat to water quality intensified by development; stormwater runoff is another. Stormwater runoff intensifies as an area becomes more densely developed. When vegetation is removed, soil is exposed to the forces of runoff and rain. Particles are picked up by swiftly flowing stormwater and deposited in still waters downstream resulting in sedimentation. Increased runoff from roads, parking lots, streets, highways and industrial yards carries pollutants into the streams. Increased flooding can also result from the loss of vegetation and increase in stormwater runoff.

Degradation of shorelines and water quality because of non-point pollution has a direct impact on the plants and animals found in these areas. Shellfish beds are very sensitive to contamination from agriculture, failed septic systems, sewage outfalls and stormwater runoff. In Kitsap County, Liberty Bay, Dyes Inlet and Sinclair Inlet are closed to shellfish harvesting because of pollution.

II. ASSESSOR'S LAND USE CLASSIFICATIONS

In order to understand the existing development pattern in Kitsap County, it is useful to look at the breakdown by land use type, both in terms of acreage and percentage of the total land in the county, as recorded by the Kitsap County Assessor. Although these numbers do not represent spatial patterns, the data is useful in examining the mix of current land uses.

Table A-LU-1 Land Use Acreage Totals for Unincorporated Kitsap County		
Land Use	Acreage	% Total
Wooded and Open Land	102,256	48.5%
Vacant Land	41,669	19.8%
Residential Land	50,565	24.0%
Commercial Land	1,076	0.5%
Industrial Land	1,926	0.9%
Public Land (not including roads)	6,533	3.1%
Military	6,852	3.2%
Total	210,877	100.0%

Source: Kitsap County Geographic Information System data base.

Wooded Land

Wooded Land is defined for the purpose of the Land Use Inventory as land used for forest use found on parcels of more than 10 acres; it may or may not contain a dwelling. Parcels of less than 10 acres were not considered in this category. The Wooded/Open Land category accounts for 48.5% of land in unincorporated Kitsap County. A complete discussion of forest resource land and forest soils is provided in the Natural Systems Appendix. This section addresses the broader land use implications associated with wooded land, not just land managed for forestry.

Most large wooded parcels in Kitsap County are devoted to forestry and Christmas tree farming, many of which are under the Current Use Tax Exemption program for forest and timber land. Under this program, taxable value is based on use, rather than market value. The remaining forest lands are owned by the City of Bremerton, the tribes and the state of Washington. In addition to these lands, which are managed for forestry, there are many smaller parcels of wooded land owned by private citizens or government agencies that do not fall under the classification of forest land. These lands may or may not be in the Current Use Tax Exemption program, but are heavily wooded and would be included under this land use classification system as wooded land.

Wooded land is important to Kitsap County for many reasons. Commercial forestry provides lumber, firewood, Christmas trees and other forestry related products for local use and export outside the county. Wooded land also provides environmental benefits, including clean air, control of stormwater runoff, open space and fish and wildlife habitat. In addition, it is used for outdoor recreation, municipal watersheds and other multiple uses.

Wooded land has been adversely impacted by encroaching development. Commercial forest production is adversely impacted by nearby residential uses, roads, airports or other development

which restricts the ability to engage in site preparation burning, aerial spraying, harvesting or other essential activities. Development brings with it not only the impacts of clearing and building, but increased land values as well. As the value goes up the incentive to keep land in its natural state is reduced. Subdividing large forested tracts into smaller and smaller parcels becomes more attractive to the property owner.

In addition to the environmental impacts associated with the development of wooded land, there are a number of economic impacts as well. As more people move into previously undisturbed areas the growth brings increased traffic and increased demand on other services such as water, fire protection and schools. Improvements to these services is expensive and inefficient when development is scattered.

As density increases in rural areas, demand for public services also increases. Roads reach their capacity and accidents become more frequent. Police and fire services are stretched thin and schools become overcrowded. The impact is not only financial and environmental, but social as well. When rural densities disappear, rural character also disappears. The intangible qualities that make a rural area unique and desirable are often lost as more people move in and land is divided into smaller parcels.

Open Land

Open land includes agricultural land and open or brush-covered land which could be used for seasonal or periodic grazing, and may or may not include a dwelling unit. No attempt was made to break down the different agricultural uses. This category includes parcels of 10 acres or more. The Wooded/Open Land category accounts for 48.5% of land in unincorporated Kitsap County.

For the purpose of the Land Use Inventory, Open Land is characterized by its lack of trees, size and use. Some parcels are included under the Current Use Property Tax Exemptions in the Open Space or Open Space Agriculture categories. Other parcels have been cleared and left undeveloped.

Open land is distinguished from open space by its use. Open space includes many different land use types, while the Open Land category is more specific. It does not include parks, play fields, streams, lakes, shorelines or open land being used for specific commercial or industrial purposes.

Open land, like forest land, is important for commercial resource production, as habitat for wildlife and for recreation. The Open Land category is used to describe a variety of landscapes from wetland areas to land used for agricultural purposes.

Although agriculture is not a major industry in Kitsap County, there are some valleys where open land is used to graze livestock and grow crops. These valleys have historically been in production and contain the most suitable conditions for agriculture. They include Big Valley in North Kitsap; Central Valley and Clear Creek in Central Kitsap; Long Lake and Olalla Valley in South Kitsap.

Development of Open Land used for agriculture can have many of the same economic impacts as development of Wooded Land. Open Land that contains wetlands is especially sensitive to development. Plant and animal life can be disturbed, loss of vegetation can increase erosion and cause sedimentation. Even development that is upland can affect a wetland's role in the hydrologic cycle. Hydric soils which are often associated with wetlands pose additional problems for

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development because of the wet conditions. Land that is relatively dry during the summer may become saturated and wet during the winter.

Open Land near existing urban areas is the most desirable in terms of developability. If environmentally sensitive areas are not present and the land is not used for resource production, it is the least expensive land available to accommodate future growth. Unfortunately, this type of land is not plentiful. Most open land near urban areas has been left undeveloped because of natural development limitations such as wetlands.

Vacant Land

The Vacant Land category includes open, wooded and undeveloped land in parcels less than 10 acres in size that do not contain a dwelling unit at this time. These lands have apparently been segregated into parcels of various sizes, all less than 10 acres in size, to be used or sold as building sites. Some parcels are simply left vacant for economic reasons. On the other hand, vacant lands are usually the easiest to develop because of no active use and the size of the parcel. Land in this category accounts for 19.8% of the land. The impact of the amount of land in the Vacant Land category is tremendous. As these lands develop, the need for increased services increases. This occurs without further County review, except for that which is required by the building and health departments. The demand on basic health, safety and welfare services will be greatly impacted.

Residential Land

For the purpose of the Land Use Inventory, Residential Land Use has been classified into seven different descriptive designations accounting for 24% of the land. These categories include at least one dwelling unit and vary according to density. Density is the number of residential dwelling units in a specific area, usually expressed as dwelling units per acre of land. For the purpose of the Land Use Inventory, density refers to gross density. Gross density is the total number of dwelling units divided by the total land area of the site including land used for public purposes such as roads, parks and utilities.

The Residential Land Use categories include single family residences, mobile homes, duplexes, multi-family complexes and condominiums. They are defined as follows for analysis purposes, based on Kitsap County Assessor records:

Rural: 5 to 10 acres/d.u.

Rural residential lots in Kitsap County are typically used for weekend farming, grazing or left in their natural state for the rural atmosphere. In general, they are too small to be the sole source of income, but in some cases they may provide a second income. Rural lots can be subdivided with relative ease. If soil conditions are good, they are often not a problem for septic tank systems and are generally not served by public sewer and water systems. There is adequate room to have both on-site septic and a private well on the same parcel with little health risks.

Estate: 2.5 to 5 acres/d.u.

Estate lots are rural lots that are more difficult to divide into smaller parcels. The ease at which these lots can be divided depends on the location of existing dwellings and configuration of the site.

Access may be a problem for further subdivision. Lots in this category may or may not be a problem for septic systems depending on soil type and the presence of environmentally sensitive areas. Developments in this category do not have the density to support municipal sewer system services.

Suburban: 1 to 2.5 acres/d.u.

Suburban lots are the most difficult to divide into smaller parcels. At this density, septic tanks and wells on the same lot can be a problem and further development is constrained by the location of existing structures.

Urban-Low: 12,500 s.f. to 1 acre/d.u. (1 to 9 units/acre)

Lots in the urban-low classification typically have single family homes and some duplexes. Lots in this category are suitable for sewer and water services, although in Kitsap County many areas along the water that are built at this density do not have sewer systems. If services are not available at this density, septic systems and wells are often a problem due to site constraints. Public water is generally available and sewer may be available on parcels near existing urban areas.

Urban-Standard: 5,000 s.f. to 12,500 s.f./d.u. (3.5 to 8.7 units/acre)

Urban-standard lot sizes are commonly found in subdivisions, usually in urban areas where services are available. It is also typical of many lower-density, multi-family developments containing townhouses and attached, single-family housing. These smaller lot sizes are common in older, single-family residential areas. Development at this density requires urban services such as sewer and water.

Urban-Medium: 3,000 s.f. to 5,000 s.f./d.u. (8.7 to 14.5 units/acre)

Urban-medium contains some small, single-family units, but primarily contains multi-family developments. At this density, sewer and water services are needed. Good access to major roads is required. Proximity to schools, parks and commercial and public services are also important.

Urban-High: less than 3,000 s.f./d.u. (greater than 14.5 units/acre)

Urban-high contains multi-family developments with full urban services and good access to major arterials and highways. Public transportation, parks and proximity to schools and other public services are desirable and can be supported at this density. These areas are the highest concentration of residences in the unincorporated area.

Mobile Home Parks

Mobile home parks are color-coded for density and follow the classification system described above. They commonly fall within the urban-standard classification.

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TABLE A-LU-2 Kitsap County Residential Land Acreage Totals				
Classification	North (Acres/ % Total)	Central (Acres/ % Total)	South (Acres/ % Total)	Total (Acres/ % Total)
Rural 5-10 acres/d.u.	2,231 4.4%	3,228 6.4%	3,980 7.9%	9,436 18.7%
Estate 2.5-5 acres/d.u.	3,142 6.2%	4,748 9.4%	6,264 12.4%	14,154 28.0%
Suburban 1-2.5 acres/d.u.	3,163 6.3%	4,828 9.5%	6,277 12.4%	14,268 28.2%
Urban Low 1-3.5 units/acre	1,638 3.2%	4,148 8.2%	2,881 5.7%	8,667 17.1%
Urban Standard 3.5-8.7 units/acre	412 0.8%	1,613 3.2%	918 1.8%	2,943 5.8%
Urban Medium 8.7-14.5 units/acre	13 0.03%	103 0.2%	51 0.1%	167 0.3%
Urban High greater 14.5 units/acre	3 0.006%	115 0.2%	21 0.04%	139 0.3%
Mobile Home Parks	463 0.9%	233 0.5%	92 0.2%	788 1.6%
Total	11,065 21.9%	19,016 37.6%	20,484 40.5%	50,565 100%

* The classifications are further defined in the Assessor's Land Use Classifications section (Page A-5).

