

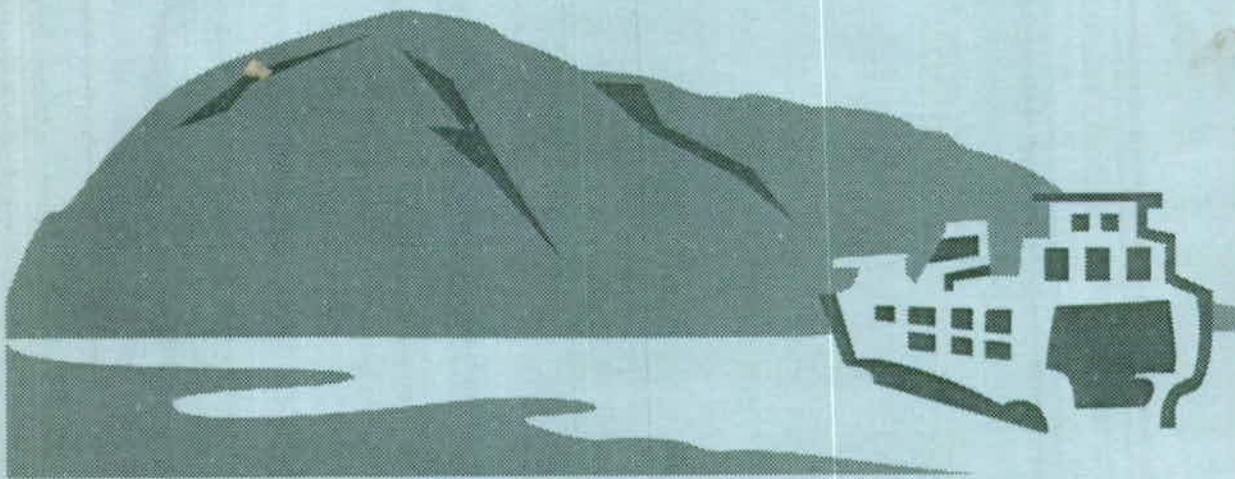


ISLAND COUNTY

Comprehensive Plan

Preliminary Draft Environmental Impact Statement

April 26, 1994



Prepared by: HDR Engineering, Inc.

HDR

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PRELIMINARY DRAFT
ENVIRONMENTAL IMPACT STATEMENT

for the
Island County Comprehensive Plan

in compliance with

**The State Environmental Policy Act of 1971,
Revised Code of Washington 43.21.c**

**Island County
Department of Planning and Community Development
Coupeville, Washington**

April 26, 1994

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I. SUMMARY

Summary to include Table of Impacts of Alternatives.

II. DESCRIPTION OF ALTERNATIVES

A. PROPOSED ACTION

The proposed action is adoption of the Island County Comprehensive Plan. The Plan, developed pursuant to the Growth Management Act (GMA) (codified in Revised Code of Washington 36.70A), is a policy document which guides growth and future land use decisions in Island County. The GMA was initially adopted in 1990 and has been subsequently amended and supplemented. The GMA requires development of (1) County-wide planning policies, (2) a comprehensive plan with specific mandatory elements, and (3) development regulations to implement the plan.

County-Wide Planning Policies

County-wide planning policies (CWPP) were developed for establishing the framework from which county and city comprehensive plans are developed and adopted. The CWPP provide the foundation for assuring that consistency criteria, required between county and city planning under the GMA are fulfilled. The CWPP were jointly and collaboratively developed and adopted by Island County and the cities of Coupeville, Oak Harbor, and Langley on June 22, 1994.

Comprehensive Plan - Mandatory Elements

The Plan consists of six mandatory elements established under Washington Administrative Code (WAC) 365-105-300. These elements include: land use, rural, housing, capital facilities, utilities and transportation.

Development Regulations

The Plan addresses growth over the next 20 years. Development regulations will be adopted following adoption of the Comprehensive Plan and will be based on the policies within the Plan. The Plan and development regulations will be used by citizens and development interests to direct design and location decisions as they plan for improvements. Public spending for facilities and services will also be guided by the Plan and associated development regulations.

Growth Management Act Planning Goals

In addition to the policy and regulatory requirements, the GMA establishes thirteen substantive goals to guide the development and adoption of the comprehensive plans and development regulations. These goals are:

1. **Urban Growth** - Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.
2. **Reduce Sprawl** - Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.
3. **Transportation** - Encourage efficient multi-modal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.
4. **Housing** - Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing stock.
5. **Economic Development** - Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, and encourage growth in the areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services and public facilities.
6. **Property Rights** - Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.
7. **Permits** - Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.
8. **Natural Resource Industries** - Maintain and enhance natural resource based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forest lands and productive agricultural lands, and discourage incompatible uses.
9. **Open Space and Recreation** - Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, develop parks.
10. **Environment** - Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.
11. **Citizen Participation and Coordination** - Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.

12. **Public Facilities and Services** - Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.
13. **Historic Preservation** - Identify and encourage the preservation of lands, sites, and structures that have historical or archeological significance.

The proposed action addresses the GMA planning goals by incorporating them into the Comprehensive Plan.

B. POPULATION PROJECTIONS

State Office of Financial Management population projections indicate that the Island County population is expected to be 88,688 people for the year 2010. This represents a population increase of 28,493 between 1990 and 2010. In 1990, 68% of the population resided in unincorporated Island County. Based on past trends, it is estimated that up to 70% of the population will reside in unincorporated Island County in 2010. Island County has a significant influx of holiday and seasonal residents. In addition to the full-time population estimated at 88,688, an estimated additional 11,400 part-time residents are estimated in the year 2010.

State law requires that Island County plan to accommodate this projected population growth. The alternatives described in this EIS are expected to accommodate these population forecasts.

C. ALTERNATIVES CONSIDERED

The alternatives considered in this EIS include the No Action Alternative and two managed growth alternatives. The major difference between the alternatives is the manner in which growth is distributed throughout the County. The No Action Alternative assumes a growth pattern that would continue to follow past trends. The two directed growth alternatives (Alternatives 2 and 3) reflect the CWPP, goals of the GMA and the communities vision for growth in Island County. The three alternatives analyzed in this EIS are described below.

Alternative 1 - No Action (Existing Plan-Dispersed Growth)

Under Alternative 1, a new comprehensive plan would not be adopted. The existing plan and zoning regulations would provide direction for future growth in Island County. There would be no change in existing county policies regarding the overall distribution of future land use patterns, population distributions, employment, resource lands protection, and residential development. Figure II-1 shows the existing zoning map which currently provides direction for land uses allowed in Island County.

Growth would continue based on past trends and would not be linked to the capacity of capital facilities. Residential growth would continue to disperse to the rural areas of Island County.

Alternative 2 - Major Urban Growth Areas

For this alternative, high-density residential growth and commercial/light industrial employment opportunities would be directed to cities and their designated urban growth areas where adequate facilities, services, and utilities are provided for future growth (Figure ____).

Under this alternative, a new comprehensive plan would be developed for Island County. The plan would direct growth to designated urban growth areas (UGAs). Cities and towns together with their UGAs would accept a majority of the County's 20 year population forecast. The cities/town would develop land use policies which direct employment growth to major commercial and light industrial centers within the UGAs. Island County would direct employment growth to UGAs. A variety of incentives such as clustering, density bonuses, and maximum lot sizes would be implemented to promote development in UGAs. UGAs would provide a full mix of land use; high-density, single-family and multi-family residential; commercial; light industrial; public and government; and recreational and open space.

Two-tiered planning areas would be designated within the UGAs. Public facilities, services, and utilities would be provided throughout the urban area. Urban services would generally not be provided outside of UGAs.

Designated rural areas will be retained for rural lifestyles and will discourage urban forms of development. Rural landscape features and lifestyles would be retained by establishing overall low rural residential densities. Rural residential cluster development requirements would allow for a variety of densities while maintaining rural character.

Designated natural resource lands (agriculture and forest) will be protected and conserved. Natural resource land conversion to non-resource uses would be discouraged by designating commercial farmland and timberland, for long-term conservation and utilization. Mineral resources of long-term commercial significance are defined as a Special Planning Concern. Transfer of Development Rights (TDRs) would be utilized to shift development from natural resource lands and certain critical lands (like wetlands), to UGAs. TDRs and their history of use in Island County are further described in Appendix B.

A system of open space areas, corridors, and greenbelt networks would be created through planning or plan implementation. Critical area regulations would be established to achieve consistency with environmental policies in the Comprehensive Plan.

Alternative 3 - Rural Activity Centers

Under Alternative 3, growth would be directed to UGAs, as well as Rural Activity Centers (RACs) (Figure ____). The RACs include concepts such as Rural Community Centers, Rural Villages, and Rural Neighborhood Business, which are identified for mixed-use, medium-density residential growth and rural commercial services. Light Industrial/Business Park Areas would be located in UGA's, RAC's and predesignated areas. Rural Residential and Residential designations are also considered to accommodate the diverse needs of a Rural Community.

Under this alternative, a new Comprehensive Plan would be developed for Island County. The plan would direct intensive urban growth to designated UGAs. Cities/town and the UGAs would accept an increased proportion of the County's 20 year population forecast. The cities/town would develop land use policies which direct employment growth to major commercial and light industrial centers. A variety of incentives, such as clustering, density bonuses, and maximum lot sizes would be implemented to promote development in UGAs. UGAs would provide a full mix of land uses: high-density, single-family and multi-family residential; commercial; light industrial; public and government; and recreational and open space. TDRs would be used to shift development from natural resource and critical lands to higher density areas, but would not be required in UGAs.

Island County would primarily direct rural employment growth to RACs such as rural community centers and rural villages. These areas would be designated for mixed-uses (moderate-density rural residential and limited commercial services). Rural community centers are at a scale somewhat less than UGAs and rural villages are less developed than rural community centers. RACs such as rural neighborhood business centers and general commercial business areas would allow for neighborhood businesses, and for improvements and expansion at existing commercial business areas that are outside of UGA's, rural community centers and rural villages. Rural residential neighborhoods would be identified for redevelopment and infill development in existing developed areas. A variety of densities would be provided in rural areas while maintaining rural landscape features and lifestyles. Urban forms of development would be discouraged in rural areas.

Two-tier planning areas would be designated within the UGAs. Public facilities, services, and utilities would be provided throughout the urban area. Urban services would generally not be provided outside of UGAs, except for limited non-county urban services which may be provided in rural community centers and rural villages. A land use progression would be established to accommodate future growth and the designation of new UGAs.

As with Alternative 2, Alternative 3 includes designated natural resource lands (agriculture and forest) that will be protected and conserved. Mineral resources of long-term commercial significance are defined as a Special Planning Concern. A system of open space areas, corridors, and greenbelt networks would be created through planning or plan implementation.

Multiple modes of transportation would be developed. Air, vehicular, ferry, bus, and pedestrian/bicycle access would be provided. This alternative emphasizes the use of transit to serve designated rural community centers and rural villages. Public transit (buses) would provide service between rural community centers, rural villages and UGAs. There would be an investment in improving road capacity within and between rural community, rural villages and UGAs. Emphasis would be placed on access from surrounding areas to each rural community center, rural village, and UGAs, with only minor improvements in cross-country transportation facilities.

III. AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS, AND MITIGATION MEASURES

A. EARTH

Affected Environment

Geology

Island County consists of eight islands, the largest of which is Whidbey Island. The other seven islands are Camano, Deception, Strawberry, Smith, Minor, Ben Ure, and Baby (also known as Hackney Island). The last six are very small and only Ben Ure is inhabited. Located in the Puget Trough physiographic region, the geology of the Island County area has been greatly influenced by glacial activity in recent geologic history. Island County lies within a portion of the region which is a depressed, glaciated, partially submerged area. Several glacial events in the past 40,000 years combined to shape the region, the most recent one being the Vashon glaciation.

Whidbey and Camano Islands are composed virtually entirely of glacial deposits, predominantly glacial drift, which were molded into their present shape by the movement of the glaciers. The northern tip of Whidbey and some of the smallest islands exhibit non-glacial geology, predominantly metamorphic bedrock.

Geologic Hazards

The major geologic hazards affecting Island County are seismic and erosional events and processes.

Seismic events are common in the Puget Sound region and have the potential to be catastrophic events. To date, the largest earthquake event closest to the Island County area was in 1896 northwest of Whidbey Island. This earthquake is estimated to have registered a 7.0 on the Modified Mercalli Intensity Scale (MM), although others have occurred of lesser intensities.