TABLE A-LU-3 Kitsap County Residential Dwelling Unit Totals				
Classification *	North (Units/ % Total)	Central (Units/ % Total)	South (Units/ % Total)	Total (Units/ % Total)
Rural 5-10 acres/d.u.	291 0.6%	438 0.9%	521 1.1%	1,250 2.6%
Estate 2.5-5 acres/d.u.	800 1.7%	1,233 2.6%	1,558 3.3%	3,591 7.5%
Suburban 1-2.5 acres/d.u.	1,708 3.6%	2,683 5.6%	3,352 7.0%	7,743 16.2%
Urban Low 1-3.5 units/acre	2,883 6.0%	8,049 16.8%	5,217 10.9%	16,149 33.8%
Urban Standard 3.5-8.7 units/acre	1,956 4.1%	7,816 16.3%	4,372 9.1%	14,144 29.6%
Urban Medium 8.7-14.5 units/acre	142 0.3%	1,137 2.4%	554 1.2%	1,833 3.8%
Urban High greater 14.5 units/acre	71 0.1%	2,271 4.8%	395 0.8%	2,737 5.7%
Wooded & Open Land 10 acres or greater	104 0.2%	123 0.3%	131 0.3%	358 0.8%
Total	7,955 16.6%	23,750 49.7%	16,100 33.7%	47,805 100%

* The classifications are further defined in the Assessor’s Land Use Classifications section (Page A-5).

Commercial Land

Historically, large-scale commercial development was confined to Port Orchard, Bremerton and Poulsbo. These areas served as regional shopping centers for residents, with Bremerton as the major commercial center. Small centers with a grocery store and gas pumps typically served local residents’ needs. These small commercial centers are scattered around the county, often in the old, established waterfront communities of Port Gamble, Hansville, Indianola, Seabeck, Brownsville, South Colby, Southworth and Olalla.

Over the past decade, Silverdale has grown to become Kitsap County’s regional commercial center. Beginning in the early 1980s with the construction of the Kitsap Mall, Silverdale has become the retail center of Kitsap County and also draws from parts of Mason, Jefferson and Clallam Counties. A number of large retailers, such as Costco and Home Base, as well as a variety of specialty retailers, restaurants and services have followed. In addition to retail trade, Silverdale has

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experienced steady growth in professional, financial and real estate services. With the growth in Silverdale, services provided in the older, small commercial centers have diminished.

This type of commercial development is centralized, has good access to major arterials, has good internal traffic circulation and follows more cohesive design standards. Concentrating commercial development in one location minimizes trips, allows for comparative shopping and provides opportunities for mass transit. Services are more easily provided and future expansion can be anticipated and more easily incorporated.

While Silverdale has received the majority of large-scale retail development, Poulsbo and Port Orchard have experienced growth in both the retail and service sector. Much of this growth has been in the form of neighborhood centers. These smaller commercial centers, usually containing one or two large, retail grocery or variety stores, often developed at major intersections. They are intended to serve the needs of residents living within the immediate urban area and are usually found on sites ranging from one to 10 acres. Neighborhood centers have some of the same advantages found in a regional shopping center: good access, good internal circulation, adequate parking and one-stop shopping. Neighborhood commercial centers differ from regional centers in scale -- they serve the day-to-day shopping needs of the community. Typical uses include supermarkets, drug stores, restaurants, laundry and dry cleaning establishments, branch banks and small specialty retailers.

Small convenience commercial centers can be found in most of the urban areas in Kitsap County. These commercial centers occur on smaller sites, usually ¼-to-½ acre, and provide for the quick-stop shopping needs of the immediate neighborhood in which they are located. Typical uses found in these centers include small grocery stores with gas pumps, laundromats, hair styling and video rental.

Somewhat similar to convenience commercial centers found in the urban areas are the small commercial centers found in the rural areas of the county. These centers are usually located at the intersection of major roads or in small, old, established communities. Rural commercial centers serve the immediate needs of rural residents. They range in size from small sites less than one acre to larger sites of five to 10 acres, depending on the population size served. Typical uses include small grocery stores, drug stores, hardware, feed and seed, farm equipment and repair and post offices. An example of this type of small commercial center would be Camp Union on Holly Road.

Some of the established rural villages contain historic commercial areas which originally were oriented to water traffic. These areas have evolved over the years to include a variety of goods and services including eating and drinking establishments, hardware and building supplies, small grocery stores, specialty shops, auto service and public facilities such as post offices. These areas also serve as the heart of the community where local residents and visitors gather for special events and celebrations. Old town commercial centers of this type can be found in Kingston, Suquamish, Silverdale and Manchester.

One of the most problematic types of commercial development in Kitsap County occurs along major arterials and is commonly referred to as strip commercial. This type of development is not centralized and lacks common access points. Each business has a separate parking area that fronts on a busy road and requires dangerous turning movements. Adjacent land uses are often not related. Coordinated planning and design between developments is often not possible, resulting in unattractive, uncoordinated development. Most of the uses found in these areas require large

acreage sites and/or a high degree of visibility. Typical uses include motels and restaurants, supermarkets, furniture stores, lumberyards, home improvement sales and services, auto sales and service and drive-up restaurants. In Kitsap County strip commercial development is found along Mile Hill Drive in Port Orchard, Kitsap Way and Wheaton Way in Bremerton, along Viking Way and Highway 305 in Poulsbo and in Gorst.

For the purpose of the Land Use Inventory, commercial land is separated into four descriptive categories: Service, Retail, Auto/Highway and Hotel/Motel. These uses are distinguished by locational considerations, site requirements, compatibility and proximity to the market.

Services

Services include commercial activity where a service is rendered rather than goods or wares sold. Some examples include finance, insurance, real estate offices, banks, barber and beauty shops, professional services, laundromats, and sit-down restaurants.

Retail

The Retail category includes retail stores and business. They generally will have relatively small land requirements and operate within a building. Examples include the sale of building materials, hardware, groceries, shoes, apparel, home furnishings, drugs, and sporting goods. Retail also includes bakeries, convenience stores, clothing stores and shoe stores.

Auto/Highway

Auto/Highway includes commercial sales and services oriented toward the automobile with good road and highway access. For the purpose of this Land Use Inventory, certain types of services and retail business have been included in the auto/highway category. They are oriented towards the auto, either directly or indirectly because their product is dependent on visibility, easy access, and parking. These uses typically require large sites and often include outside storage of products.

Examples of the types of businesses in the Auto/Highway category include gas stations, minor auto repair, auto dealers, auto parts, auto painting, RV sales, equipment sales and rentals, nurseries or greenhouses, fast food restaurants, bowling alleys, skating rinks, and mini-storage.

Hotel/Motel

The Hotel/Motel category contains all types of hotels, motels, inns and bed and breakfast establishments. These uses tend to be located near highway access with good visibility for travelers.

Off-Street Parking

Individual private or public parking lots not associated with a specific business or shopping center.

TABLE A-LU-4 Kitsap County Commercial Land Acreage Totals		
Category	Acreage	% Total
Services	381	35.4%
Retail	336	31.2%
Auto/Highway	352	32.7%
Hotel/Motel	7	0.7%
Total	1,076	100%

At this time there are 1,076 acres of land devoted to commercial use. This computes to a ratio of 0.8 acres of commercial land per 100 people in unincorporated Kitsap County. Of the different land use types, commercial land use is the smallest consumer of developed land. However, it is often the most visible because of location and its presence often establishes the appearance of the community from arterial streets and highways.

Industrial Land

Land Zoned Manufacturing and Light Manufacturing

Except for the Naval Shipyard in Bremerton, manufacturing and light manufacturing uses in unincorporated Kitsap County are relatively small-scale and are found scattered throughout the county. Only small properties have been developed in the last several years. The most common new use has been warehousing. Other zoned sites have been developed with low-intensity uses that didn't necessarily need manufacturing or light manufacturing zoning.

Kitsap County's pre-Growth Management Act Zoning Ordinance stated that the intent of the manufacturing zones is "to permit research, testing and warehousing of products and the fabrication,

assembly and processing of products in a manner and means characterized as light industry." In the manufacturing zone, its intent is "to permit the widest range of industrial and manufacturing activity."

For the purpose of the Land Use Inventory, industrial land is divided into four descriptive categories: Light, General, Heavy and Mines and Quarries. Industrial land use is distinguished by large land requirements and specific characteristics such as noise, dust, etc, that may be incompatible with other land use types.

Light Industrial

Light Industrial includes a variety of wholesale activities, warehousing and light manufacturing, fabricating and processing. (eg, wholesaling, warehousing, light manufacturing, printing, cabinet shops and bottling companies.)

General Industrial

General Industrial includes servicing of large equipment, and heavier storage or processing activities. (eg, truck repair and service, contractor operations, lumber storage and trucking and freight handling.)

Heavy Industrial

Heavy Industrial includes such things as lumber and plywood mills, wrecking yards, sand and gravel operations, foundries and iron works. These activities may include uses which are characterized by noise, dust, odor and smoke, thus making them incompatible with many other uses.

Mines and Quarries

Mines and Quarries include all types of active mines and rock quarries.

TABLE A-LU-5 Kitsap County Industrial Land Acreage Totals		
Category	Acreage	% Total
Light Industrial	367	19.1%
General Industrial	613	31.8%
Heavy Industrial	276	14.3%
Mines and Quarries	670	34.8%
Total	1,926	100%

Public Uses

Schools

Includes all public and private school facilities including administrative offices, maintenance shops and other special facilities.

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Parks

Includes public recreation facilities such as neighborhood, community, regional and special park and recreation facilities as well as private recreation facilities which have large sites such as golf courses, marinas, resorts, etc.

Institutional

Uses of various kinds considered institutional in nature and usually non-profit; examples include religious institutions and parochial schools, hospitals and cemeteries, lodges, granges and meeting halls and the Red Cross.

Public Utilities

All electric and gas utilities, telephone, telegraph, radio and television stations and facilities; examples include equipment and transformer yards, offices, radio or television stations and antennas.

Military

All military facilities including Puget Sound Naval Shipyard, Bangor Submarine Base, Keyport and Camp Wesley Harris.

Public Facilities

Includes county and city offices, library, public agency shop facilities, federal and state offices and solid waste disposal sites.

Transportation Facilities

Railroads, transit, docks and terminals, airports and private roads.

TABLE A-LU-6 Kitsap County Public Use Acreage Totals		
Category	Acreage	% Total
Schools	558	4.1%
Parks	2,434	18.0%
Institutional	199	1.5%
Public Utilities	598	4.4%
Public Facilities	2,753	20.5%
Transportation Facilities	78	0.6%
Military	6,852	50.9%
Total	13,462	100%

III. OPEN SPACE LANDS INVENTORY

As the population grows and the amount of land used for residential, commercial and industrial development increases, the county permanently loses natural areas, resource lands and the rural character that make it unique. Policies and programs that encourage open space preservation will limit these losses and complement other land use strategies by providing a range of environmental, aesthetic and recreational functions.

Recently completed community-based design plans for Hansville, Kingston, Silverdale, Suquamish and South Kitsap highlight the importance of open space preservation in maintaining the quality of both rural and urban life. The term “open space” itself is difficult to define: it includes undeveloped land and water areas and land partially developed to the extent compatible with forestry or agriculture. It can include steep slopes, wetlands, stream corridors, wooded or vacant lots, farms, forests, wildlife habitat, or other environmental, cultural or aesthetic areas and may additionally provide recreational or educational opportunities.

Many of Kitsap County’s undeveloped open spaces are identified in the Land Use Inventory as Wooded Land, Open Land (includes farms and cleared areas), Vacant Land, Park, and School. Open space values may also be provided by some Rural Residential and Estate Residential land uses. Most of these lands are privately owned and are not actively managed for permanent open space preservation.

This inventory summarizes the values of open space, identifies privately and publicly preserved open space throughout the county and describes the existing regulatory and nonregulatory framework for open space preservation. The information contained within this inventory may be revised in the future to reflect the findings of the Countywide Greenways Plan, to be completed in 1995.

Functions and Values

Open space comes in a variety of shapes, sizes and types and can provide a number of different benefits or purposes. Open spaces are areas which help to define a community and provide distinctive character, such as a wooded entrance to Indianola, a farm along Dogfish Creek or a view of Yukon Harbor at Colby. They may preserve rural character and may serve as boundaries between incompatible land uses, breaks from continuous development or natural linkages between communities.

In addition to defining community character and serving as a respite from an urbanizing environment, open spaces may also provide the following:

- ! Protection for important critical areas such as steep slopes, wetlands, estuaries, floodplains, streams and shorelines;
- ! Important wildlife habitat and wildlife corridors;
- ! Protection of surface and ground water quality and quantity;
- ! Preservation of forests and farmlands;

- ! Active and passive recreational opportunities, including those found at some parks and schoolyards, as well as trails and bike paths;
- ! Scenic areas and vistas;
- ! Economic benefits such as increased property values, tourism and jobs and income from farm, forest and fisheries resources.

To optimize the functions and values of open space, open space planning should be integrated into overall planning, and a meaningful system of open space should be designed.

Existing Framework for Open Space Preservation

In Kitsap County, open space preservation occurs through a combination of public and private efforts and with a variety of regulatory and nonregulatory tools. This section summarizes the preservation tools most widely used.

Fee-simple acquisition (outright purchase, donation, or transfer) of open space ensures permanent public access and preservation of significant lands. Public entities can use a bond levy, general funds, impact fees, conservation futures tax and real estate excise tax to fund acquisition. In some cases, the public may receive the land for a minimal cost -- landowner donations consistently provide Kitsap County with some of its most exceptional parks, including A Quiet Place County Park in Kingston and Winn Jones County Park on Sinclair Inlet. The County may also be able to garner state or federal matching grants for regionally significant land acquisitions or may receive the land from the federal government as surplus property, further reducing the cost of open space preservation to local residents.

In 1992, Kitsap County initiated the **Conservation Futures Tax**, a property tax levy of 6.25 cents per \$1,000 of assessed value, which generates revenue to preserve open space throughout the county. Properties to be protected are recommended by a nine- member citizen committee, the Open Space Council. To date, approximately 260 acres of open space have been acquired with monies from the Conservation Futures Tax and matching grants and donations.

Conservation easements represent an alternative to fee-simple acquisition. Conservation easements legally bind a set of restrictions to a property to preserve it for environmental attributes or for resource production. These restrictions remain in effect regardless of who owns the land, and the land can remain in private ownership. Although land trusts in the county have used this means of preservation, it has not been widely used by public entities.

Similar to conservation easements, **Purchase of Development Rights** (PDRs) can also be used to protect open space while maintaining land in private ownership. Development rights are privileges of a landowner to improve property; purchasing these rights prohibits the land from being further developed. While Kitsap County has not taken advantage of PDRs for open space preservation, King County has used it as a method of preserving farmlands.

Tax incentives provide public entities a way to encourage private landowners to preserve open space with minimal expenditure. The Current Use Property Tax Assessment utilized by Kitsap County encourages landowners with significant open space, agricultural or forest lands to maintain

their land in its current use. Eligible farmlands must generate a minimum income or be 20 acres or less; timberlands must be at least five acres; open space lands must provide conservation of significant ecological functions and/or be designated in official planning documents.

Enrollment in the current use tax program is voluntary; landowners must apply to be included. Once accepted, land is taxed according to its current use as open space, rather than according to its market value. Withdrawing land from this classification can incur serious penalties, which serves as some incentive to maintain the property as open space.

Some zoning code provisions can enable open space preservation to occur. Large-lot zoning may provide encouragement for landowners to maintain lands for agriculture or timber production and can provide flexibility in protecting open space or critical areas.

Clustering of homes may also provide a useful method for providing open space amenities. As discussed in various community plans, open space and rural character can be maintained through a variety of siting and design criteria. Clustering, encouraged in the rural areas, allows lots to be smaller than existing zoning by grouping units together and maintaining common open space areas. Design criteria that encourage development away from scenic areas, productive agricultural fields or critical areas can also protect open space.

Critical areas regulations or policies protect natural systems and public health and safety and may as a by-product preserve open space associated with wetlands, shorelines, streams, steep slopes, wildlife habitat, aquifer recharge/wellhead protection areas or floodplains.

A more complex method of open space preservation involves **Transfer of Development Rights (TDRs) or Density Transfer Arrangements**, which transfer development rights from a designated preservation area to an urban receiving area. Landowners in a designated preservation area can sell or transfer their development rights to landowners in designated receiving areas, who can then develop at higher densities than would otherwise be permitted. This technique has not yet been widely used; the most noteworthy TDR program exists in Columbia County, Maryland.

Private Land Trusts and other conservation organizations play a vital role in protecting open space. These nonprofit groups can acquire land more quickly than government, and have expertise in a variety of conservation techniques. They may assist public entities during the acquisition process, or may acquire land for their own preserve system. Land trusts and community groups can also play a role in stewardship and monitoring and lead public participation and planning activities.

Existing Managed Open Space

Unlike many counties around Puget Sound, Kitsap County does not have national parks or national forests to provide large-scale recreational opportunities, employment or environmental benefits to its citizens. Instead, the county has a variety of smaller-sized, publicly owned parks, forests and natural areas and a collection of open spaces stewarded by private land owners. These areas are mapped in **Figure A-LU-1** and summarized below as either public or private open space.

Public Open Space

The largest concentration of public open spaces in Kitsap County are 12,240 acres of **DNR Trust Lands** managed by the State Department of Natural Resources (DNR) for various beneficiaries. In

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the county, the two major types of Trust Lands are Common School and Forest Board Transfer. The DNR uses revenue generated from its 3,726 acres of Kitsap Common School Lands to help fund construction for K-12 schools, while the County distributes revenue from 8,898 acres of Forest Board Transfer Lands to the state general fund, county general fund and junior taxing districts. Forest Board Transfer Lands were originally acquired by the County from taxpayer defaults during the early part of the century and were later transferred to the DNR for management. Under some circumstances, Forest Board Transfer Lands can be conveyed back to the County for use as parks. DNR Trust Lands should not be considered as a permanent part of the open space program. Although most of the DNR Trust Lands are managed for long-term forest production, the properties are subject to sale or trade in order to maximize the revenues for beneficiaries. **Figure A-LU-1** identifies DNR Lands.

Although the DNR manages land throughout the county, the largest portion of its total acres is at Gold and Green Mountains. Other large parcels include Banner and Illahee sites.

Bremerton Municipal Utilities Lands lie adjacent to the DNR lands at Gold and Green Mountains and within Bremerton city limits. The city utility manages these undeveloped forest lands primarily to protect the city's potable surface water supply.

As described further in the Parks and Recreation Plan, the state operates 808 acres of **State Parks** in unincorporated Kitsap County and 154 acres on Bainbridge Island. These lands, including Blake Island, Scenic Beach and Manchester typically have water access and are used primarily for recreation in a semi-natural setting.

County Parks total more than 1,023 acres of developed and undeveloped land (including the Fairgrounds and Pavilion) and range from highly developed, like the Silverdale Waterfront Park, to natural areas such as Anderson Landing on Hood Canal. Cities and Park Districts manage more than 1,367 acres (including municipal golf courses), almost half of this on Bainbridge Island.

Approximately 260 acres of **Conservation Futures Fund Lands** have been preserved through monies generated by the county's Conservation Futures Fund, and others lands are slated for acquisition. Some lands purchased through the Open Space Program will be transferred to parks departments or districts to be used as natural parks, like Meigs Farm and Guillemot Cove, while others, like the Indianola Greenway parcels, may be preserved for wildlife habitat, water quality or scenic value.

Finally, **schools** provide more than 308 acres of ballfields and play areas that can be considered open space, and which will play an important role in an open space system.

Private Open Space

Private Conservancy Lands

Like those owned or managed by the Kitsap Land Trust, Indianola Land Trust, Hood Canal Land Trust, Bainbridge Island Land Trust, the Mountaineers and the Nature Conservancy provide more than 400 acres of scenic and sensitive open space. Public access to conservancy-type lands is generally restricted. These private, nonprofit organizations may own the land, like the 93-acre Foulweather Bluff Nature Preserve in Hansville, or may hold conservation easements that protect it in perpetuity, as with the Wiltermood wetlands in South Kitsap.

Current Use Property Tax Assessment

Property owners may apply for property tax relief through Current Use Property Tax Assessment program, which enables property to be taxed based on current use rather than market value. In Kitsap County, properties may fall into one of four categories: Open Space, Agriculture, Timber and Designated Forest Land.