Damage resulting from earthquakes is caused primarily by ground shaking, surface faulting and elevation changes. Additional causes of damage are ground failures such as landslides and liquefaction. Normally stable slopes greater than 30% may experience landsliding activity.

Erosion caused by wave action, rain, wind and gravity can pose hazards in Island County. Coastal areas may experience landward erosion affecting homes or roads built on the eroded land. Areas with steep slopes are more prone to landslides and slumps than gently sloped or near-flat areas. Clearcut areas expose soil to erosion processes and accelerate runoff.

Soils

The soils which cover Island County have been highly influenced by the moist maritime climate of the region. Glacial drift is the parent material of most of the soils, but it varies considerably in texture, permeability and consistency. These conditions have resulted in many variations in the soil profiles.

The Soil Survey of Island County (1958) defines the soil types of the area as six groups based on topographic position. The six groups are the soils of: (1) glacial uplands, (2) terraces, (3) depressions in uplands and terraces, (4) deltas and tidal flats, (5) organics, and (6) miscellaneous land types. Each of these soils is described briefly in the following paragraphs.

Glacial Uplands: This soil group covers approximately 75 % of Island County. The parent material of these soils is coarse- to fine-textured glacial drift. Many of the soils are very shallow, underlain by hard glacial till. While the surface drainage is good in gently to steeply sloping upland areas, the till subsurface is relatively impermeable. Some uplands areas contain deposits of gravelly and sandy glacial drift and the soils are loose and uncompacted. Most of these soils developed under forest, which influenced their formation. The Townsend soil is the only one which has more than fair suitability for agricultural use.

Terraces: The terraces, also known as the prairies are the most fertile and productive areas of the County, although the soils occupy less than 5 % of the land area. Most terrace soils are remnants of glacial sand and gravel outwashes, or were deposited as marine and glacial lake sediments. Drainage is generally moderate in gently sloping areas, but is very rapid where large amounts of gravel are found. These soils have developed in the absence of forests.

Depressions of Uplands and Terraces: Soils found in these areas have received large quantities of seepage and runoff from surrounding lands. These soils typically hold large quantities of water during wet seasons. Parent materials of these soils include impermeable, cemented till or glacial/marine sediments and clays.

Organic Soils: These soils are located in depressions of shallow lakes and other permanently wet areas. The organic components of these soils are mainly decomposing plant and animal materials.

Delta and Tide Flat Soils: These soils are found in level area adjacent to coastal beaches. Marine sediments and marine sand and gravel are the parent materials for soils in the deltas and tide flats. On the northern end of Camano Island, small amounts of alluvial sediments have been deposited by the Stillaguamish River. High tides typically raise the water table in these soils, and many of them are poorly drained.

Miscellaneous Land Types: These areas cannot be classified into soils because of a lack of a soils profile or because of the variable characteristics of the soils. These soils generally occur on steeply sloped shoreline areas, coastal beaches, and marsh lands of fresh and saltwater bodies. The steeply sloped areas have geologic and soil characteristics which generate erosion and drainage problems. The lowland beach and marsh areas are typified by high water tables and pose limitations to human development.

Topography

Whidbey Island is bounded on the north by Deception Pass, which cuts between Whidbey and Fidalgo Islands. To the west, Whidbey Island meets the Strait of Juan de Fuca and Admiralty Inlet. Saratoga Passage, Possession Sound and Skagit Bay line the eastern coast of the island. The southern tip of the island juts into Puget Sound.

The Stillaguamish River separates Camano Island from the mainland along the northeast tip of the island. Saratoga Passage borders Camano on the west, while Port Susan lines the east coast of the island. The northern border of the island consists of Skagit Bay, while the southern tip enters Possession Sound.

The elevations of the eight islands ranges between 200 and 580 ft. mean sea level (MSL). The highest point in the County is found on the northern tip of Camano Island at elevation 580 ft. MSL. As a result of the glacial activity in the region, the landscape is predominantly composed of glacial moraines. The relief on the islands is typically undulating to rolling, with few slopes greater than 15 %. At elevations greater than 200 ft. MSL, the terrain alternates between upland hills and plains. Gentle ridges form the elongated reaches of the islands.

On Whidbey Island there are several lowland valleys, terraces and prairies with elevations of only about 100 ft. MSL. Lowland terrain can also be found on the northeastern tip of Camano Island. Shoreline abutted by steep slopes and cliffs comprises most other lowland parts of the County.

At various points along the coasts of the islands, lagoons, saltwater tidal flats and marshes, and accretion beaches can be found. Past flooding of the Stillaguamish River deposited alluvial sediments on the northeastern tip of Camano Island, the remnants of which are still present in agricultural soils there. There are no major rivers on the islands, but there are scattered fresh water lakes, marshes and intermittent streams. Lowland depressions are the sites of peat bogs around the islands.

Significant Impacts

There are three proposed alternatives for the Comprehensive Plan. The first alternative, No Action, proposes to leave the current plans unchanged. The second and third alternatives differ in that one will concentrate on city and designated UGAs, while the other will concentrate on growth in UGAs, and to a lesser extent, in RACs. Each of these alternatives will have some unique as well as overlapping impacts, as described in the following paragraphs.

Alternative 1 - No Action

If the No Action alternative were selected, new growth and development would continue at its current patterns. Growth would continue to be dispersed, and continuing this trend may have more severe impacts on rural lands than the other alternatives. If no attempt is made by the County to control growth in rural areas, the pressure to develop natural resource lands would likely increase.

The No Action alternative would result in detrimental effects on the geology and soils of rural areas, contributing to erosion problems such as landsliding, accelerated runoff and erosion due to changes in the landscape incurred by construction. Impacts from continued dispersed development would in turn diffuse the impacts of development throughout the County, rather than projecting impacts onto a few specific areas. The cumulative geologic impacts in the County would increase as growth continued, and may not be immediately apparent due to their dispersed nature. The sources of cumulative impacts are often more difficult to gage and control than point sources. Ultimately, the geologic impacts under this alternative may pose more challenging mitigation in the future as the cumulative effects manifest throughout the County.

Alternative 2 - Major Urban Growth Areas

Alternative 2 would necessitate composition of a new comprehensive plan which would direct future growth to established UGAs. The County would direct all employment growth to major commercial and light industrial areas within these UGAs. Public facilities, services and utilities would be provided by the County, but these services would typically not be available outside of the UGAs.

The UGAs would experience a large amount of growth, with significant geological impacts in newly developed areas. Incentives such as clustered housing, density bonuses and maximum lot sizes would decrease the acreage of land developed, thus decreasing the impacts on soil and geologic resources. The relatively small amount of new development permitted in rural areas would result in few impacts to natural resource lands. Concentrating the development in specific areas would simplify mitigation planning and reduce the overall cumulative impacts. Monitoring impacts would be more easily accomplished under this alternative than under Alternative 1.

Alternative 3 - Rural Activity Centers

Alternative 3 would require development of a new comprehensive plan to direct intensive urban growth to designated UGAs, and direct rural growth to designated RACs such as rural community centers and rural villages. This alternative blends the concepts presented in Alternative 2 with the recognition of the fact that rural Island County residents desire the same public services and some of the same conveniences which are enjoyed by their urban counterparts. Public services would be provided in UGAs and to some extent in RACs. In rural areas, infill development would be targeted in existing developed areas. Rural landscape features and lifestyles would be preserved through a variety of rural densities.

Since development will be limited in rural areas, impacts on geologic resources will likely be less than Alternative 1. Because increased development will occur in UGAs as well as in RACs, impacts will be more widely spread than in Alternative 2. Any development in rural areas will need to be closely monitored to reduce impacts caused by construction. Natural resource lands would be at risk for development if not specifically protected in the Comprehensive Plan. Further economic development would be directed towards existing developed areas, which would reduce the potential for impacts.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Direct development only to areas which are appropriate to urban development, avoiding all designated geologic and soils hazards areas.
- On slopes greater than 15 %, maintain low residential densities.
- All uses except those classified as low use, such as agriculture and recreation, should be prohibited in geologically hazardous areas.
- In order to preserve agrarian aspects of the rural lifestyle and maintain low intensity use, establish agricultural production as the highest priority use on identified prime agricultural soils.
- On designated forest lands, establish silviculture as the highest priority use.
- Provide incentives and zoning designations, and apply other regulatory techniques to preserve prime agricultural soils for agrarian uses.
- Adhere to guidelines established by the Washington State Department of Ecology for erosion and sediment control.
- Require mandatory riparian, lacustrine and steep slope vegetative buffers to limit erosion, siltation and marine impacts during and after construction.
- Establish permitting protocols which will examine projects in a cumulative manner and provide site specific mitigation to reduce impacts in the design phase, rather than try to mitigate problems after they have developed.

Unavoidable Impacts

New development in Island County will result in site specific grading, filling, excavation, removal of plants and trees, and other disturbances to the earth. Although these impacts cannot be eliminated, they can be mitigated through a sound comprehensive plan and well-designed mitigation measures.

B. AIR

Affected Environment

Air Quality

Air quality is considered good in all parts of the County; the County is an attainment area within established air quality standards. The major sources of air pollution in Island County are from outdoor burning, residential wood stove smoke, automobiles, power sources and U.S. Navy air operations. However, these sources are minor and winds provide good dispersion.

Three agencies regulate air quality in Island County: the U.S. Environmental Protection Agency (EPA), the Washington Department of Ecology (Ecology), and the Northwest Air Pollution Authority (NWAPA). EPA has established the National Ambient Air Quality Standards (NAAQS) to protect the health and welfare of the public. Ecology has established standards which, except for more stringent sulfur dioxide limits, parallel the NAAQS. NWAPA adopted the Ecology standards and added a five-minute limit for sulfur dioxide and a one-hour standard for non-methane hydrocarbons.

Only one air monitoring site, located in Oak Harbor, exists in Island County. The city of Oak Harbor is the largest community in Island County and is the largest source of residential home heating and transportation-related pollutant emissions. Total suspended particulate (TSP) air quality monitoring in Oak Harbor, has documented only very low concentrations over several years. In 1986 and 1987, the TSP levels were measured at 37 and 34 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), about half the annual standard. The maximum 24-hour TSP recorded in 1987 was $85 \mu\text{g}/\text{m}^3$, far below the 24-hour standard.

NWAPA labels any source emitting more than 50 tons per year of a criteria pollutant as "Class A." Whidbey Island Naval Air Station (NAS) is one of two Class A sources on Whidbey Island and Puget Power in Langley is another, even though both facilities emit less than 50 tons per year of any criteria pollutant (Table ____). These designations have been made because of the level of activity at the base and because the Puget Power substation has the potential to emit pollutants. The regulated facilities at the base include 4 major and 16 minor boilers located at Whidbey Island NAS. The Puget Power facility includes a diesel burning generating station that is used as a back-up power source. Overall, these sources are considered very small.

TABLE
EMISSIONS SOURCE INVENTORY (TONS - 1990)

Source	Hydro-carbons	Particulates	Nitrogen Oxides	Sulfur Oxides	Carbon Monoxide
<u>Island Co. Emissions</u>					
NAS Whidbey Island	4	22	36	4	14
Puget Power, Langley	0	2	18	31	0
Total	4	24	54	35	14

Source: Northwest Air Pollution Authority, 1994.

Analysis of air pollutants emitted by air operations at Whidbey Island NAS was conducted and presented in the Draft Environmental Impact Statement for the Management of Air Operations at Whidbey Island NAS (U.S. Navy, 1993). The greatest pollutant emissions occur when an aircraft is on the ground at a high power setting, such as during takeoffs, and full power maintenance turns. The pollutants of concern from turbine powered aircraft include carbon monoxide (CO), nitrogen oxides (NO_x), total hydrocarbons (THC), sulfur oxides (SO_x), and total suspended particulate matter (TSP). The potential for jet fuel release is another air quality concern. However, this is not a routine event and it is unlikely that fuel droplets reach the surface. Due to frequent high winds and lack of large emitting sources of pollutants, air quality at Whidbey Island NAS meets all applicable federal, state and local standards.