Dedicated Open Space

Lands maintained as open space through this property tax program lie scattered throughout the county. Designated Current Use Forest Lands contain the largest number of acres of open space, with large portions of Forest Lands in the southwest part of the county. When landowners withdraw lands from this tax classification, penalties are assessed, thereby encouraging property to be maintained as open space. Yet, because this land is privately owned, its use may be subject to change and it cannot be considered permanent open space.

In a Planned Unit Development (PUD), dedicated open space amenities must be provided. Common open space may include buffers along the perimeter of the site, critical natural areas or recreational sites. Hundreds of short plats and larger PUDs throughout the county combine to provide more than 2,259 acres of common open space.

TABLE A-LU-7 Kitsap County Open Space Acreage Totals	
Category	Acreage
State Forest Lands	15,932
Bremerton Water Utility Lands	8,400
State Parks	962
County Parks	1,283
City Parks	1,367
Schools	308
Private Conservancy	more than 400
Current Use Tax Program	53,995
Dedicated Common Areas	2,259
Water System Lands	more than 200
Resorts and Group Camps	648
TOTAL	85,754

Water System Lands

Some water system lands in Kitsap County are undeveloped for wellhead or watershed protection. While information about water system lands is not readily accessible, known water system open space totals more than 200 acres, much of it in five acre parcels or larger. In some cases, such as at Burley Park and in Kingston, water system lands provide not only water quality protection and wildlife habitat, but serve dually as community recreation areas.

Other types of privately owned open space include resorts and group camps, privately run parks and ballfields and cemeteries.

Open Space Plans

During the comprehensive planning process, community design plans were developed, each of which indicated open space areas vital to the character of the community, and recommended a variety of techniques for realizing open space goals. Among other recommendations, some of these prized open spaces include a Hansville Greenway stretching from Hood Canal to Puget Sound; a protected Clear Creek Corridor in Silverdale; Soundview Boulevard in Suquamish; and Carpenter Lake/Kingston Slough in Kingston.

In addition, both the Indianola Greenway Plan and the Dyes Inlet Open Space Pilot Project, projects designed by the Indianola Land Trust and Kitsap Land Trust, respectively, will be considered during the countywide designation of open space.

IV. RESOURCE LANDS INVENTORY

The natural resource lands inventory provides the necessary background information for determination of the economic, fiscal and environmental impact these lands have in Kitsap County. The decision of how best to protect natural resource lands was based on an analysis of existing conditions, projections of future growth and economic development in the county. The land use designations and goals and policies addressing resource lands are contained within the Land Use Chapter.

Interim Resource Lands Designations

Kitsap County went through a lengthy process to determine whether or not long-term commercially significant resource lands, as defined by the Growth Management Act, existed in Kitsap County. This process began with the development of the Interim Development Regulations for resource lands as required by the Act. A citizens advisory group, the Rural Policy Roundtable, began meeting in October 1991 to discuss the resource lands issue. This group consisted of 15 members representing the Homebuilders Association, Board of Realtors, Farm Forestry Association, Conservation District, Large Lot Owners (Forestry), Tribal Representatives (2), Open Space Council, North Kitsap Coordinating Council, Kitsap County Planning Commission (3), South Kitsap Community Council, Washington State Department of Natural Resources and one representative for the Seabeck, Olympic View, Holly, Crosby and Lonerock Communities. Staff support for the Rural Policy Roundtable was provided by the Kitsap County Department of Community Development, the Kitsap County Regional Council (KRC) and two private consultants. This process culminated with the April 20, 1992 adoption of a document entitled Strategies For Resource Lands Designations and Interim Development Regulations by the Kitsap County Board of Commissioners. Application of the forest resource lands criteria resulted in approximately 8,000

acres in North Kitsap County meeting the 1992 Strategies document definition for interim forest resource lands designation.

In addition to residential uses, also occurring within the rural areas of the county are several nonresidential, resource-based land uses. These include agricultural, forestry and mineral extraction activities. These resource-based uses are often scattered throughout the rural areas and intermix or occur together with residential development.

Agriculture

There is a limited quantity of agricultural lands in Kitsap County due to poor soil conditions. (see Natural Systems Appendix for a discussion of soil conditions within Kitsap County.) The close proximity to a large urban area with a strong demand for housing has also hastened the loss of agriculture lands. While there are still some farms remaining and a substantial Christmas tree industry, the agricultural industry in Kitsap County is relatively small. The county has other agricultural activities, such as small noncommercial farms, that have been developed on a limited basis.

Existing Land Use Patterns

Over the past 20 years, the general character of land use activities in Kitsap County has changed from primarily rural to suburban, and in some cases, urban. The raising of poultry, pigs, cows and horses were significant farm activities in the county for many years. The county's proximity to densely populated areas and low transportation costs to markets helped contribute to the agricultural activity in the region. Other significant types of agricultural products were the cultivation of strawberries, blackberries and other fruits and vegetables. Historically, Christmas tree farming has also been an important agricultural activity in the region, especially in areas of soils less productive for growing commercial timber.

While the region is experiencing a resurgence of interest for the growth and sale of fresh locally grown produce, there are very few large commercial agricultural operations remaining in the county. Much of the agricultural production occurs on noncommercial farms and "you-pick" farms. These operations do not generally provide the sole income source for the operators but are secondary or supplemental. The 1992 Census of Agriculture defines a farm as any place from which \$1,000 or more of agricultural products were produced and sold or normally would have been sold, during the census year. **Table A-LU-8** presents information from the 1992 Census for Kitsap County.

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TABLE A-LU-8 Kitsap County Agriculture Industry	
Number of Farms	366
Average size of farms	28 acres
Number of Farms by Size	
1 to 9 acres	143
10 to 49 acres	184
50 to 179 acres	34
180 to 499 acres	4
500 to 999	0
1000 and above	1
Total land in farms	10,302 acres
Percent of County in farm land	4.1%

Source: U.S. Department of Commerce, 1992 Census of Agriculture.

Some agricultural land in Kitsap County is enrolled in the Current Use Property Tax Exemption Program. Washington state law provides property tax relief for special use properties. If a property meets certain use requirements, its taxable value will be based on its use, rather than market value. The intent of the Open Space Agriculture designation is to preserve lands used for the commercial production of agricultural products. For land to be eligible for this designation, it must be primarily devoted to raising agricultural products for commercial purposes. Eligible lands include cultivated Christmas tree farms. The income requirements are as follows:

Less than 5 acres — requires an annual gross income of \$1,000

5 to 20 acres — requires an annual gross income of \$100 per acre.

20 or more acres — does not require a specific amount, but there must be sufficient income to ascertain the property is a commercial scale farm.

The 1980 Prime Agricultural Soils map for Kitsap County, prepared by the U.S. Soil Conservation Service, provides some information on the location of farms in the county; however, it does not locate specific farms. Farms are located in all parts of the county, with the largest concentration in valleys and along stream corridors. Valleys that are still characterized by farming include Olalla Valley and Long Lake Valley in South Kitsap, Central Valley in Central Kitsap, and Big Valley in North Kitsap.

There are many smaller concentrations of farm activity in the rural areas of the county, primarily grazing lands and cultivated Christmas tree farms.

Economic Factors

Economies of scale are an important attribute of agriculture. Historically, farms were much smaller on the average than they are today. Although the Census of Agriculture defines a farm as any place from which \$1,000 or more of agricultural products were produced, this is a very broad definition that says nothing about the commercial viability of farming. Statistics show that over the past several decades, the average size of a farm has increased, but the number of farms has decreased. Big machines, large corporations and vast acreage are replacing the small, family farms.

While agriculture is still a major industry in Washington state, Kitsap County’s share is small. Historically, agriculture has not been a major industry in the county. Lack of good agricultural soil and an abundance of trees have limited agriculture on the Kitsap Peninsula. **Table A-LU-9** describes the direct economic impact of farming in Kitsap County.

Comparison of the market value of products sold in Kitsap County with other counties in western Washington indicates the minor role agriculture has in Kitsap County’s economy. Measuring the indirect impact of agriculture in Kitsap County is difficult, due to the limited amount of data available. It is fair to say that the impact of agriculture in the county is small. Many of the jobs in retail sales of equipment and feed exist as a result of the many small noncommercial farms that exist throughout the county.

TABLE A-LU-9 Value of the Agricultural Industry in Kitsap County	
Number of farms by value of sales	
Less than \$2,500	23 4
\$2,500 to \$4,999	69
\$5,000 to \$9,999	36
\$10,000 to \$24,999	13
\$25,000 to \$49,999	3
\$50,000 to \$99,999	3
\$100,000 or more	8
Market Value of Agricultural products sold	\$10,580,000
Total Farm Production Expenses	\$11,713,000
Value of Land and Buildings (average per farm)	\$253,131

Source: U.S. Dept. of Commerce, 1992 Census of Agriculture.

Environmental and Physical Characteristics

Agriculture is often viewed as one way to preserve open space and environmentally sensitive areas; however, agricultural activities can have a negative impact on the environment. Agriculture itself is not a source of pollution. It is poor management of agricultural lands and improper livestock practices that may lead to the degradation of the environment. An intensive study of one Puget Sound watershed (Portage Creek) revealed that small farms, representing 25% of the agriculture, were responsible for 80% of the water pollution.

Livestock account for a significant amount of the pollution caused by agricultural activities. The number of animals on a pasture affects the pasture conditions. Increasing the number of animals on a pasture increases the potential for contaminating stormwater runoff. Another major problem associated with livestock is their direct access to streams. This can lead to increased stream bank erosion and sedimentation, bacterial and nutrient contamination, elevated stream temperatures and loss of fishery habitat.

Air pollution is another potential problem of agricultural activities. Dust often results from improper tilling and cultivation, while crop-dusting sends particulates into the air.

Some agricultural activities are also viewed as nuisances as urban developments encroach upon farming areas. The handling and storage of livestock wastes can create unpleasant odors. Farm operations can also create noise that is considered a nuisance to nearby residents.

While agricultural activities may have some negative impacts on the environment, other nearby uses can adversely affect agriculture. Increased urbanization around farms may impact farming operations where farmers may be forced to make adjustments to their activities. Increased development can cause an increase in vandalism and traffic. Perhaps the biggest impact is economic, where increased land values make farming a less viable option.

Values and Importance

Agricultural lands are important to the overall quality of life in Kitsap County. They are an integral part of the rural character that makes Kitsap County such an attractive place to live. Agricultural lands are valuable not only for their economic production, but also for their positive environmental impacts and for their open space character.