Climate

The climate of Island County is generally mild and uniform because of the small range of elevations, the "rain shadow" of the Olympic Mountains, and the tempering effect of the surrounding marine waters. Moist winds from a southwesterly direction in the winter, and dry northwesterly winds in the summer, create the distinct wet and dry seasons in this area. Mean annual precipitation ranges from approximately 20 inches in Coupeville to 42 inches at Lake Goss. Coupeville's level of precipitation is typical of northern Whidbey Island. Lake Goss level of precipitation is more typical of Camano Island and southern Whidbey Island which experience somewhat greater amounts of precipitation because these areas lie toward the periphery of the "rain shadow".

Mean annual temperature in Island County is 50°F. The annual average daily range is between a minimum of 42 degrees and a maximum of 58°F. Summers are mild and winters bring only a small amount of snowfall with no accumulation of snow pack. The average winter and summer temperature is 38°F and 61°F, respectively.

Significant Impacts

Alternative 1 - No Action

Under the No Action Alternative the lack of urban centers will reduce the ability to efficiently provide transit or other alternative transportation modes. The private automobile, a major source of air pollution, would continue as the primary mode of transportation. Commercial, industrial and other stationary sources of air pollution would be allowed in rural areas of the County, potentially decreasing the air quality in the rural areas. Residential growth in rural areas would likely increase wood smoke pollution.

Because more dispersed development would be allowed with Alternative 1, air quality impacts to the areas around the incorporated cities would more likely be less than under the other alternatives.

Alternative 2 - Major Urban Growth Areas

Because Alternative 2 would allow only a relatively small amount of new growth to disperse into the rural parts of the county, rural air quality impacts related to automobile and wood stove emissions and industrial activities would be less than with Alternative 1. Some impacts, however, from automobile and wood stoves would still be felt.

In the UGAs, the concentration of growth may increase the overall impact of vehicle emissions, wood stove smoke and industrial development on air quality. However, relatively higher densities of residential development may support transit or alternative modes of transportation. The concentration of residential development and retail/commercial services may also reduce overall vehicle trip lengths and increase non-motorized transportation opportunities. These factors may combine to mitigate the overall air quality impacts in urban areas.

Alternative 3 - Rural Activity Centers

In the rural areas outside of the RACs, little new development would occur. Therefore, air quality impacts would be minimal.

The designated UGAs and RACs in Alternative 3 would experience the similar impacts described for the UGAs under Alternative 2. Since development would be concentrated into UGAs and RACs throughout the County, the impacts would be more dispersed throughout the County than with Alternative 2.

Mitigation Measures

The following lists mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Minimize trips lengths and reliance on private vehicle use by promoting a compact pattern of development in urban areas.

- Prohibit land uses which create noxious or toxic air pollutants near residences, hospitals or other incompatible land uses.
- Increase awareness of the air quality impacts of vehicle emissions, wood stoves and other activities through a public education program.
- Require all new development, including those in rural areas, to have heating sources other than wood stoves.
- Establish wood stove emission standards that exceed current state standards.
- Establish outdoor burning bans in UGAs and RACs.
- Island County could provide collection and recycling of land clearing debris from all sites where clearing and timber harvest occurs, thereby eliminating the need to burn unmerchantable timber and debris. On-site wood waste recycling options such as chipping machines could be provided.
- Establish higher emission standards for new industrial and commercial uses that exceed state and federal standards.

Unavoidable Impacts

As growth occurs, there would be an increase in the source of air pollutants, potentially degrading air quality.

C. WATER

Surface Water, Runoff/Absorption, Floods and Groundwater

Affected Environment

Surface Water

Drainage characteristics of soil, vegetation and topographical features control how water moves once it reaches the ground. It has been estimated that 68 % of the yearly average precipitation leaves Island County as runoff. The lack of snow accumulation, seasonal precipitation and the small watershed areas, result in mainly intermittent surface water flows. Continuously flowing drainages and streams are supported largely by ponded areas and several of the lakes in the County.

Major surface water in the County are shown on Figure _____. Table ____ documents the surface water characteristics. United States Geological Survey Mapping indicates that there are 37 identifiable lakes in Island County, and perhaps an equal number of areas which are ponded during the year. Seven of these lakes are brackish in nature being influenced by tidal action.

In total, there are 971 acres of free standing lakes and ponds and 415 acres of associated marshlands.

Cranberry Lake, the largest freshwater lake with 128 acres, lies in Deception Pass State Park and is heavily used for recreation and swimming. Goss Lake, with 55 acres, lying in southern Whidbey Island, is entirely surrounded by residences and a one acre public park. Lone Lake, with 52 acres lying in southern Whidbey Island, is bordered on the east by a residential subdivision and on the north by a nine acre public park. Deer Lake, with 82 acres and also lying in southern Whidbey Island, is bordered by residential development, a one acre public park and a large private campground. The parks along the last three lakes chiefly provide public access and boat launching ramps. Lost Lake, on central Camano Island and covering as much as 12 acres during wet winters, is entirely surrounded by residential subdivision. Smith Lake, also on Camano Island and covering 20 acres, is also entirely surrounded by residential subdivision. These lakes are generally in equilibrium with the local groundwater table and are of limited value as a water supply because any substantial use of the waters would draw them down and damage their recreational value.

Algae blooms in Deer and Lone Lakes have been noted in recent years and indicate that eutrophication (aging) processes may be active. Septic tank and agricultural effluents are suspected sources of these surface water pollutants.

Brackish areas influenced by tidal action include Crockett Lake, Lake Hancock, Deer Lagoon, Kennedy's Lagoon, and Dugualla Bay. All of these areas, with the exception of Lake Hancock, have been diked and drained to a limited extent. Heavy precipitation and high tides greatly influence the levels of these waters and the total covered land area. Large deposits of organic peat materials are associated with these areas due to the dramatic fluctuations in water levels.

Runoff, Absorption and Floods

Precipitation which falls in Island County is absorbed into soil, absorbed by vegetation, or is carried as stormwater runoff directly into local drainage courses. Stormwater runoff is the primary method by which pollutants enter local surface waters. Recharge of ground water in Island County comes mainly from precipitation.

Areas of general flooding in Island County are shown on Figure ___. Flooding in most parts of Island County occurs mostly in the winter months when intense meteorological conditions cause severe storm surges and high wind-generated waves. The large waves generally run up ocean beaches to flood shoreline structures and, sometimes spill over lower areas behind the berm line. This is caused partly by the relatively long fetch faced by the entire west coast of Whidbey Island.

There is also limited flooding around low-lying areas, ponds and lakes and natural drainageways during the winter and spring seasons when the tides are highest and rainfall is heavy. In some areas efforts to reclaim tidelands through levying have created back flooding problems from fresh water runoff of upland areas simultaneously meeting with high tides.

TABLE MAJOR NATURAL DRAINAGE SYSTEMS

Surface Water	Location	Area/Length	Watershed Area	Comments
Cranberry Lake	North Whidbey	128 acres	1.5 sq. mi.	Heavily used for recreation.
Goss Lake	South Whidbey	55 acres	1.5 sq. mi.	Water clear and slightly brown.
Lone Lake	South Whidbey	92 acres	2.5 sq. mi.	Water green with visibility to approx. 2-foot depth.
Deer Lake	South Whidbey	82 acres	1.8 sq. mi.	Green algae in small spheres.
Lost Lake	Camano	2-12 acres	0.4 sq. mi.	Water with visibility to approximately 6-foot depth.
Smith Lake	Camano	7 acres	0.2 sq. mi.	In center of residential development.
Dugualla Creek	North Whidbey from Ault Field to Skagit Bay	3.3 miles	5.0 sq. mi.	In center of residential development.
Waterloo Creek	North Whidbey from Waterloo Marsh to Strait of Juan de Fuca	4.0 miles	4.0 sq. mi.	Bottom land is used for pasture.
Lone Lake Creek	South Whidbey from Lone Lake Watershed to Useless Bay	4.5 miles	5.0 sq. mi.	
Maxwelton Creek	South Whidbey from Coles Road to Puget Sound	6.2 miles	7.0 sq. mi.	Water is very dark brown. Bottom land used for pasture.
Glendale Creek	South Whidbey from near Deer Lake to Possession Sound	3.4 miles	1.8 sq. mi.	Water is dark brown.
Kristoferson Creek	Camano Island from near Lindsay Lake to Triangle Cove and Port Susan	2.4 miles	3.0 sq. mi.	

Urban development and increases in impervious surfaces reduce the areas where absorption can occur, thus contributing to higher stormwater runoff rates. In Island County, urbanization and/or the removal of extensive amounts of forest vegetation cover, increasingly contributes to flooding and drainage problems. Such modifications as extensive logging, housing developments and roadway construction within critical watershed areas have accelerated surface water runoff and decreased the capacity of upland areas to retain moisture. Consequently, larger quantities of water run off during shorter periods of time creating flooding and drainage problems for lowland areas. The resulting impacts affect all types of property uses. Lowland uses most adversely affected by water saturation of soils include septic tank drainfield facilities of residential developments, and agricultural areas where growing seasons are shortened due to prolonged wet soil conditions.

The Federal Emergency Management Agency (FEMA) conducted a flood insurance study in incorporated areas of Island County from 1977 to 1980 (FEMA, 1981). Five areas were studied in detail due to their tendency for tidal flooding. Approximate analysis was used to study 42 other areas having a low development potential or minimal flood hazard due to coastal and/or inland flooding. According to the study, four of the detailed study areas have potential coastal-flooding problems. These include: Country Club/Swanson area (located west of Oak Harbor), Crockett Lake (located midway along the western shore of Whidbey island), Mutiny Bay and Useless Bay (both located near Freeland). Runoff problems are considered significant for two of the detailed study areas: the County Club/Swanson area and Dugaulla Bay (located east of Ault Field at Whidbey NAS).

Groundwater

Studies of the groundwater resources of Island County indicate that there is a general water table underlying both Whidbey and Camano islands which is near sea level at most locations. While soil percolation varies in different areas, an estimated 6% of the precipitation percolates through the soils and geological strata to recharge aquifers and water tables of the County. The infiltration potential in Island County based on soil type, geology and surficial hydrology is shown on Figure ___. The groundwater table generally follows the topography towards the sea although, in some locations, groundwater exists as a perched water table.

Island County has a series of aquifers that generally lie within five aquifer zones. The aquifer zones correlate in many cases with certain geologic deposits of past glacial and inter-glacial periods (EES, 1989). Well yields in the aquifers vary from site to site. The median potential yield for the various aquifer zones ranges from 17 to 73 gallons per minute (gpm) for the maximum yield. Wells, and to some extent springs, serve as the domestic water supply for most Island County consumers. The Whidbey NAS imports its water from the city of Anacortes and Oak Harbor has extended waterlines to this source to service the city.

The principle dissolved chemical constituents in ground water in Island County are calcium and magnesium (Island County Planning Department, 1991). Naturally high calcium and magnesium concentrations are indicative of relatively hard water. The areas between Keystone and Ault Field at Whidbey NAS and northeast Camano Island are the principal areas with characteristically hard water; however, there does not seem to be any established geographic pattern to the occurrence of hard water in the County.

Seawater intrusion is documented in four areas of the County. These areas are:

- The southwestern area of North Whidbey Island, including part of Oak Harbor, plus the area around Coupeville including the Ebey's Prairie area (northern Central Whidbey Island),
- The area near Greenbank on central Whidbey Island,
- The southern "pan handle" of Camano Island (south Camano),
- The northeast part of Camano Island,

In areas contaminated by seawater intrusion, ground water contamination is predominantly by sodium and chloride ions. Although specific sources of chloride are undetermined, it is assumed that seawater surrounding the islands is the predominant source in Island County (Island County, 1991).

Significant Impacts

The amount, intensity and density of future development will impact water quality and quantity in Island County. Differences in the proposed development pattern will affect the relative impacts on surface water, runoff/absorption, floods and groundwater.

Alternative 1 - No Action

Under Alternative 1, rural Island County may experience greater development and associated increases in impervious surfaces than under the other alternatives. The primary impacts associated with such a development pattern would be increased peak stormwater runoff during storms, causing greater risk of flooding and reduced surface water flows during dry periods. Increased impervious surface would also reduce the amount of potential recharge into surface and groundwater.

Reduced surface water flows can damage fish habitat and increase the potential concentration of pollutants in surface waters. Reduced groundwater recharge could increase the potential for seawater intrusion and contamination.

The dispersed pattern of development may also be associated with septic tank development, use of individual well systems, and greater potential for untreated disposal of pollutants. All of these factors may contribute to a greater potential for generalized groundwater contamination under this Alternative.

Alternative 2 - Major Urban Growth Areas

Under Alternative 2, the rural areas would not experience a significant amount of new growth. Therefore, rural area impacts associated with development and increased impervious surfaces would be less than described under Alternative 1.

In the UGAs, more intensive and increased development could result in increased flooding and water quality impacts. However, the potential for more efficient building techniques may help to minimize impervious surfaces and associated water impacts. In addition, concentration of growth in the UGAs would provide greater potential for development of sanitary sewer systems, thereby reducing the potential for groundwater contamination.

Because development may be more intensive than under Alternative 1, the potential for introduction of urban contaminants into the surface and groundwater system may be increased. However, there may be greater opportunities to control stormwater in urban areas. Since development within UGAs would affect a limited area relatively fewer surface and groundwater resources would be potentially impacted with this alternative.

Alternative 3 - Rural Activity Centers

As with Alternative 3, Alternative 2 would create the most significant impacts in the UGAs and RACs. These impacts would be similar to those described for the UGAs under Alternative 2. Because the RACs are dispersed around the County and may not have sanitary sewage treatment systems, they may impact more surface and ground water resources than the UGAs.

Mitigation Measures

The following lists mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Minimize water quality impacts in the UGAs and/or RACs by encouraging a development pattern that minimizes impervious surface coverage, such as clustered development, multi-story buildings, or other innovative building designs.
- Minimize water quality impacts in the rural areas by concentrating growth in the UGAs and/or RACs.
- Provide for a residential development patterns in the UGAs that will support a public sewer system.
- Limit development activity in frequently flooded areas to low intensity uses, such as agriculture and recreation.
- Require mandatory buffers of undisturbed vegetation for designated streams.
- Provide for the transfer of development rights to allow development in appropriate locations, while protecting environmentally sensitive areas.
- Encourage the retention of vegetation, wetlands, and the use of natural stormwater management facilities, such as bio-filtration swales.
- Evaluate and enhance critical area regulations to reduce stormwater runoff, erosion, sedimentation and flooding problems.

- Increase standards for installation of new septic systems and for maintenance and inspection of existing septic systems.
- Identify and establish procedures for increased protection of groundwater. Implement recommendations of the County Ground Water Management Program.
- Plan for and implement County-wide stormwater control services.
- Develop education programs which provide information on water resource protection and conservation.

Unavoidable Impacts

- As urban development continues, some increases in impervious surfaces would be expected, potentially decreasing groundwater recharge, reducing surface water flows during dry periods, and increasing flooding problems.
- As urban growth occurs, increases in pollutant sources associated with urban uses would occur, potentially contaminating surface waters and groundwater.

Public Water Systems

Affected Environment

A number of plans and regulatory documents govern the public water supplies within Island County. These include:

- Island County was designated a sole source aquifer in 1982. This designation requires any federally funded project to be designed to ensure that it will not cause ground water contamination.
- In 1989, Island County developed a Sea Water Intrusion Policy which established a mechanism to regulate public water systems threatened by seawater intrusion.
- In July, 1990, the Island County Coordinated Water System Plan (CWSP) was adopted. The CWSP recommended that future growth be planned in an orderly fashion within the capacity of the islands to support growth.
- A Ground Water Management Plan was adopted in 1991. This plan provided recommendations to protect, preserve and enhance ground water quality, quantity, and recharge.

Island County's water is supplied from two sources. The City of Anacortes supplies water to Oak Harbor and the Whidbey NAS. The remainder of the County's water systems rely on groundwater as the primary water resource. Oak Harbor, Coupeville, Langley and the community of Clinton each provide water service within their incorporated or community limits

and to some adjacent areas. Island County also has numerous smaller public water systems and individual household wells.

The City of Oak Harbor operates the largest municipal water supply system in Island County which serves the incorporated limits and adjacent area including the Whidbey NAS. The primary source of supply is from Anacortes. To supplement this source, the city operates three deep wells, each with a yield of 180 gpm. Water delivered from the City of Anacortes averaged 2.35 MGD in 1990. The City of Anacortes, in its 1991 Comprehensive Water System Plan (CWSP), assumed that Island County demands on the Anacortes system would increase by 1.0 MGD (to 3.35 MGD) in the year 2000, with an additional 1.4 MGD (to 4.75 MGD) in 2010. The City of Anacortes water supply demands within the scope of the Skagit County CWSP can be met from the Skagit River. The City has sufficient water to provide water to North Whidbey; additional conveyances may/may not be required to provide supply to the area (EES, 1993).

The towns of Coupeville and Langley operate municipal water systems which serve 670 and over 600 customers, respectively. Coupeville is supplied by three wells that serve incorporated as well as areas outside the town. Coupeville's ability to supply water to new customers and/or expand its service area is limited by available good quality groundwater. The town of Langley water system serves primarily incorporated areas with four wells. One of the wells has high levels of manganese and is presently used as backup. A new chlorinated well was recently developed. Proposed future improvements would extend service to the east and southeast within the proposed service area.

The Clinton Water District is another large system with approximately 500 customers in the area of the Washington State ferry terminal. Five wells supply water to the system. One of the five wells has high concentrations of manganese and is only used during periods of high demand. Construction of a proposed reservoir could provide expansion capabilities to the areas west and south of the existing service area.

In 1990, Island County was served by 650 public water systems and an unknown number of private wells (EES et al, 1991). The county relies almost exclusively on groundwater for its public drinking water supply, with the exception of the City of Anacortes supply. Current demand from these groundwater resources is approximately 3.15 MGD. In the year 2000, the projected demand from groundwater sources will be 4.25-4.85 MGD and in 2010, 4.6-5.7 MGD.

Water quality is a problem for many of the water systems. Many systems regularly have water samples with iron and manganese concentrations in excess of the Maximum Contaminant Level set forth in the State/U.S. Environmental Protection Agency drinking water standards. Salt water intrusion is also a problem facing many water systems. In some areas of Island County, such as Central Whidbey Island and southern and northeastern Camano Island, the occurrence of salt water intrusion is a serious risk for both existing supplies and future groundwater development (EES, 1990).

The Island County CWSP (EES, 1990) recommends that "Island County should utilize public utilities as tools to create compact, well-designed and economically efficient clustered and rural communities. Extension of urban services and utilities should be confined to areas planned for

urban development". This policy is in conformance with the intent of the Growth Management Act densities and support the Optimal Land Use Plan.

In order to meet projected demands for Island County, the CWSP states:

"On a county-wide basis, there apparently is sufficient groundwater available to accommodate the need for an additional 23.5 MGD by the year 2040. However, there are major problems associated with its development. From a purely technical perspective, it appears a combination of increased water importation in conjunction with additional groundwater development and conservation would best serve the needs of Island County (CWSP VI-24).

Significant Impacts

Specific concerns related to the relative efficiency of the public water supply delivery system for each of the alternatives are summarized below.

Alternative 1 - No Action

A continuation of the use of the existing land use and land use decision processes will result in continued sprawling development throughout the County. One of the results of this type of development will be the continuation of the proliferation of small, unconnected water systems and individual wells. Increased use of wells could impact the existing groundwater supplies and could negatively impact the groundwater resource.

Alternative 2 - Major Urban Growth Areas

This alternative would ensure that public water supply would be provided within the Urban Growth Area boundaries. This would be accomplished through the planned expansion of existing systems. There would be relatively little increased demand in the rural areas thereby protecting existing small systems.

Alternative 3 - Rural Activity Centers

Under Alternative 3, supply within the UGAs would be fully provided through the coordinated planning process. Existing systems would expand to provide needed supplies. In addition, limited supply expansion would be accomplished within the RACs. Any development of supply outside of these areas would be discouraged. Because all or nearly all of the development would occur in these areas, water demand would be most concentrated under this alternative. This alternative poses the greatest potential for localized exhaustion of the groundwater supply.

Mitigation Measures

The following lists mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Promote a coordinated and connected water system by providing a compact and concentrated growth pattern in the UGAs and/or RACs.
- Restrict new growth based on projected water availability.
- Promote the use of coordinated and connected water systems and discourage development of small, independent water systems.
- Require water conservation measures in new development.
- Locate new wells inland, away from the coast and especially narrow points of land to reduce potential salt water intrusion.
- The tools for coordinated water supply planning have been developed in the CWSP and GWMP. Implementation of the recommendations of these plans will promote good drinking water supply planning.

Unavoidable Impacts

- Demand for potable water will increase as population grows.

D. PLANTS AND ANIMALS

Affected Environment

Plant Habitat

Island County is situated in the Western Hemlock vegetational zone of Western Washington. This zone is named for its climax species, the Western Hemlock (Tsunga heterophylla), however large areas are dominated by Douglas Fir (Pseudotsuga mensiesii).

All of the forest areas have been logged or burned in Island County within the past 150 years, and Douglas Fir has been the dominant species to revegetate the area. Other species typical of this zone occurring on the islands, include Western Hemlock, Western Cedar, Red Alder and thick underbrush. Species occurring less frequently include Garry Oak, maple, rhododendron, brackenfern and salal.

Because Island County is located within the rainshadow of the Olympic Mountains, it receives less rainfall than much of the Puget Sound. Significant changes in vegetation communities are evident along the moisture gradient. Additional factors contributing to the variation in plant communities are the soils found in the County which are primarily developed from Vashon glaciation drift and outwash. These soils are often coarse textured, poor in nutrients, and excessively drained.

Some of Island County's unique vegetation features include stands of Lodgepole Pine and Western White Pine mixed with Douglas Fir and salal; Garry Oak groves; open prairies, and poorly drained swamp or bog communities. In addition, flat leafed cacti on the western edge of Whidbey Island, and the presence of sand dune communities near Deception Pass are two Island County communities.

The open prairies make up approximately 5% of Island County. These areas have been free from forests for a number of years and have developed rich grassland soils. These soils support some of the richest farmland in the State of Washington.

The islands' small peat bogs, swamps and coastal marshes never supported trees but support an array of flora and fauna. The plant communities associated with these areas includes sedges, cattails, skunk cabbage, willows, hardhack, labrador-tea, and sphagnum moss.

Threatened and Endangered Species: The Washington State Department of Natural Resources (WDNR) Natural Heritage Information System (NHIS) provides information on endangered, threatened and sensitive plants, high quality native wetlands and plant communities. According to the WDNR NHIS, several high quality plant communities exist in Island County. Island County may support three varieties of plant life that are candidates for the threatened and endangered species list according to the United States Department of Interior, Fish and Wildlife Service (USFWS, 1994) and WDNR, NHIS (WDNR, 1994). These candidates include the White-topped Aster (Aster curtus), Golden Paintbrush (Castilleja levisecta), and White Meconella (Meconella oregana). In addition to the USFWS and WDNR listed species, Island County Code also protects the Tall Agoseris (Agoseris elata), Bulb Bearing Water Hemlock (Circuta bulbifera), Black Lily (Fritillaria camschatcensis), Swamp Gentian (Gentiana douglasiana), Chick Lupine (Lupinus microcarpus var. scopulorum), Coast Microseris (Microseris bigelovii), Alaska Alkaligrass (Puccinella nutkaensis), Erect Pygmy-weed (Tillaea erecta) and Prickly Pear Cactus (Opuntia sp.).

Wildlife Habitat

The mixed Douglas Fir forests, agricultural areas, and expansive wetlands around the periphery of Island County provide great diversity in the kinds of habitats that support various wildlife species. Large areas of woodland and interspersed agricultural land provide food and cover for black-tail deer, cotton tail rabbits and upland game birds. Common upland game birds include the Ring Necked Pheasant and California Quail.

Wooded wetland zones provide habitat to muskrat, mink, raccoon and less frequently Beaver, red fox, weasel, skunk and river otter. These animals are dependent upon streams and lakes, and are thus limited on Island County by their small habitat area.

The shoreline areas of Island County provide habitat for a variety of animal species. Water fowl are common around the shoreline areas including a significant number of ducks and snow geese. Fish and shellfish habitats are abundant around the saltwater shorelines and in a few lakes and streams. Smelt, salmon, steelhead and sea run cutthroats are found along the shorelines. Marine invertebrates and shellfish are found along the bays and beaches.