Conserving agricultural land offers a number of advantages. Farming “prime” soils takes less energy due to the natural characteristics of the soil. Because these soils are ideal for growing crops, less time and effort is needed in operation of farm equipment, irrigation, pesticide and fertilizer applications and conservation practices. When the prime soils are maintained near their primary markets, the urban centers, energy is conserved in reducing transportation costs.

Conserving agricultural soils can also be a way of preserving critical lands. In preserving farmland, the communities also meet other objectives in the preservation of wetlands, small watersheds, aquifer recharge areas, floodplains and special wildlife habitats. While agriculture can damage some sensitive areas, with proper management it can be compatible.

In saving farms and farmland, communities often prevent sprawl and promote compact urban development. Farmland preservation can also result in the maintenance of open space between

urban areas. As densities increase, open space becomes more valuable and difficult to maintain if not set aside and preserved. Farmland preservation is one way to accomplish this.

Forest Lands

Forests provide a variety of products and services for Kitsap County. The raw materials for housing and wood products are extracted from the forest and wood is burned for fuel. Paper products are derived from wood fiber. Trees cleanse the air by absorbing carbon dioxide and adding oxygen. Forests provide shelter and sanctuary for wildlife and play an important role in maintaining the watersheds that supply much of our drinking water.

The Revised Code of Washington (RCW) 84.33.100 defines forest land as being “synonymous with timberland and means all land in any contiguous ownership of twenty or more acres which is primarily devoted to and used for growing and harvesting timber and means the land only.”

Kitsap County contains 251,520 acres of land, and of this total approximately 49,014 acres are taxed as forest land or open space timber by the County Assessor’s Office. These lands have been used for commercial production, reforestation or forest habitat, although they may at some point be taken out of that tax classification.

Existing Land Use Patterns

The following **Table A-LU-10** provides a summary of total acreage of forest lands in Kitsap County. Currently, of the 76,818 acres of forest land in Kitsap County, 49,014 acres are in private ownership. The remaining 27,804 acres are owned by the City of Bremerton, the tribes and the State of Washington Department of Natural Resources. Long-term use of the forest lands owned by the City of Bremerton, the tribes and DNR will be determined, in part, by the specific objectives of those owners in holding those lands.

The majority of the large parcels of forest land (tracts greater than 80 acres) are owned by a few landowners. **Table A-LU-10** shows the number of acres of forest lands owned by the largest landowners in Kitsap County. These lands have large stands of unharvested timber or future commercial timber crops. Lands reforested for commercial harvesting are typically planted on a 50- to 60-year harvest cycle.

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TABLE A-LU-10 Acres of Forest Land in Kitsap County by Landowner	
Department of Natural Resources	16,000 acres*
City of Bremerton (watershed)	8,600 acres
Port Madison Indian Reservation	2,204 acres
Port Gamble S'Klallam Indian Reservation	1,000 acres
Private (based on tax classification)	
Pope Resources	19,208 acres
McCormick Land Company	5,828 acres
Alpine Evergreen	4,095 acres
Overton & Associates	3,971 acres
Port Blakely Mill Company	3,216 acres
Manke Lumber Company	1,295 acres
Other Landowners	11,401 acres
TOTAL	76,818 acres

Source: *Kitsap County Assessor's figures, 1994*
**Kitsap County Assessor's figures, 1991*

In the northern part of the county, Pope Resources owns many of the large parcels of forest land. Many other large tracts of forest land are found on Indian reservation lands in this area. The remaining forest lands in the North Kitsap area are predominantly small parcels less than 80 acres in size. Kitsap County's most productive forest soils are in the north end. The predominant species types are Douglas fir and Western hemlock.

There are several large blocks of publicly and privately owned forest lands in the southern part of the county. These lands are used for Christmas tree farms and commercial timber harvesting. The main species types are Douglas fir and Western hemlock. The primary land owners in the southern part of the county are the Washington State Department of Natural Resources (DNR), Alpine Evergreen, Overton and Associates, McCormick Land Company and the City of Bremerton.

Although Kitsap County appears to be heavily forested, in reality only a few major timber owners actively harvest, log or cultivate their lands for commercial forest production. The remaining forest lands are small, privately owned parcels less than 40 acres in size. For the most part, these forest lands are being harvested on a limited basis or they are used for other commercial forestry activities. In some areas timber stands are simply being left alone.

Commercially Significant Forest Lands

The Growth Management Act requires the county to identify and protect "natural resource lands," including "forest lands that are not already characterized by urban growth and that have long-term significance for the commercial production of timber." For purposes of the Growth Management

Act, “forest land” is defined to be “land primarily devoted to growing trees for long-term commercial timber production on land that can be economically and practically managed for such production.” The Growth Management Act goes on to provide that “(I)n determining whether forest land is primarily devoted to growing trees for long-term commercial timber production on land that can be economically and practically managed for such production, the following factors shall be considered: (a) The proximity of the land to urban, suburban, and rural settlements; (b) surrounding parcel size and the compatibility and intensity of adjacent and nearby land uses; (c) long-term local economic conditions that affect the ability to manage for timber production; and (d) the availability of public facilities and services conducive to conversion of forest land to other uses.”

On September 8, 1997, the Central Puget Sound Growth Management Hearings Board issued an order in *Bremerton v. Kitsap County*, CPSGMHB Consolidated Case No. 95_3_0039c, which invalidated substantial parts of the County’s 1996 comprehensive plan, found that these, as well as other parts of the plan did not comply with the GMA, and remanded them to the County with instructions to bring the plan into compliance with the GMA and the Hearings Board’s Order on or before April 3, 1998. This date was later extended to May 1. As part of the September 8, 1997 Order, the Hearings Board found that the criteria in the 1996 comprehensive plan for designating forest land were within the range of acceptable options, although it questioned the basis for the 1 1/2 mile definition given to the criterion on proximity to urban land uses. The Board also asked whether or not all elements of the forest industry must be located within a county for RCW 36.70A.020(8), the GMA’s natural resource industries goal, to apply. And the Board ordered that, at the very least, the County must review its forest land decisions and determine whether they were consistent with the revised plan.

The Hearings Board’s decision on forest lands was appealed to superior court by some of the forest land owners in the County. The case did not come to hearing until March 18, and the court did not enter its decision until June 22.

The Commissioners determined that the issue of forest lands is sufficiently important to the County that it required a more in_depth review and analysis than was technically required by the Hearings Board’s Order. Such a review would have required more time than was available on remand, in light of all the other work required on plan. Also, if a comprehensive review had been started, it could have been preempted at any time by a ruling from the superior court. Therefore, the Commissioners decided to do a basic review of consistency between the mapped wooded lands and planned urban growth areas, designate the wooded lands with a 20_acre rural density, establish joint planning overlays for urban reserve lands that might conflict with a forest land designation, and establish in the 1998 Plan, the process for immediately reviewing and resolving the forest land issue.

On May 7, 1998, the Commissioners adopted 1998 Revised Comprehensive Plan and various implementing development regulations. The Plan does not take effect until the Hearings Board issues an order finding that it is valid. It designates land previously designated as “Rural Wooded” as “Interim Rural Forest”, retains the 20_acre rural lot size requirement, and establishes a comprehensive two_part approach for resolving the forest lands issue. The first part of the process involved a review of GMA criteria and guidelines on forest lands, relevant hearing board and court decisions, the record, and approaches and programs used in other jurisdictions. The second part of the process was to involve an advisory committee to discuss and recommend a potential program for encouraging forestry activities within rural areas.

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On August 3, 1998, the Commissioners retained Environment International, Ltd. to perform the review of forest land issues and governing statutes and cases. On October 9, 1998, Environment International submitted to the Commissioners its final report, "Kitsap County and the GMA: Defining Forest Resources".

In response to a request from the Commissioners, staff of the Department of Community Development (DCD) then used information from the consultant's report to develop three alternative scenarios in which they compared potential criteria for designating forest lands. On November 5, 1998, the Commissioners held a joint work study session with the Planning Commission to review the report from Environment International and discuss alternative criteria for designating forest lands.

The Planning Commission held a hearing to receive public testimony on the issue of forest lands. Following many hours of deliberation, the Planning Commission developed a recommendation to the Commissioners on the criteria to be used for designating forest lands within the County. The Board of County Commissioners then held their own public hearing on the Planning Commission's recommendation on forest lands. On December 3, 1998, the Board of County Commissioners adopted Ordinance No. 228-1998, which established the following criteria for identifying forest resource lands within the county:

1. Property shall be in private forest land grades 1 through 3;
2. Property shall not be within a special purpose sewer or local (not countywide) water district and shall not have access (hook-up rights) to such services as of November 1, 1998;
3. Property shall not be within 1 mile of: A) property which has a density of 3 du/acre or greater and is within a sewer district boundary; B) existing commercial or industrial property; C) property with a vested commercial or industrial development, or a vested residential development at net density of 3 du/acre or greater; D) within the Belfair UGA in Mason County. Property shall not be within 1/2 mile from those portions of compact rural developments identified on p. A_303 of the 1998 Comprehensive Plan, a copy of which is attached hereto and incorporated herein, which comprise lots of 1 dwelling unit per acre or smaller. As of November 1, 1998, greater than fifty (50) percent of the linear frontage of each candidate parcel within a block shall abut parcels that are greater than 5 acres in size.
4. Each block shall be covered by 75% or more of the corresponding minimum land grade or above.
For land grade 1 _ nominal minimum block size of 640 acres
For land grade 2 _ nominal minimum block size of 640 acres
For land grade 3 _ nominal minimum block size of 1280 acres
5. The County should follow the right to practice forestry guidelines as identified in the 1992 strategies document, page B_19, which is attached hereto and incorporated herein by reference.

6. Property shall be enrolled, as of November 1, 1998, in the Open Space Timber or Designated Forest or Classified Forest Property tax classification program pursuant to Chapter 84.33 or 84.34 RCW, or is owned by a state or local governmental body.
7. Economic conditions should be conducive to long-term commercial forestry management. The following economic conditions may affect the ability to manage timberlands for long term commercial production in Kitsap County:

- Travel distance to mills and ports
- Current timber prices/market
- Environmental regulations
- Competing land uses
- Size of tract
- Quality of land
- Public pressures
- Favorable tax incentives (state)
- Cost of doing business
- Availability of work force
- Terrain
- Alternative products

The Commissioners have considered the history of land development permits issued nearby in the context of considering the criteria listed above.

Approximately 2,700 acres in central Kitsap County meets the criteria listed above for designation as forest resource lands.