Two Pacific salmon species, coho and chum, utilize stream drainages in Island County. These streams contain about seven miles of accessible length to anadromous fish. For salmon, accessibility is usually restricted to the high water periods occurring in the late fall and early winter seasons.

Maxwelton Creek on Whidbey Island offers the highest potential for both species. There are three smaller drainages on Whidbey Island and one small drainage on Camano Island which also provide suitable conditions, and receive coho and chum salmon. Fish enter the drainages in November and December to spawn. Coho juveniles remain in the stream for more than one year, whereas juvenile chum begin seaward migration in April and May.

Rainbow trout are planted annually in Deer, Lone, Cranberry and Goss Lakes. Most of these lakes have been chemically rehabilitated for trout management.

Threatened and Endangered Species: Island County is home to several threatened and endangered species (USFWS, 1994). The Bald Eagle (Haliaeetus leucocephalus) is the most significant species of this classification. There are 49 bald eagle nesting territories located in the county, with nesting activity occurring from January 1 through August 15. There are two bald eagle wintering concentrations in the county and one communal winter night roost.

Both the Marbled Murrelet (Brachyramphus marmoratus marmoratus) and Peregrine Falcon (Falco peregrinus) have also been listed by the USFWS as located in Island County. The Marbled Murrelet nests in the area from about March 1 through mid-September. The falcons use the islands as resting areas during spring and fall migrations.

Candidates for the threatened and endangered species list which may occur in Island County, according to the USFWS, include the Bull Trout (Salvelinus confluentus), Harlequin Duck (Histrionicus histrionicus), Mountain Quail (Oreortyx pictus), Northern Goshawk (Accipiter gentilis) and Northern Red-legged Frog (Rana aurora aurora). In addition to USFWS listed species, the Island County Code also protects the Great Blue Heron (Ardea herodias), Northern Sea Lion (Eumetopias jubatus), Common Loon (Gavia immer), Pileated Woodpecker (Dryocopus pileatus) and Trumpeter Swan (Cygnus buccinator).

Significant Impacts

The overall amount, location and intensity of future development will impact plant and animal habitat. In general, development that is more dispersed would have a greater overall negative impact than would compact, dense development. A compact development pattern would have more significant site specific impacts, but may have less potential for broad habitat damage.

Specific regulations under the Endangered Species Act of 1973, as amended, require project impacts be addressed when development occurs near endangered species habitat. Biological assessments are required which address the level of use of the project area by the listed species and the effect of the project on listed species primary food stocks, prey species, and foraging areas in all areas influenced by the project. The assessments are also required to define the impacts from project construction and implementation (e.g. increased noise levels, increased human activity and/or access, loss or degradation of habitat) which may result in disturbance to

listed species and/or their avoidance of the project area. These assessments must be conducted under any alternative, if development occurs in the protected species habitat.

Alternative 1 - No Action

As new growth spreads throughout the rural area of Island County, existing habitat areas would be cleared and wildlife habitat lost. Streams and supported aquatic life would be affected by stormwater runoff from the new development, clearing and accelerated erosion. Erosion and consequent sedimentation of riparian areas and streams may damage habitat for aquatic organisms. Grading and clearing activities could threaten sensitive plant species.

Because development under this Alternative could occur on a scattered widespread basis, the potential for significant County-wide negative impacts may be greater than under the other alternatives.

Alternative 2 - Major Urban Growth Areas

In the rural areas, less habitat damage would result from Alternative 2 than under Alternative 1. Stream and riparian habitat could be impacted in the rural areas that are downstream from the UGAs.

In the UGAs, concentration of new growth would impact habitat areas to a greater degree than under Alternative 1. Disruption of streams and riparian areas in and downstream of UGAs would damage habitat for fish and other aquatic life. Wildlife movement corridors could be disrupted or fragmented as a result of new development.

Alternative 3 - Rural Activity Centers

Under Alternative 3 the impacts to rural habitats would largely be limited to indirect impacts associated with nearby urban style development. This includes potentially disrupting large feeding, nesting and/or movement corridors, and increased reliance on humans for food and shelter.

In the UGAs and RACs, impacts to plants and animals would be similar to the UGA impacts described for Alternative 2. However, because Alternative 3 contains more discrete areas with the potential for new development, the potential for downstream aquatic habitat damage and fragmentation or destruction of habitat areas is greater in and around designated growth areas.

Mitigation Measures

The following are potential mitigation measures the Comprehensive Plan and future regulatory efforts could implement:

- Reduce development pressure and associated habitat loss by concentrating growth in a limited number of areas. Preserve riparian corridors and wetlands by cluster development that would minimize intrusion into significant habitat areas.

- Provide for a County-wide open space network that preserves habitat areas and movement corridors for wildlife.
- Establish low density land use designations in significant fish and wildlife habitat areas.
- Develop standards that emphasize the preservation of natural vegetation, including widened buffer requirements and standards for the minimum removal and disturbance of vegetation.
- Evaluate and revise critical areas regulations to enhance protection of habitat areas.
- Establish a land acquisition program for especially significant habitat areas.
- Develop a comprehensive habitat management program to protect natural resources in Island County.

Unavoidable Impacts

Some habitat loss will occur with new development.

E. ENERGY AND NATURAL RESOURCES

Rate of Use, Sources/Availability, Nonrenewable Resources, Conservation and Renewable Resources

Affected Environment

This section of the EIS includes a review of electrical and natural gas resources. It does not discuss home heating oil or gasoline usage. However, Table , below, summarizes relative energy use of various types of energy in 19__. Note that gasoline use comprised almost % of all energy use in 1980.

weather normalized
TABLE
ENERGY USE IN 19__

Energy Source	Percent
Gasoline	
Natural Gas	$93 = 3,490,707 \text{ Therms}$ $7,000 = 6,621,526 \text{ Therms}$
Electricity	
Diesel Fuel	
Wood	
Liquid Propane Gas	
Coal	
Source: ?	

Rate of Use

Electricity: Two major suppliers of electrical energy provide service to Island County. Whidbey Island is served exclusively by Puget Power. From the March Point substation, two 115 kV lines cross Deception Pass and terminate at the Whidbey transmission substation in Oak Harbor. From this substation lines run to the Greenbank transmission substation, Coupeville transmission substation and the South Whidbey transmission substation. The three transmission substation provide power to nine distribution substation which provide power to at least 53,000 customers.

Snohomish County Public Utility District has provided electrical service to Camano Island since 1949. In 1990, the District served 5,530 residential and 310 commercial customers on Camano Island. The island is served by a 115 kilovolt (kV) transmission main extending from Stanwood across Davis Slough to Terry's Corner. There are two substations on the island.

In addition, an emergency diesel operated generation turbine is located near Langley. This is the island's only source of independent power. The generator's tank is resupplied by tanker truck. It holds a three day supply of fuel for the generator which has a limited service area.

Natural Gas: Natural gas is provided solely by Cascade Natural Gas Corporation (CNG). CNG obtains natural gas from the Northwest Pipeline Corporation, which owns and operates an interstate pipeline that links major deposits of natural gas in Canada and New Mexico. The gas is supplied to the County through a 6-inch pressure line which follows SR-532 onto Camano Island. A submarine 6-inch pressure line originates at Brown's Point on Camano Island and connects Whidbey Island at Strawberry Point. Service on Whidbey Island is limited to Oak Harbor, Whidbey Island NAS, and the surrounding unincorporated areas within a reasonable distance of the transmission main. As of 1990 CNG served 1,412 residential and 376 commercial accounts in Island County.

Sources/Availability

Electricity: Puget Power generates and purchases both hydro and thermal power. The Bonneville Power Administration (BPA) is a supplier of power to Puget Power. Most of the purchased power comes from hydro-electric plants on the Columbia River and sources in New Mexico. Puget Power has proposed several additional transmission lines to match the island's increasing demands for power. Puget has anticipated a third 115 kV line from March Point to North Whidbey, a second 115 kV line from the Greenbank substation to a new distribution substation near Glendale, and an additional 230 kV transmission main to Whidbey Island by 2010. The proposed 230 kV line would be a submarine cable running from March Point to Ala Spit, an area currently being considered for a park or conservation area.

By 2000, Snohomish County Public Utility District anticipates serving 6,360 residential and 360 commercial customers on Camano Island. To meet these demands a 115 kV transmission line will be installed between the Lake Goodwin and North Stanwood substations within the next ten years.

Natural Gas: The Pacific Northwest receives natural gas from a wide range of sources in North America, 60 percent from Northern British Columbia and Alberta, 40 percent from domestic sources including the San Juan Basin in New Mexico and Texas.

The supply of natural gas is evaluated nationally and regionally. The U.S. Department of Energy estimates that a 60-year supply of natural gas exists in conventional reserves. Conventional reserves are those which can be recovered with current technology. The Potential Gas Committee (comprised of representatives of the oil and gas industry, government and academic institutions) reports a natural gas resource of 1,033 trillion cubic feet (Tcf) or the equivalent of a 60-70 year supply at current and anticipated rates of use.

also
In addition to conventional reserves, the U.S. also possesses 150-200 years worth of resources that will require new technologies to recover (unconventional reserves). These unconventional reserves include gas in coal seams, gas in tight sands, and Devonian shale.

Non-Renewable Resources

Natural gas, oil and gasoline are the primary nonrenewable energy resources utilized by County residents. The sources, availability and usage rates for natural gas resources have been previously discussed in the preceding sections of this EIS. Gasoline and oil usage are not reviewed in this EIS.

Conservation and Renewable Resources

Hydroelectric power and wood fuel are the primary renewable energy resources in the County.

Puget Power defines electrical conservation techniques as those actions which improve the efficiency of energy use through implementation of cost effective measures. In Island County, conservation has been actively promoted by Puget Power and Cascade Natural Gas. Island County has implemented the Washington State Energy Code. Conservation rated improvements to new construction include increased floor insulation, increased solar access, reduced infiltration, use of clock thermostats, and reduced lighting levels. In existing structures, potential improvements included improved and additional insulation as well as light timers and clock thermostats.

Another approach to managing electrical demand is to shift demand to off-peak hours, when there is generally more surplus capacity in the system. This does not reduce overall energy demand, but may alleviate peak load requirements.

Wood heat is sometimes used as a sole heating source, particularly in remote rural areas. In most cases, however, wood heat is used to supplement natural gas, oil or electric heating systems. The use of wood for heat tends to rise whenever the cost of natural gas, oil or electricity increases. In recent years, the use of wood fuel has been associated with increased particulate matter in the air under certain climatic conditions. Concern over this type of pollution may reduce the overall use of wood fuels, particularly in more densely populated areas.

Significant Impacts

Power and natural resource consumption will grow with increased residential, commercial, industrial and other development, regardless of which alternative is selected. Rates of use and the efficiency of the delivery system, however, may vary depending on the selected alternative. These differences are discussed below:

Alternative 1 - No Action

Under this Alternative, detached single family residential development would continue to be the primary type of residential growth. Detached dwelling units may be less efficient in their energy consumption than multi-unit buildings. In addition, the scattered, widespread development pattern may result in a less efficient delivery system for electrical energy, poor access to natural gas and increased reliance on wood heating fuel. These factors would combine to result in a relatively greater impact on energy sources than may occur under the other alternatives.

Alternative 2 - Major Urban Growth Areas

Under this Alternative, new rural growth would continue to require energy resources. Rural growth, although limited, would continue to be dispersed. Such a pattern of development would require an extensive distribution system to serve relatively few consumers. New residents may have limited or no access to certain energy resources, such as natural gas.

Concentrated growth in the UGAs may provide for a more efficient delivery system and widest access to all energy resources. Urban style development and the urban population base may also provide greater opportunities for energy conservation. However, concentrated growth may also create obstacles in siting electric and gas utilities. Development pressure, increased land costs, and "not in my backyard" attitudes may increase the difficulty and cost for energy utilities to acquire land and develop facilities.

Alternative 3 - Rural Activity Centers

Because most or all of the new growth would occur within designated areas, Alternative 3 provides for the most efficient delivery system, the greatest opportunity for conservation and the widest access to energy resources. This Alternative may also provide the greatest obstacles to new energy facility siting and development, as described under Alternative 2.

*Cost only
not for efficiency*

Mitigation Measures

The following are potential mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Promote energy conservation by providing for a concentrated growth pattern that would permit energy efficient housing design.
- Establish and designate commercially significant natural resources lands for long-term protection.