Existing Land Use. A primary consideration is the existing land use pattern which has resulted from past land use decisions and the county’s natural geography. A significant portion of the area currently being managed for timber production is within one mile of existing urban density development. Modern commercial timber management is significantly restricted by that degree of proximity to urban density development. Major portions of rural Kitsap County have been divided into smaller acreage tracts. Development has occurred around lakes with considerably smaller lot sizes. A similar pattern exists in the central and northern parts of the county. As growth continues and homes are built on these vacant tracts, it will become increasingly difficult to continue forestry in these areas. As more people live in and near forest areas, land-use conflicts increase. Normal forest practices such as spraying, logging, slash burning, etc., are subject to complaints. In addition, trespassing onto private forest land and subsequent damage becomes more frequent. There was a Forestry Zone designation in the pre-Growth Management Act Kitsap County Zoning Ordinance; however, it was never applied on the zoning map. Forestry is permitted in most zones, but a forest practices application may be required before harvesting can occur.

Soils. In classifying forest land, counties and cities should use the private forest land grades of the department of revenue. This system incorporates consideration of growing capacity, productivity, and soil composition of the land. Forest land of long-term commercial significance will generally have a predominance of the higher private forest land grades. However, the presence of the lower private forest land grades within the areas of predominantly higher grades need not preclude designation as forest land. (WAC 365-190-060, “Minimum Guidelines”)

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The classification system suggested by the state are private forest land grades as defined by the Department of Revenue with the help of the Department of Natural Resources (WAC 458_40_530). Private Forest Land Grades rate soils from 1 to 5 based on the growth of Douglas Fir. The forest land grades are based on the soils growing capacity, productivity, and soil composition. Prime forest soils are Land Grades 1 and 2. Good forest soils are land grade 3. The DNR has mapped private forest land grades for the county.

Availability of public facilities and services. The availability of sewer and water services are essential elements for the conversion of land for urban uses. Major capital investment are needed to plan for and provide public facilities and services such as sewer and water. Cost are often passed on to properties owner in the form of Local Improvement Districts (LID), property assessment or hookup fees. Therefor, properties that has access to both sewer and water services are not appropriate for long term forest management.

Block Size. The issue of block size was also considered in determining if commercial forestry, as defined in the Growth Management Act, exists in Kitsap County. Having a large contiguous block of land in forest designation helps to reduce conflicts with incompatible land uses and provides for greater efficiency for resource management. A review of other counties with GMA forest resource lands designations, coupled with extensive public testimony, shows a range of acceptable block sizes for forest management from 80 acres to 5,000 acres.

"Criteria used by Washington DNR and private holding companies for consideration of forest land purchases generally include a minimum size of 100 to 120 acres when the parcel adjoins present ownership, and at least 640 acres when isolated." (A Report on Long term Timber in South Kitsap County, 11/93, page 4).

A 1992 report showed that kitsap County still had approximately 37,000 acres that are taxed for forest or open space timber in parcels of 80 acres or larger. This is in addition to roughly 8,600 acres of contiguous land in the Bremerton watershed, 16,000 acres managed by DNR, and 3,200 acres managed as forest land by the Port Gamble S'kallam and Suquamish Tribes.

Compatibility with surrounding plans. Currently forested areas in Mason and Pierce Counties abut the southern and western borders of the county. Only a small portion of land in Mason county along the Mason/Kitsap County border is designated forest resource lands. Pierce County has not designated forest resource lands along the border with Kitsap County.

Economic Factors. Forest lands in Kitsap County are suitable for commercial production and cultivation of Douglas fir and Western hemlock. The forest industry provides lumber, firewood, Christmas trees and other forestry-related products for local use and export outside of the county. Forests also provide recreational opportunities and open space.

There are many characteristics of timber production that distinguish it from other types of industry. First, while timber is a renewable resource, timberland is not. Conversion to other types of land uses virtually assures its loss as forest land. Second, once planted trees cannot be moved to another location. They are subject to the particular stresses of a site for many decades. Third, trees must be given at least 25 years to mature into harvestable timber. Fourth, large-scale timber harvesting and the resulting noise and traffic may make it incompatible with many other uses. Finally, the size and bulk of the raw material which must be transported and processed can have some negative impacts on the site and land use around the site.

Christmas tree growing, which was once a major source of forest-related income in Kitsap County, has been severely reduced as the market has shifted to much higher site index land in southwest Washington and western Oregon. Loss of the Christmas tree market has restricted the flexibility of several of the remaining timberland owners.

The issue of fiscal impacts caused by a specific land use are important to local government, specifically, the ratio of costs compared to revenues for forest land. Timberland areas demand very few services and in turn generate substantial direct revenue for local jurisdictions. In terms of expenditures, the timber industry does not cause a significant ripple effect. Many large industries generate demand for housing, sewers, water and roads. Forest uses require little infrastructure and typically does not generate these types of demands. Most public and private timberlands are supplied with roads by the property owners and do not require the County to expend resources to provide other services.

Kitsap County is part of the larger puget sound regional economy. It is also ideally situated between the Olympic Peninnusla and the Puget Sound area and can take advantage of the opportunities presented by both regions. Kitap County benefits from the regional infrastructure and work force for timber management and harvesting. In fact, much of the wood produced in Kitsap county is transported to ports in Everett, Port Angeles, Tacoma, or Olympia to be sold on the international market. Kitsap County must be viewed in the context of the regional and international markets.

In 1971, the Washington State Legislature enacted a new system for taxing private forest lands and timber. Lands subject to state timber taxes are identified on maps prepared by the County Assessor. Private lands taxed under the Current Use Tax Exemption are in one of two categories: Designated Forest Land or Open Space Timber. Designation under Open Space Timber requires a minimum of five contiguous acres that must be primarily devoted to the growth and production of timber. Any property 20 acres or larger will be classified under Designated Forest Land. In both cases, taxable value is based on soil type. Typically, the better tree-growing soil will have a higher value.

Under the Current Use Tax Exemption, timberland is taxed at values much lower than under the "highest and best use" standard the County Assessor applies to other land. These values are, on average, 3% of normal value. In return for the minimal valuations, the state collects a 5% excise tax on the timber when it is cut. If an owner removes land from the forestry classification, the state charges a rollback tax that is greater than the owner would have paid over 10 years had the land not been designated for forestry. Four-fifths of the 5% tax from logging on private land goes to the counties. All of the 5% tax from logging on government land goes to the State.

TABLE A-LU-12 Timberland Tax Payment to Kitsap County, 1992	
Acreage Classified as Designated Forest Land	48,604.7 acres
Estimated Property Tax Due, 1993	
Timber Excise Tax Distribution to County	
DNR Trust Land Revenues to County	
TOTAL	

Source: Kitsap County Treasurer's Office

Environmental and Physical Characteristics

Natural forest lands in Kitsap County are primarily classified as “coastal forest,” a subdivision of the lowland Pacific Northwest forests common to the Puget Sound area. Coastal forests are an important component of the ecosystem and help maintain species diversity and richness. Plant and animal communities vary greatly between the different forest types throughout the county. Many of

the forested areas in Kitsap County contain wetlands and provide habitat to a variety of birds and animals.

Forest types in Kitsap County include conifer, broadleaf and mixed forests. Douglas fir is the dominant species in forests in the county. Red alder is common in moist areas and disturbed areas. Western red cedar is present in “low-lying” areas. Western hemlock, bigleaf maple and Pacific madrona are often part of forest stand, but in minor and varying amounts. Lodgepole pine is common in the southwestern part of the county. Because of the geology of this area, slight variations in elevation result in different soils and different vegetation.

Kitsap County is noted for production of floral greenery. The Puget Sound climate and the soils of this area result in excellent production of high quality greenery. Floral greenery, such as western swordfern, evergreen huckleberry and salal, are a part of the forest understory. Management of the forest overstory is important in floral greenery production.

Uncut commercial forest lands also provide environmental benefits including clean air, control of stormwater runoff, open space and fish and wildlife habitat. Commercial forestry in Western Washington requires clear cutting on a 50- to 60-year harvest cycle. For some period of time during or after harvest, commercial forestry may adversely affect stormwater runoff and fish and wildlife habitat. In addition to commercial forestry activities, forest lands in Kitsap County are used for outdoor recreation, municipal watersheds and other multiple uses. While most of these benefits are not easily quantifiable, they must be seriously considered as policies are developed.

Values and Importance

In the State of Washington, population growth and urbanization between 1930 and 1980 resulted in the conversion of about 4 million acres of forest land to other uses. In Kitsap County, more than 2,000 acres of forest land have been converted to nonforest uses, primarily for use as residential developments or short plat lots. The amount of forest land in the county, the availability of other land and the pathway of development all play a role in the overall effect of population growth on forest land.

Although the primary use of commercial forest land is forestry, these lands provide other benefits, including fish and wildlife habitat and open space. The Washington State Forest Practices Act (RCW 76.09) and new forestry techniques encourage the protection and use of commercial forest lands for wildlife habitat and minimization of impacts on the forest ecosystem through selective logging and reforestation.

All forest lands, including uncut commercial forest lands, function as fish and wildlife habitat by providing nest sites, feeding areas, roost/rest sites, thermal cover and migratory pathways. In Kitsap County, lowland and coastal forests support a wide variety of species of mammals, birds, reptiles and amphibians. Bald eagles and great blue herons can be found along the County’s shorelands where the forest meets the water.

Forest land provides required habitat and watersheds for many fish species. Fish are an important component of the state’s history, economy, culture and recreation industry. Salmon, steelhead, trout and many other species depend on forest-lined streams and bodies of water for rearing and spawning. In addition, rivers and streams in forest areas provide a source of clean water and

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nutrition for many species which completely reside in salt water. More than a million persons each year purchase licenses to sport fish for freshwater game fish, salmon and steelhead.

Public forest lands are an important component of the state's available recreation opportunities. They provide the majority of developed recreational facilities and most lands available for hiking, hunting, fishing and other non-developed recreational uses. Urbanization of forest areas impacts outdoor recreation. Recreation places become scarcer as natural landscapes near urban areas change to residential and commercial areas.

Mineral Resource Lands

Mineral lands are defined as "lands that are not already characterized by urban growth and that have long-term commercial significance for the extraction of minerals" (RCW 36.70A.170). Mineral resource lands of long-term commercial significance are to include, at a minimum, land with the potential for extracting sand, gravel and valuable metallic metals on a long-term basis.

Existing Land Use Patterns and Geology

The geology of Kitsap County is the controlling factor in the location and availability of sand, gravel and other minerals in the county. In general, recoverable sand and gravel deposits occur in glacial outwash terrace and alluvial deposits. Where bedrock is predominant at or near the surface, aggregate can be produced only by quarrying and crushing.