- Encourage retrofitting existing structures for energy conservation.
- Provide incentives for the use of renewable resources and conservation.

Unavoidable Impacts

Demand for power and natural resources will grow with increased residential, commercial and industrial development.

Scenic Resources

Affected Environment

Island County is well known for its scenic quality. The broad prairies and forested areas, historical features and small towns all contribute to the scenic character of the area. The vast shorelines and views of the Cascades and Olympic ranges add to the visual quality. Some of the most visually prominent features of the County include Deception Pass, Admiralty Point Lighthouse and the Fort Casey-Ebey's Landing area. In addition, during the spring and early summer, tourists are attracted to the towns of Coupeville and Langley. Food crops, such as blackberries, raspberries and strawberries also contribute to the scenic quality of this area. Refer to Section III, G for more detailed analyses of aesthetic resources.

Alternative 1 - No Action

Development pressure could result in loss of vegetation along waterways and wetlands, destroying some scenic views. Views of scenic ridges and shorelines could also be lost. Spread of development in rural areas could eliminate open space views and rural ambience.

Alternative 2 - Major Urban Growth Areas

Under Alternative 2, the rural areas would experience a limited amount of development which could result in the loss of some agricultural and forest lands and of some view corridors. Compared to Alternative 1, these impacts would be relatively limited.

Urban style development in the UGAs may result in the loss of scenic lands and of certain view corridors. Overall, the character of some land in the UGAs may change from natural and undeveloped to a developed urban appearance.

Alternative 3 - Rural Activity Centers

Under Alternative 3, the rural areas would experience little impact on existing scenic resources.

The UGAs and RACs would experience impacts similar to those described for the urban areas in Alternative 2.

Mitigation Measures

The following are potential mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Preserve the rural visual character of much of the County by concentrating growth in a limited number of more intensive development areas.
- Provide for the preservation of scenic agricultural lands, open spaces, forest lands, critical areas and other scenic resources.
- Limit development in scenic rural areas to low intensity and low density uses.
- Recognize natural resource lands as a scenic resource.
- Provide for the preservation of vegetation, scenic views and viewsheds.
- Limit building heights to preserve significant views.

Unavoidable Impacts

New development will alter the natural landscape and could block some views.

F. ENVIRONMENTAL HEALTH

Noise

Affected Environment

High levels of noise can impact human health and the quality of life experienced by residents in a community. Noise level measurements are expressed in units called decibels (dB) and relate to human perception of loudness. A noise level of 20 dB is considered quiet and is representative of an average whisper. A soft spoken individual's voice is at a noise level of 50 dB, while an individual yelling has a noise level of 70 dB. Freeway traffic 50 feet from a person generates a noise level of about 65 dB. The operation of a pneumatic drill or a heavy truck 50 feet from a person will generate a noise level of 80 dB or more, and would be considered to be loud and annoying. Prolonged exposure to noise levels 85 dB or greater can result in temporary or permanent hearing loss. When the noise level is greater than 130 dB, it surpasses the human's threshold of pain, and any extended exposure to this noise level will result in the permanent loss of hearing.

Noise levels are generally related to the degree to which an area is developed, with urban areas normally experiencing higher noise levels than rural areas. Construction activities, traffic volumes and new land uses can create changes in existing noise patterns. Noise from construction activity is considered short-term, while traffic noise is a long-term impact. The intensity of traffic noise depends on the transportation mode. Motor vehicle traffic, airplanes,

and trucks all create different levels of noise. The intensity of that noise is dependent on the time of day, duration of noise, proximity of noise source, and the proximity and quantity of natural vegetation, and topography. Some activities are more sensitive to noise than others. Residential areas, schools, churches, and hospitals are examples of land uses that may be sensitive to high noise levels. Commercial and industrial activities are generally less sensitive to noise.

State noise standards listed in WAC Chapter 173-60 establishes limits on the levels and duration of noise that is legally allowed to cross property boundaries (see Table ____). Regulatory agencies use weighted decibel level (dBA) as one measure of evaluating noise impacts. WAC 173-60 sets permissible noise levels based on the nature of the sending and receiving properties. For example, the permissible level of noise from industrial property depends on whether the receiving property is residential (60 dBA), commercial (65 dBA), or industrial (70 dBA). Permissible levels that may be received by residential properties are 10 dBA lower between 10 pm and 7 am.

Traffic on public roads is exempt from WAC 173-60, but is regulated under WAC 173-62, which establishes permissible noise levels based on model year, vehicle type, and speed. Off-road vehicle traffic is also exempt unless the sound is received on residential property.

TABLE
NOISE LEVEL STANDARDS (dBA)
MEASURED AT BOUNDARY OF RECEIVING PROPERTY

Sound Frequency	7 AM - 10 PM			10 PM - 7 AM		
	Residential	Commercial	Industrial	Residential	Commercial	Industrial
Continually	55	57	60	45	57	60
15 mins/hour	60	62	65	50	62	65
5 mins/hour	65	67	70	55	67	70
1.5 mins/hour	70	72	75	60	72	75

Source: Maximum Environmental Noise Levels, WAC Chapter 173-60.

The greatest noise levels on Island County are from airport operations. Island County has ten air facilities: three located on Camano Island and seven located on Whidbey Island. The principal community impact of airport operations is the noise generated by high powered aircraft. Island County's principal sources of aircraft noise are the facilities operated by the Whidbey Island NAS consisting of Ault Field and Outlying Field (OLF) Coupeville. The national uniform standard for measuring aircraft noise is the utilization of noise contours using the Day-Night Average Sound Level (Ldn) system. The Ldn approach describes the total noise environment rather than measuring the decibel levels of individual noise events. Noise contours are drawn around airfields to identify areas experiencing noise levels corresponding to a given range of noise intensity. Contours define the location of noise levels on and around the airfields at values of 65, 70, 75, 80 and 85 Ldn.

In May of 1992, Island County adopted an Airport and Aircraft Operations Noise Disclosure Ordinance. The purpose of the ordinance is to protect the public health, safety and general welfare by providing for the full disclosure of the noise associated with the operation of aircraft from the existing airports. The noise disclosure is applicable to lands within the delineated areas set forth on the Airport Environs Map (Figure ____). The Airport Environs map identifies areas that are impacted by airport noise or aircraft operation. Airport Noise Zones are established as '2' for Ldn values of 65 to 75 and '3' as greater than 75. The ordinance requires that no person shall sell, lease, or offer for sale or lease any property within an Airport Environs mapped Impacted Areas unless the prospective buyer or lessee has been given notice.

A study of the effects of noise on the public was prepared by the Whidbey NAS in 1988 (Whidbey NAS, 1993). The study was prepared as part of an EIS for proposed modifications to air operations management to institute an annual distribution goal for Field Carrier Landing Practice (FCLP) operations between Ault Field and OLF Coupeville. The EIS addresses several types of navy air operation alternatives. Under the action alternatives, changes in noise levels in the study area would result from the redistribution of FCLP operations between Ault Field and OLF Coupeville. The overall conclusion from the impact analysis is that planning and scheduling measures can be used to moderate the number of FCLP operations conducted at OLF Coupeville, with preference to conducting these operations at Ault Field. Operational mitigation measures to avoid and reduce noise impacts include changes to aircraft approaches, tracks, patterns, overflights, and preferential runway use. The evaluation of alternatives for managing air operations, showed that quantitative changes in noise levels between alternatives were not substantial. In some localized areas, a qualitative increase in noise levels may be experienced. In other localized areas, however, such qualitative noise effects will be reduced. Based on existing data concerning the relationship between noise impacts and real estate values, no conclusions can be drawn regarding the rate of appreciation of area real estate values or subsequent effects on population distribution within the study area due to aircraft noise impacts (U.S. Navy EFA Northwest, 1993).

Significant Impacts

Alternative 1 - No Action

Under Alternative 1, rural areas may experience an increase in noise levels due to increased population and associated traffic. In areas near the incorporated cities, noise impacts could be relatively less under this alternative, because growth is not concentrated in these areas. Noise impacts adjacent to airports would be the greatest under this alternative as more development occurs near these areas.

Alternative 2 - Major Urban Growth Areas

Rural noise impacts would be similar to, but less than, those described for Alternative 1. In the UGAs, increased noise from a concentration of people, activity and traffic would be expected. Noise impacts from Whidbey NAS would be less than Alternative 1 because development would not be concentrated in these areas.

Alternative 3 - Rural Activity Centers

Because the rural areas would experience little new growth, noise levels would remain unchanged from current conditions. In the UGAs and RACs, noise would increase due to the concentration of population in these areas. As with Alternative 2, noise impacts from Whidbey NAS would be minimized by discouraging development near air operations.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Concentrate population growth to a limited number of designated areas to preserve the quiet rural character of Island County.
- Reduce noise problems by avoiding location of sensitive land uses (i.e. homes, schools and hospitals) near high level noise areas such as airport facilities.
- Designate compatible land uses to minimize density of people in high aircraft noise areas.
- Establish criteria for placement of vegetation zones/noise barriers between significant noise sources and adjacent noise sensitive land uses.
- Establish noise level reducing standards for building built in moderate and high aircraft noise areas.
- Encouraged use of alternative transportation modes with UGAs and/or RACs could help reduce increases in motor vehicle traffic and mitigate noise problems.

Unavoidable Impacts

Increased population growth and new development increases potential noise sources.

G. LAND AND SHORELINE USE

Relationship to Existing Land Use Plans and to Estimated Population

Affected Environment

Island County Comprehensive Plan

Island County's current Comprehensive Plan has an extensive history of development. Basic research and development of Island County's initial comprehensive plan was completed in 1964 when the General Plan was published and adopted. This General Plan was followed by the adoption of an interim Zoning Ordinance in 1966. In 1973, efforts were begun to update the General Plan by conducting a two phased planning program. Phase I consisted of a detailed

analysis of natural and cultural characteristics of the County as well as documentation of features posing limitations for urban development. Phase I was completed in 1974 and was titled "Island County Comprehensive Plan; Existing Conditions: Phase I" (Island County, 1974). Development of "Phase II: Planning Policy" focused on maximizing community and local officials' participation in the planning process. Phase II consisted of the County's goals, policies and actions in addition to an optimal land use plan and map. Phase II was adopted in 1977 and updated in 1991 (Island County, 1991).

The County's Zoning Ordinance, adopted in 1966, was not amended or updated concurrently with the adoption of Phase II. Under the Planning Enabling Act the differences between the Optimal Land Use Map and the zoning designations, as well as the Comprehensive Plan and the Zoning Ordinance, were to be reconciled in favor of zoning.

In 1983-1984, the County prepared and adopted a planning and zoning strategy as a precursor to a plan amendment. A zoning ordinance and land development standards were adopted in 1984. A zoning map currently directs land uses allowed in Island County (refer to Figure II-1). Brief descriptions of the zoning designations provided for in the zoning ordinance and maps include the following:

Rural Residential (RR) Zone. The Rural Residential Zone is the principal land use classification for Island County. Limitations on density and uses are designed to provide a rural lifestyle and to ensure compatible uses.

Residential (R) Zone. The purpose of the residential zone is to provide for living opportunities at a suburban density.

Agriculture (AG) Zone. The primary purpose of the Agriculture (AG) zone is to protect and encourage the long term productive use of Island County's agricultural land resources. It is established to identify geographic areas where a combination of soil, topography and climatic conditions allow commercial farming practices to be conducted in an efficient and effective manner; to help maximize the productivity of the lands so classified, consistent with standards and conditions that may be required to comply with any applicable overlay zone; to protect farming operations from interference by non-farmers; and to guarantee the preservation and maintenance of agricultural land uses. A secondary purpose of the AG classification is to provide scenic open space, wildlife habitat and watershed management to the extent such use is consistent with the primary purposes of the zone.

Forest Management (FM) Zone. The primary purpose of the Forest Management (FM) zone is to protect and encourage the long-term productive use of Island County's forest land resources. It is established to identify geographical areas where a combination of soil, topography and climatic conditions allow management practices to be conducted in an efficient manner; to help maximize the productivity of the land so classified, consistent with standards and conditions that may be required to comply with any applicable overlay zone; to protect forest operations from interference by non-foresters; and to guarantee the preservation

and maintenance of forest land areas for forest management use, free from conflicting non-forest uses. Secondary purposes of the FM classification are to provide recreation opportunities, scenic open space, wildlife habitat and watershed management to the extent such uses are consistent with the primary purposes of the zone.