Sand and gravel deposits in Kitsap County are, for the most part, glacial in origin. Extensive sand deposits of recent origin are present along much of the coast. Those glacial deposits which provide the largest useful amounts of both sand and gravel have a heterogenous mix of all sizes of material ranging from fine clays through sand gravel to boulders. Higher quality material will occur in the "outwash" areas where reworking of the heterogenous material has sorted the coarse from the fine.

On the Kitsap Peninsula, the presence of sand, gravel and hardrock are a result of volcanic action, glaciation and erosion. The county lies in the center of the Puget Sound Lowland. The Puget Sound Lowland is part of a large glacial drift plain formed by repeated advances and retreats of glaciers over the area. The county has been covered by at least five successive continental ice sheets during the last 1.5 million years, with the most recent coverage being 15,000 years ago. This history of complex glacial erosion and deposition events separated by long periods of non-glacial deposition has created a very complex mixture of unconsolidated sediments. This sediment blanket ranges in thickness from 0 to more than 3,600 feet. When the glaciers moved through the region, they deposited gravel, sand and silt.

The central region of the county around Gold and Green mountains has areas with very little glacial material. Isolated outcrops of tertiary basaltic bedrock are located south of Bremerton. Sea cliffs in the county exhibit drifts of two glaciations which are separated by fine-grained sediments of stratified clay, silt, sand and gravel deposited during the Whidbey interglacial period. Many small valleys, closed depressions and swales are found in the area. These commonly contain post-glacial to recent alluvium, or bog deposits and organic-rich sediment, such as peat.

Proven mineral deposits (excluding sand, gravel and rock) on the Kitsap Peninsula have been insignificant and of minor economic value. Kitsap County has no known deposits of commercial value, such as metallic minerals, oil and gas deposits, or industrial mineral products.

There are, however, major glacial deposits of sand and gravel found throughout the county. Some of these locations have been mapped in the *Draft Kitsap County Groundwater Management Plan, Vol. II, 1991*. Certain clay mineral deposits offer some potential for manufacturing of cement and for refractory purposes, but to date these have not been exploited. The Washington State Department of Natural Resources (DNR) has issued 29 surface mining permits for sand, gravel, rock or stone in Kitsap County. These permit locations have been identified on the Mineral Resources map and entered into the GIS for Kitsap County.

The locations of the existing surface mining permits are scattered around the county. Of the 29 current DNR surface mining permits issued, 26 of them are for sand and gravel. Five of these permits are held by Kitsap County. While there has been no large-scale inventory of commercially viable mineral resource deposits, DNR has developed a map showing potential mineral resource deposits on state land. The largest potential sand/gravel and rock deposits are in the southwest portion of the county. These deposits occur on land currently devoted to forestry and along streams. Future planning should contain a survey of mineral resources.

Economic Factors

The sand, gravel and quarried rock industries, which produce construction aggregates, fill, pitrun, riprap and larger rock products, are a key component of Washington's economy. Rock products provide the basis for infrastructure construction and maintenance, including low-cost housing, highways and public works.

According to information published by Washington Aggregate and Concrete Association, in 1990 the mineral industry in Washington state was valued at \$500 million. The valuation included metals, industrial minerals, sand and gravel mining and processing. Of the total, 40% is attributable to aggregate resources alone. The primary uses of round-rock aggregate are for the manufacture of concrete and for drainage applications. Crushed oversize gravel and crushed quarried rock are used for roadbase and as asphalt aggregate.

The cost of transportation controls the price of rock products: a moderate increase in the distance from mine to market markedly increases the cost of the rock. Current transportation cost for sand and gravel are \$1.25 per mile per ton. Additional concerns include routes which are congested with traffic and the number of trips per day the operator can make. Under present economic circumstances and transportation limitations, it is necessary for sand and gravel operations to develop deposits near market areas because sand and gravel are bulky, low-cost products which can incur little increase in hauling distance from excavation site to consumer without a prohibitive increase in the product cost.

As sources are depleted in some areas, local government must decide whether to plan for rock consumption outside their jurisdiction. Mason County has abundant high-quality, round-rock aggregate and currently exports rock to Kitsap County where deposits are of poorer quality owing to high clay contents.

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Mineral industry employees have increased three-fold in the past 10 years in Washington, despite the cyclical nature of the business. **Table A-LU-13** shows the breakdown for Kitsap County. There are many others employed in related industries such as construction; however, employment data was not available.

Standard Industrial Classification	Industrial Category	Wages Paid	Number of People Employed
14	Nonmetallic Minerals	\$883,738	38
32	Stone, clay, glass and concrete products	\$2,797,341	107

Source: Washington Aggregates and Concrete Association

The most significant demands which sand and gravel operations place on the public sector are increased road maintenance costs and greater time demands on regulatory agencies. Truck traffic results in higher road maintenance costs to the county. The potential for environmental pollution and impact on neighboring properties requires monitoring by government agencies and enforcement of ordinances governing such operations. Sand and gravel operations require a minimum of public services in terms of police, fire and school services, and place very little burden on the water, sanitary sewer and storm water facilities.

Environmental and Physical Characteristics

There are significant impacts involved in mining operations. The removal of aggregate alters the land form, changes the elevations and disturbs the ecosystem through the removal of soils and vegetation. This can lead to soil erosion if proper steps are not taken to stabilize the area.

Social impacts from all mining activities are locally intense and include truck traffic, noise, dust, back-up alarms on trucks, blasting vibrations and flyrock from blasting. Noise levels are particularly important to nearby residents. Hours of operation and the location of machinery on the site are important considerations.

Water quality can also be a problem when mining sites are near rivers, lakes or wetlands. In quarries, surface water quality is commonly a problem because the quarry floors are generally impermeable and very little of the rain that falls on the site enters the ground. The resulting surface water runoff may become polluted or sediment laden, and adversely impact the watershed.

One of the major objections to mining operations has been the useability of the site once it is no longer being mined. The Washington Surface Mining Law (RCW 78.44), administered by the Washington State Department of Natural Resources was adopted in 1970 in order to assure that a reasonable level of reclamation occurred in all surface mines. At best, reclamation of abandoned mining sites can result in parks that provide biking, walking, fishing, picnicking and enhancement of wetland areas. Unfortunately the law, in its present form, is characterized by imprecise statutes,

inconsistencies resulting from prior incomplete amendment of the statute and a lack of compliance tools for regulators.

Values and Importance

Unlike the timber industry, where productivity and growing potential can be measured directly and choices made over a broad expanse of the landscape, mineral deposits only exist where you find them. Geologists can predict on a crude scale of likelihood where certain mineral deposits are most likely to occur, but the economic factors which turn rocks into viable mineral deposits are specific to an individual situation. Unlike agriculture and forestry, mineral resources are a nonrenewable resource. Once a site is mined, they cannot be replaced.

Mineral deposits in Kitsap County provide material for the construction of private and public facilities. Hardrock quarries supply material for the construction of railroad beds, roads, streets, breakwaters and bulkheads. Gravel resources are used for the construction of buildings, roads and streets and other construction projects. Sand is mixed with gravel or crushed rock as specified by government standards for highway construction, concrete tilt-up buildings and other uses.

Of all the factors which impact the economies of a sand and gravel deposit, transportation costs are the most important. Because mining and quarrying of mineral resources are very sensitive to distance to market, it is important to preserve potential high-quality sites near the market for future use. Hauling sand and gravel long distances is expensive and contributes significantly to the cost of these materials. As the county becomes more populated, the demand for quarried material will increase. In order to keep costs at a minimum, incompatible development of potential mineral resource sites of high quality should be discouraged.

While the economic value of high-quality aggregate resources is clear, care must be taken to balance this land use with other important economic interests. Proper procedures must be followed and regulations enforced to assure a minimum of environmental damage.

V. GREENWAYS

The Kitsap County Greenways Plan is a process and a plan that addresses a range of elements, such as recreational and commuter bikeways and trails, scenic resources and wildlife corridors. These elements of the Greenways system link together a variety of destinations, such as parks, schools, places of employment, shopping areas and transit facilities as well as provide access to a variety of scenic, educational, and interpretive resources. These connecting links will consist primarily of built facilities such as commuter and recreational bike routes, pedestrian trails and equestrian trails, but may also include other undeveloped corridors which are intended to maintain the underlying scenic and natural resources of Kitsap County. The resultant network will work with other existing and proposed facilities and policies to enhance the quality of life in Kitsap County. Following is a summary of the Plan; copies of the Kitsap County Greenways Plan are available at the County Community Development Department.

The Greenways Plan crosses political boundaries to a large degree and is drawn from, coordinated and integrated with plans from the Department of Public Works, the Department of Fair and Parks,

the Department of Community Development and the Open Space Council. The Plan also is coordinated with, and relates to, relevant plans of the incorporated municipalities.

Basic Components of the Plan

In order to create a linked system, the Greenways Plan will, to some extent, incorporate all of the following components:

- 1. Transportation:** Single- and multi-use, non-motorized transportation facilities for use by pedestrians and bicyclists seeking access between their homes and specific destinations (e.g. schools, parks, transit stops, shopping areas or work places).
- 2. Recreation:** Single and multi-use “recreational” transportation facilities for use by pedestrians, bicyclists and equestrians (such as trails and bikeways) to scenic amenities, recreational features and educational opportunities.
- 3. Scenic Resources:** Scenic resource corridors and districts to maintain the visual character of the roadside landscapes adjacent to, and visible from, well-used, non-motorized transportation facilities designated in the Bicycle Facilities Plan.
- 4. Natural Resources:** Wildlife corridors that maintain wildlife movement routes and their critical existing habitats and provide additional passive recreational and educational opportunities, where appropriate.

Transportation

Non-motorized elements of this Transportation Component address a variety of local, subregional and regional transportation goals. At the local level, they connect residential areas with locally significant destinations. At the inter-community level, they link nearby communities with one another. At the regional level, they link residential areas to major transportation, employment and business centers, or connect existing urban and developed areas with surrounding rural areas.

The Greenways Plan proposes a Bicycle Facility Plan to direct future development of road-related bicycle and pedestrian facilities, with the understanding that some of these facilities or “improvements” will be developed as capital improvements and that some could be developed by means of incentives to private developers, and with the further understanding that it will be integrated with the Kitsap County Transportation Plan and the Kitsap County Parks and Recreation Plan.