Non-Residential (NR) Floating Zone. The Non-Residential Floating Zone may be authorized only in the Rural Residential Zone or pursuant to an interlocal agreement in an area designated as a Zone of Influence of a city or town or an urban business center. The County does not attempt in advance of a specific development proposal to locate future business, commercial, and industrial sites. Rather, the County anticipates non-residential uses will be required and utilizes the Non-Residential Floating zone to authorize those non-residential uses that meet established criteria. County action shall be taken on applications processed pursuant to the Use Approval process set forth in Island County Code (ICC) 17.02.180, except that temporary uses shall be processed pursuant to a Temporary Use Approval as set forth in ICC 17.02.150.q. The Board in its action approving a Non-Residential Floating Zone may determine that once uses authorized by a Non-Residential Floating Zone have been completed, discontinued, or terminated, the zone shall expire and the parcel(s) so classified shall revert to the previous zone classification.

Non-Residential (NR) Zone. All parcels designated Non-Residential in accordance with Section 17.02.040.c.2. ICC shall be maintained and/or developed consistent with the requirements of Section 16.15.020 ICC. Provided that an institutional use may also be authorized in accordance with the Site Plan Review process, Chapter 16.15 ICC.

Island County Shoreline Management Master Program

Island County's Shoreline Management Master Program, developed under the Shoreline Management Act of 1971, provides for management of all shorelines within Island County. The Program is a comprehensive plan for shorelines in that it maps out varying intensities of use allowed on segments of shorelines based on existing development patterns, biophysical capabilities and limitations of shoreline areas, and the goals and aspirations of the citizens of the County. This is accomplished by the designation of six "Environments" on all shoreline and water areas (Natural, Conservancy, Rural, Urban, Shoreline Residential, and Aquatic) plus the consideration of "Shorelines of State-wide Significance." The Program provides development policies within each environment and for those in shorelines of State-wide Significance (Island County, 1992).

Washington State Growth Management Act

The Washington State Growth Management Act (GMA) was initially adopted in 1990 and subsequently amended and supplemented. Goals of the GMA focus on urban growth, reduction of sprawl, transportation, housing, economic development, public participation, public facilities and services, and historic preservation. The GMA requires development of county-wide

planning policies, and a comprehensive plan with specific mandatory elements and development regulations to implement the Plan. Island County is County-wide Planning Policies (CWPP) were adopted in June of 1992. The CWPP were developed around the goals of the GMA. The purpose of the CWPP are to establish the framework from which county and city comprehensive plans are developed and adopted and provide the foundation for assuring that consistency criteria, required between county and city planning under the GMA, is fulfilled.

Consistent with the GMA requirements, Island County, in cooperation with the cities of Oak Harbor, Langley and Coupeville, has adopted interim UGA boundaries. The designation of UGAs is intended to encourage urban growth within these boundaries and only allow development outside of these boundaries that are not urban in nature. Since UGAs would provide growth in more compact areas, public services can be provided in an efficient and economical manner. UGAs will also provide a more efficient use of land and can preserve rural and natural resource lands.

The County is currently in the process of adopting an updated comprehensive plan to satisfy requirements of the GMA. The proposed action under review in this EIS is the adoption of this comprehensive plan which would designate specific land uses in unincorporated Island County. Development regulations will be adopted following adoption of the Comprehensive Plan. A primary requirement of the GMA is to ensure that projected population growth can be accommodated.

Estimated Population

Population in 1994 for Island County is estimated at 68,200. Of this, approximately 67.8 percent of the population resides in unincorporated Island County. Population forecasts based on existing trends for north, central and south Whidbey and Camano, in addition to incorporated areas are shown on Table _____. North Whidbey Island is the most populated area, with more than half of the County population. The highest growth rate is found on Camano Island. Projected full time population for the County for the year 2010 is estimated to be 88,688.

Current land uses were estimated based on assessors data (Table _____. Currently unincorporated Island County has an estimated ____ acres of rural residential, agricultural, forest and open lands. Although this total includes land that is already developed, as well as land that has environmental constraints which may limit development, a significant portion of this land includes developable lands that could accommodate future population growth.

Significant Impacts

The following describes compliance with the GMA and CWPP and summarizes potential land use and development related impacts for each of the alternatives. The projected 1994 population in Island County is 68,200 persons, increasing to 88,688 by 2010. These overall projections are the same for all three of the alternatives described below. All three of the alternatives described below are expected to accommodate these population forecasts. The alternatives differ, however, in the distribution of population between UGAs and/or RACs and other rural areas.

TABLE
ISLAND COUNTY POPULATION FORECASTS
(Based on Existing Trends)

	1990	1994	2000	2010	20-Year Growth
North Whidbey, Unincorporated	17435	17535	18144	19353	1918
Oak Harbor	17157	19421	23062	26087	8930
Subtotal, North Whidbey	34592	36956	41206	45440	10848
Central Whidbey, Unincorporated	6811	7261	7386	7961	1150
Coupeville	1394	1550	1834	2111	717
Subtotal, Central Whidbey	8205	8811	9220	10072	1867
South Whidbey, Unincorporated	9222	11369	13789	18252	9030
Langley	847	959	1048	1206	359
Subtotal, South Whidbey	10069	12328	14837	19458	9389
Camano, Unincorporated	7329	10105	11460	13718	6389
Subtotal, Unincorporated	40797	46270	50779	59284	18487
Subtotal, Incorporated	19398	21930	25944	29404	10006
GRAND TOTAL, ISLAND COUNTY	60195	68200	76723	88688	28493

Alternative 1 - No Action

Under the No Action Alternative, no new County-wide Comprehensive Plan would be adopted. The existing Comprehensive Plan and zoning would not be updated and would continue to serve as the major land use policy guide for the County. UGAs would not be designated and new growth would be permitted to disperse to rural areas of the County as allowed by existing zoning.

The County would not be in compliance with the requirements of the GMA and the CWPP. The GMA requires development of a comprehensive plan that contains land use, housing, transportation, public facilities, utilities and rural elements. The elements of the comprehensive plan must be internally consistent, as well as consistent with the Optimal Land Use Map. The existing comprehensive plan does not respond to these requirements. The No Action Alternative provides little predictability in land use development, leading to difficulties in providing urban services; a requirement of the GMA and CWPP.

The following summarizes the potential impacts of the No Action Alternative:

LAND USE	Current trends of sprawling suburban development; uncoordinated regional growth; infrastructure and capital facilities are inadequate and expanded at significant taxpayer cost.
DENSITY	Overall low-densities.
INFILL AND DEVELOPMENT	Moderate to low in urban growth areas; low in rural areas.
RESOURCE LANDS	Possible reclassification to non-resource uses; existing zoning is protection measure.
RURAL AREAS	Becomes more urbanized or suburban in nature; increased urban levels of service needed.
URBAN GROWTH AREAS	Cities continue to expand by annexing unincorporated urban growth lands developed at suburban standards.
GROWTH AND POPULATION	Haphazard growth (historic population trends reveal approximately 32% growth in cities and 68% growth in unincorporated areas of the County); sprawl development; high land consumption per capita in rural areas; timing not dependent upon capital improvement programs.
DEVELOPMENT IMPACTS	High land consumption (actual and per capita); substantial development outside of incorporated areas; city annexations of suburban land; urban development pressures to convert agricultural lands to non-resource use; urban expansion and development in floodplain areas; rural residential development encroaching into forest resource areas; impacts on critical areas; need for significant and costly public facility and service.

TRANSPORTATION	Auto-oriented; major investment in new roads.
PROTECTION OF ENVIRONMENT AND CRITICAL AREAS	Flood Damage Protection Ordinance used for floodplain regulation; Environmental Policy and Zoning and Land Development Ordinances for other critical areas; inconsistent regulatory approaches and various interpretations in regional and site specific review of land use proposals.
OPEN SPACE CORRIDORS/GREENBELT AREAS	Lacks regional approach and incentives; forest, agricultural lands, and rural areas presently provide open space amenities.
ECONOMIC AND EMPLOYMENT AREAS	Maximum single-family development; development pressure on existing economic, commercial, and industrial uses; economic development sited without regard to sufficiency of economic growth, environmental constraints or capability of facilities, services or utilities.
PUBLIC SERVICES FACILITIES AND UTILITIES	Provided based on existing plans. Proliferation of septic and small water systems.
COMMUNITY IDENTITY	Communities become more homogeneous as growth and development connect communities together. Rural areas continue to receive suburban sprawl. Loss of individual community identity.
INCENTIVES	Open Space Taxation Programs; Planned Residential Development, bonus density and amenities.

Alternative 2 - Major Urban Growth Areas

Under Alternative 2, Island County would adopt a new comprehensive plan. The new plan, together with amended development regulations, would bring the County substantially into compliance with the GMA and CWPP. Other plans and policies be made consistent with the Comprehensive Plan. The updated Comprehensive Plan and development regulations would provide the policy bases for evaluation of future proposed land use actions.

The following summarizes the potential impacts of Alternative 2:

LAND USE	Land designated as either UGA, resource land, or rural area; high-density mixed land use (multi-family and single-family residential, commercial, and limited industrial) in UGAs; conservation of resource lands and retention of rural landscape features and lifestyles beyond growth areas.
DENSITY	High-density in UGAs; overall low-density in resource and rural areas.
INFILL AND DEVELOPMENT	High in UGAs; limited in resource and rural areas.

RESOURCE LANDS

Protected and conserved for resource management and utilization; innovative land use techniques developed and put into practice (TDR's, conservation easements, cluster development requirements); UGAs become receiving areas for TDR program.

RURAL AREAS

Rural landscape features and lifestyle retained.

URBAN GROWTH AREAS

Two-tier development inside of UGAs; city purveyor of urban government services; urban development standards established; land cost and availability impacts housing cost and development starts.

GROWTH AND POPULATION

- * Location
- * Density
- * Timing
- * Distribution

Growth located in Oak Harbor, Coupeville, and Langley, and their UGAs (80% of projected population to reside in UGAs and 20% allocated to rural areas and resource lands); high-density development in urban areas; overall low-density in rural areas; low land consumption per capita; timing not as relevant due to location – but facility capacity should be available within relatively short time period; shift in distribution to growth inside urban areas.

DEVELOPMENT IMPACTS

Low land consumption (actual and per capita); some, but limited rural development outside of UGAs; no conversion of or encroachment on agricultural, forest, mineral, and critical areas; compensatory regulations such as TDR's provided; little or no public facility or service extensions beyond UGAs.

TRANSPORTATION

Multi-modal; ferries, air, bus, pedestrian/bicycle; lowest investment in roads.

PROTECTION OF ENVIRONMENT AND CRITICAL AREAS

Development of additional environmental policy; creation of critical area regulations to be consistent with environmental policy; land use classifications and zoning to be sensitive to environmental constraints and critical areas.

OPEN SPACE CORRIDORS/GREENBELT AREAS

Open space corridors/greenbelt networks identified and established; resource lands and rural areas protected.

ECONOMIC AND EMPLOYMENT AREAS

Mixed use in UGAs; would reduce some single-family residential development in rural areas because of emphasis on UGAs; higher land and development costs in UGAs.

PUBLIC SERVICES FACILITIES AND UTILITIES

Fully provided in UGAs. Discouraged outside of UGAs.

COMMUNITY IDENTITY

Provides opportunities to develop sense of place and character for UGAs. Rural character is retained.

INCENTIVES

Innovative land use techniques developed, for example: cluster development options, density bonus, open space retention programs, maximum lot size and TDRs program.

Since UGAs are receiving areas for TDRs and higher density development is not allowed outside of UGAs, developers may be more likely to pay for TDRs to build at higher densities than with Alternative 3.

Alternative 3 - Rural Activity Centers

As with Alternative 2, under Alternative 3, Island County would adopt a new comprehensive plan. The new plan, together with amended development regulations, would bring the County substantially into compliance with the GMA and CWPP. The new plan would require that other plans and policies be consistent and would provide the policy bases for evaluation of future proposed land use actions.