Recreation

The Kitsap County Greenways Plan strives to provide the core of a continuous, county wide, off-road trail system that:

- # Provides rides or hikes of extended duration for a varying mix of recreation as well as transportation trail users (i.e. equestrian, pedestrian or bicycle users);
- # Links a variety of local communities, parks or other areas of interest and provides access to rural areas of the county; and

- # Establishes future off-road trail access within presently undeveloped areas of the county. The Greenways Plan proposes an Off-Road Trail Plan which is integrated with the Kitsap County Comprehensive Parks and Recreation Plan, as well as the proposed Kitsap County Bicycle Facilities plan, and which guides future development of off-road (equestrian, pedestrian and bicycle) trail facilities that would be developed as capital improvements or as a result of a variety of tools or incentives to private landowners.

In contrast to the paved, on-road facilities suggested by the proposed Kitsap County Bicycle Facilities Plan, the Off-Road Trail Plan would be concerned with a mix of paved and predominately soft-surfaced, multi-use trails that follow off-road alignments and that are capable of use by various combinations of bicycles, pedestrians and equestrians, depending on standards applied to a particular length of trail.

Scenic Resources

The Greenways Plan addresses roadside scenic issues for three reasons:

1. To enhance a “functional,” non-motorized transportation component and thereby creating a pleasant, enjoyable and well-used recreational facility;
2. To provide a network of explicit scenic touring routes or loops; and, perhaps most importantly,
3. To protect investments in such bicycle and pedestrian facilities from visual degradation of the adjacent environment.

Particularly important in this context are those attributes that promote the formation of scenic touring routes. If there is a potential scenic touring loop comprised primarily of scenic and urban corridors and districts, but a portion of that loop is not scenic and urban, the Greenways Plan seeks to close the loop by enhancing or improving the character of that corridor.

Protected resources could include existing roadside scenic corridors and districts along vehicular routes. Each of the identified landscape types present different resource management challenges and require different policies, incentives, guidelines and controls to maintain or enhance their scenic character.

Natural Resources

The Natural Resource Component of the Kitsap County Greenways Plan strives to protect existing Wildlife Corridors. The Plan designates primary and secondary Wildlife Corridors along specified stream/wetland corridors with suggested, additional protective measures which expand upon and that will be integrated with similar parameters of other Comprehensive Plan elements.

The Composite Greenways Plan

The Composite Greenways Plan illustrates the recommended Greenways Plan in its entirety. It depicts the subplans of all four components, revealing the alignments and interrelationship of the Bicycle Facilities Plan, the Off-Road Trails Plan as well as the Roadside Scenic Resource Corridors

Plan and the Wildlife Corridors Plan. Physical improvements of the Greenways Plan are represented by the Bicycle Facilities and Off-road Trail Facilities. Together, these facilities represent the “trunk” non-motorized transportation facilities proposed for construction in Kitsap County over the next 20 years. The Scenic and Wildlife Corridors represent the “unbuilt.” See **Figures A-LU-2, A-LU-3 and A-LU-4** for Composite Greenways Plan maps.

The Greenways Plan will provide the residents of Kitsap County and its visitors with safe, non-motorized transportation alternatives and recreational facilities, and will preserve the existing scenic character of roadside landscapes as well as significant wildlife habitat and movement corridors. The Plan will provide a countywide network of all of these elements by means of interconnected open spaces and corridors.

VI. FULLY CONTAINED COMMUNITIES

The Comprehensive Plan recognizes that there may be a potential for the development of Fully Contained Communities (FCC) at some time in the future as allowed by the Growth Management Act. The plan intends that development of a FCC be allowed, subject to certain criteria for approval being met. Upon approval of a Fully Contained Community, the Comprehensive Plan Map would be automatically amended to reflect the new urban area.

Criteria for Approval

1. New infrastructure is provided for and impact fees are established consistent with state law;
2. Transit-oriented site planning and traffic demand management programs are implemented;
3. Buffers are provided between the new Fully Contained Communities and adjacent urban development;
4. A mix of uses is provided to offer jobs, housing and services to the residents of the new community;
5. Affordable housing is provided within the new community for a broad range of income levels;
6. Environmental protection has been addressed and provided for;
7. Development regulations are established to ensure urban growth will not occur in adjacent non-urban areas;
8. Provision is made to mitigate impacts on designated agricultural lands, forest lands and mineral resource lands;
9. The plan for the new Fully Contained Community is consistent with the development regulations established for the protection of critical areas by the county pursuant to state law;

10. Development shall be sited adjacent to, or in reasonably close proximity to, a major transportation corridor;
11. Master plans for new Fully Contained Communities shall include plans for public facilities and places such as parks, recreation and open space areas, school sites and public safety related facilities necessary to accommodate the development;
12. New Fully Contained Communities applied for, but not identified on the Land Use Map, shall be processed as an amendment to the Comprehensive Plan;
13. On-site and off-site infrastructure impacts shall be fully evaluated. Resort design, development and operation shall first, avoid; second, minimize; and third, mitigate potential adverse impacts.
14. The approval of new fully contained communities constitutes the establishment of a new urban growth area. As such, proposed new fully contained communities shall be reviewed for consistency with regional policies by the Kitsap Regional Council prior to public hearings for development permit approval.

VII. MASTER PLANNED RESORTS

The intent of the Comprehensive Plan is to allow master planned resorts. Master planned resorts are developments which have urban characteristics and may be located outside of urban growth areas. A master planned resort must be a fully integrated planned unit development, in a setting of significant natural amenities, with primary focus on destination resort facilities. These resorts shall consist of short-term visitor accommodations associated with a range of on-site indoor or outdoor recreational facilities. A master planned resort may include other residential uses within its boundaries, provided the residential uses are integrated into and support the on-site recreational nature of the resort.

It is the policy of Kitsap County to allow the development of fully integrated destination resorts at appropriate locations within the county to promote tourism and take advantage of the area's scenic and natural attributes. There shall be provisions within development regulations which will allow the review and approval with conditions, of master planned resorts.

Master planned resorts shall be designed to blend with the natural setting and shall not block scenic views from adjacent properties. Off-site and on-site impacts to roads, other public facilities, and the natural environment from a master planned resort shall be mitigated at the time of development. New urban and suburban land uses in the vicinity of the master planned resort shall be restricted, except in areas designated for urban growth. Plans for master planned resorts shall be consistent with development regulations established for critical areas. Master planned resorts shall be subject to design and development standards relating to landscaping, buffers, setbacks, access and design review.

VIII. PUBLIC FACILITIES

The intent of the Comprehensive Plan is to identify and designate existing public facilities. These uses include County and City offices, public agency shop facilities, federal and state offices and solid

waste disposal sites. Examples of these uses include the Olympic Landfill, County road sheds, County offices and other publicly and privately owned sites.

IX. ESSENTIAL PUBLIC FACILITIES

An “essential public facility” (EPF) may be any facility which provides a public service as its primary mission; the facility may be owned or operated by a unit of local or state government or by a privately owned entity. EPFs include, but are not limited to, the following examples: state education facilities; state or regional transportation facilities; prisons, jails and other correctional facilities; solid waste handling facilities; airports; in-patient facilities (including substance abuse and mental health institutions and group homes); and communication towers and antennas.

Although EPFs are necessary for the common good, they are seldom welcome into any community or neighborhood. In order to ensure that future public facilities of a county, regional or statewide nature are equitably located throughout the county and that they are designed to have a minimum impact on the community in which they are located, cooperation between the county and all jurisdictions within the county will be necessary through the Kitsap Regional Council. When an EPF is proposed in Kitsap County, the Council should form an Essential Public Facilities Advisory Committee composed of citizens, staff from the county and each city, other interested agencies and elected officials. This committee should:

- # Analyze the need for the proposed facility;
- # Develop siting criteria specific to the proposal;
- # Identify, analyze and rank potential sites;
- # Assess potential impacts to the local economy, environment and community;
- # Determine general measures that could minimize and/or mitigate impacts noted above.

Upon completion of the review of the proposed EPF, the committee should make a recommendation on the proposal to the Kitsap Regional Council. It will be the responsibility of the agency initiating the EPF to develop a community notification and communication plan that will ensure ongoing contact with the community during the planning and construction phases of the project.

X. HISTORIC PRESERVATION

The historic, cultural and archaeological resources of an area do much to promote a *sense of place* that is typically quite valuable to local residents. In Kitsap County, our rich and colorful history can

provide a context in which to understand current growth and development trends and can help to provide a sense of continuity and community.

The beautiful location and rich natural resources of Kitsap County have greatly influenced its development history and settlement patterns. The historical record of Kitsap County includes the formation of its unique geography, settlement by Native American groups, exploration by European nations, development of the area's prime timber resources and the evolution of the lumber industry, utilization of marine highways, the harvesting of aquatic bounty and the rise of the Navy presence. From Native American settlements to Scandinavian and Japanese farming communities, mill towns and regional employment centers, all of the major settlements in the county began along the shoreline and were oriented towards the marine environment. Today, development of existing communities is expanding and historical preservation is becoming more important to pursue if we wish to maintain cultural ties to the past.

Existing Programs

There are a number of organizations and agencies which are interested in documenting and preserving Kitsap County's historic, archeological and cultural resources:

National Level

The National Historic Preservation Act of 1966 authorized the creation of the National Register of Historic Places and the National Landmark program as a means of recognizing sites and structures associated with significant people or events in our national history. Sites or structures listed on the National Register are provided protection through various federal funding sources and, if the sites receive federal funding, are prevented from demolition by federal agencies without careful consideration. Placement on the register is strictly voluntary for the landowner and does not provide absolute protection of a site. The National Register is maintained by the National Park Service. There are currently 11 properties in Kitsap County on the National Historic Register (three of them located inside the Puget Sound Naval Shipyard) and two National Landmarks -- Puget Sound Naval Shipyard and the Port Gamble Historic District.

State Level

The Washington State Office of Archeology and Historic Preservation (OAHP) performs the functions of the State Historic Preservation Officer (SHPO) which were established by the *National Historic Preservation Act*. The OAHP maintains records of all historic resource inventories and sites and acts as liaison between local agencies and the federal government. The OAHP is also responsible for reviewing proposed federal projects for their potential impacts on historic and archeological resources. There are currently four sites in Kitsap County on the Washington State Register of Historic Places.

Local Level

The Kitsap County Historical Society was founded in 1948 and is dedicated to preserving, recording and interpreting Kitsap County's history. The Society owns and operates the Kitsap Historical Museum which provides exhibits, a research library, old photos, historical tours, publications and other services. The Society also maintains the Kitsap County Register of Historic Places. A local Historic Sites Committee reviews applications and nominates appropriate sites to

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the Kitsap County Historical Society for inclusion on the Kitsap register. Historic preservation offices are also maintained at Puget Sound Naval Shipyard and the Suquamish and the Port Gamble S'Klallam Tribes. There are several other groups and organizations throughout the County who participate in historic, archaeological and cultural preservation efforts.