The following summarizes the potential impacts of Alternative 3:

LAND USE	Land designated as either UGAs, resource land, or rural area; high-density mixed land use (multi-family and single-family residential, commercial, and limited industrial) in UGAs; conservation of resource lands and retention of rural landscape features and lifestyles beyond growth areas; RACs such as rural community centers and rural villages provide moderate-density mixed land use (rural residential and commercial services).
DENSITY	High-density in UGAs; moderate-densities in RACs; overall low-density in resource and rural areas.
INFILL AND DEVELOPMENT	High in UGAs; limited in resource areas; potential on rural lands and in RACs.
RESOURCE LANDS	Protected and conserved for resource management and utilization; innovative land use techniques developed and put into practice (TDR's, conservation easements, cluster development requirements); UGAs do not become receiving areas for TDR program.
RURAL AREAS	Rural landscape features and lifestyle retained; RACs maintain existing rural community identities; rural agriculture and rural forest designations used to balance resource land conservation against population immigration and natural increases.
URBAN GROWTH AREAS	Two-tier development inside UGAs; city purveyor of urban governmental services; urban development standards; rural activity centers provide alternative to urban environment; RACs standards established.
GROWTH AND POPULATION	A higher proportion of growth directed to urban areas; high-density development in urban areas; orderly progression of growth outside of urban areas with mixed-use, moderate-densities in RACs and overall low-densities in rural areas; timing of growth based on availability and adequacy of public facilities, services, and utilities; shift in population distribution to urban areas.
* Location	
* Density	
* Timing	
* Distribution	

DEVELOPMENT IMPACTS

Low land consumption (actual and per capita); rural development outside of UGAs; RACs designated for mixed-uses (medium density residential and rural commercial services); no conversion of or encroachment on agricultural, forest, mineral, and critical areas via performance standards; compensatory regulations such as TDR's provided; rural residential cluster development required; little or no public facility or service extensions beyond UGAs, although limited expansion in facility and service capacities may be needed to accommodate existing development.

TRANSPORTATION

Multi-modal: ferries, air, bus, pedestrian/bicycle; moderate road investment to increase capacity between RACs and UGAs.

PROTECTION OF ENVIRONMENT AND
CRITICAL AREAS

Development of additional environmental policy; amendment of existing critical area regulations to be consistent with environmental policy; land use classifications and zoning to be sensitive to environmental constraints and critical areas.

OPEN SPACE CORRIDORS/GREENBELT
AREAS

Open space corridors/greenbelt networks established in implementation of plan, resource lands and rural areas protected.

ECONOMIC AND EMPLOYMENT AREAS

Mixed use in UGAs and RACs; reduction of some single-family residential development in rural areas would be offset by mixed use development in RACs; rural economic growth in the county; less constraints on land supply.

PUBLIC SERVICES FACILITIES AND
UTILITIES

Fully provided to UGAs. Discouraged outside of UGAs. Limited services and utilities in RACs by non-county providers.

COMMUNITY IDENTITY

Provides opportunities to develop sense of place and character for urban growth areas and RACs. Rural character is retained.

INCENTIVES

Innovative land use techniques developed, for example: cluster development options, density bonus, open space retention programs, maximum lot size and TDR's.

Developers may be reluctant to pay for TDRs with this Alternative if they can get higher densities in other ways without paying for TDRs.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Pursuant to GMA requirements, insure that all other Island County plans and policies are consistent with the adopted Comprehensive Plan.
- Establish locational criteria for different land uses to be used in evaluating rezone requests and to help determine future growth areas.
- Establish a process for inventorying existing land uses including vacant lands and updating as development occurs.
- Insure the future ability to respond to changing conditions and needs by establishing a process for regular review and amendments to the Optimal Land Use Plan.
- Establish concurrency requirements to insure that development is not permitted until public facilities and service capacity is adequate to meet the needs of the development.

Unavoidable Impacts

None Identified

Housing

Affected Environment

A housing needs assessment was conducted for Island County in 1993. The following summary and tables are from this assessment (Stoloff Ass., 1993).

In 1990 Island County had a total of 25,860 housing units in unincorporated and incorporated areas. Of these units, 19,005 were single-family, 3,046 were multi-family, and 3,809 were manufactured homes.

Overall, the housing stock of Island County is fairly new; about 60 percent of the units were built since 1970. Unincorporated Island County contains the bulk of the County's housing. Approximately 28% of the housing units are located in Oak Harbor, Langley and Coupeville. Unincorporated Island County's housing stock grew at a 42.8 percent rate since 1980, followed by Oak Harbor's 40 percent growth. Coupeville's stock increased by 28 percent and Langley's growth in units was slowest at 18 percent. Table ___ shows the 1980-1990 changes in housing units in the County as a whole and in Coupeville, Langley, Oak Harbor and on Camano Island.

Island County's population grew at more than double the Washington State average during the 1980s. The number of households in Island County increased during the 1980s by nearly 6,000 or 27 percent. Average household size declined slightly from 2.67 to 2.61. The number of housing units added to the stock over the decade, however, fell short of the increase in households by nearly 1,000 units. Past and estimated future household growth, based on the County's population forecasts and trends, is shown of Table ___. The uncertainty about the future of Whidbey NAS, combined with general lending restrictions, may cause a serious shortfall in the housing supply. In addition, Coupeville is currently not making any new water connections and therefore may experience constrictions in future housing supply.

TABLE HOUSING UNITS: TYPE, TENURE, VACANCY
ISLAND COUNTY, CAMANO, COUPEVILLE, LANGLEY, OAK HARBOR 1980-1990

Place	Type	1980		1990		% Change
		Number	Percent	Number	Percent	
Island County	Single-Family	14,098	67.55%	19,005	73.49%	34.81%
	Multi-Family	2,299	11.01%	3,046	11.78%	32.49%
	Manufactured+	2,187	10.48%	3,809	14.73%	74.17%
	Total Units	20,872	89.04%	25,860	100.00%	23.90%
	Owner-Occupied	10,602	66.85%	14,288	65.58%	34.77%
	Rental	5,257	33.15%	7,499	34.42%	42.65%
	Total Occupied	15,859	100.00%	21,787	100.00%	37.38%
	Vacant for Rent	491	8.50%	282	3.70%	-42.57%
Camano	Single-Family			3,827	82.67%	
	Multi-Family			72	1.56%	
	Manufactured+			730	15.77%	
	Total Units	3,854		4,629	100.00%	20.11%
	Owner-Occupied	1,802	83.77%	2,619	83.60%	45.34%
	Rental	349	16.23%	514	16.41%	47.28%
	Total Occupied	2,151	100.00%	3,133	100.00%	45.65%
	Vacant for Rent	23	6.59%		4.30%	

TABLE
HOUSING UNITS: TYPE, TENURE, VACANCY
ISLAND COUNTY, CAMANO, COUPEVILLE, LANGLEY, OAK HARBOR 1980-1990
(continued)

Place	Type	1980		1990		% Change
		Number	Percent	Number	Percent	
Coupeville	Single-Family	380	76.31%	368	57.68%	-3.16%
	Multi-Family	67	13.45%	154	24.14%	129.85%
	Manufactured +	48	9.64%	116	18.18%	141.67%
	Total Units	498	99.40%	638	100.00%	28.11%
Owner-Occupied	268	62.04%	348	59.90%	29.85%	
	164	37.96%	233	40.10%	42.07%	
	Total Occupied	432	100.00%	581	100.00%	34.49%
Vacant for Rent	7	4.27%	18	7.17%	157.14%	
	278	77.87%	310	73.63%	11.51%	
	Total Units	60	16.81%	101	23.99%	68.33%
Langley	Manufactured +	1	0.28%	10	2.38%	
	Total Units	357	94.96%	421	100.00%	17.93%
	Owner-Occupied	179	56.11%	215	56.14%	20.11%
Rental	140	43.89%	168	43.86%	20.00%	
	Total Occupied	319	100.00%	383	100.00%	20.06%
	Vacant for Rent	4	2.7%	4	2.38%	0.00%

TABLE
HOUSING UNITS: TYPE, TENURE, VACANCY
ISLAND COUNTY, CAMANO, COUPEVILLE, LANGLEY, OAK HARBOR 1980-1990
(continued)

Place	Type	1980		1990		% Change
		Number	Percent	Number	Percent	
Oak Harbor	Single-Family	3,032	68.80 %	3,616	58.60 %	19.26 %
	Multi-Family	1,129	25.62 %	2,053	33.30 %	81.84 %
Manufactured +		240	5.45 %	504	8.20 %	110.00 %
Total Units		4,407	99.86 %	6,173	100.10 %	40.07 %
Owner-Occupied		1,749	44.81 %	2,379	39.84 %	36.02 %
Rental		2,154	55.19 %	3,592	60.16 %	66.76 %
Total Occupied		3,903	100.00 %	5,971	100.00 %	52.98 %
Vacant for Rent		232	9.20 %	202	3.30 %	-12.93 %

Source: U.S. Census, 1980-1990

TABLE HOUSEHOLDS AND RATE OF HOUSEHOLD GROWTH, 1980-2010
ISLAND COUNTY, COUPEVILLE, LANGLEY, OAK HARBOR

		1980	1990	Change	2000	2010
Island County	Population	44,048	60,1985	36.7%	71,463	88,688
	Group Quarters	1,829	3,225	76.3%	3,225	3,225
	Household Population	42,219	56,970	34.9%	68,238	85,463
	Average Household Size	2.67	2.61	-2.2%	2.55	2.49
	Total Households	15,833	21,787	37.6%	26,747	34,322
	Household Types*					
	Elderly	3,071	5,154	67.8%		
	Small Family	11,242	15,641	39.1%		
	Large Family	1,679	2,072	23.4%		
	Single Person	2,938	4,074	38.7%		
Camano Div.	Population	5,080	7,329	44.3%	10,574	13,718
	Group Quarters	20	24	20.0%	24	24
	Household Population	5,060	7,305	44.4%	10,550	13,694
	Average Household Size	2.35	2.33	2.31	2.29	
	Total Households	2,151	3,133	45.7%	4,567	5,980
	Household Types					
	Elderly	759				
	Small Family	1,592	2,264	42.2%		
	Large Family	139	208	49.6%		
	Single Person	420	661	57.4%		

TABLE
HOUSEHOLD AND RATE OF HOUSEHOLD GROWTH, 1980-2010
ISLAND COUNTY, COUPEVILLE, LANGLEY, OAK HARBOR
(continued)

		1980	1990	Change	2000	2010
Coupeville	Population	1,006	1,377	36.9%	1,611	1,850
	Group Quarters	22	125	468.2%	125	125
	Household Population	984	1,252	27.2%	1,486	1,725
	Average Household Size	2.28	2.15	-5.7%	2.03	1.91
	Total Households	432	581	34.%	732	901
	Household Types					
	Elderly	140	219	56.4%		
	Small Family	258	322	24.8%		
	Large Family	33	34	3.0%		
	Single Person	141	225	59.6%		
Langley	Population	650	845	30.0%	1,099	1,428
	Group Quarters	0	9		9	9
	Household Population	650	836	28.6%	1,090	1,419
	Average Household Size	2.04	2.18	6.9%	2.25	2.33
	Total Households	319	383	20.1%	4.84	609
	Household Types					
	Elderly	152	153	0.7%		
	Small Family	187	224	19.8%		
	Large Family	10	23	130.0%		
	Single Person	122	136	11.5%		

TABLE
HOUSEHOLD AND RATE OF HOUSEHOLD GROWTH, 1980-2010
ISLAND COUNTY, COUPEVILLE, LANGLEY, OAK HARBOR
(continued)

		1980	1990	Change	2000	2010
Oak Harbor	Population	12,271	17,176	40.0%	22,093	27,374
	Group Quarters	78	80	2.6%	80	80
	Household Population	12,193	17,096	40.2%	22,013	27,294
	Average Household Size	2.97	2.86	-3.7%	2.75	2.65
	Total Households	4,107	5,971	45.4%	7,993	10,291
	Household Types					
	Elderly	369	474	28.5%		
	Small Family	2,785	4,226	51.7%		
	Large Family	618	747	20.9%		
	Single Person	704	998	41.8%		

Sources: U.S. Census, 1980-1990, Island County, Coupeville, Langley, Oak Harbor Planning Departments

TABLE
PERCENT OF INCOME SPENT ON RENT or OWNER COST, 1990
ISLAND COUNTY, COUPEVILLE, LANGLEY, OAK HARBOR
(Specified Occupied Housing Units)

Place	Gross Rent			Owner Costs		
	<30% Income	>30% Income	% >30%	<30% Income	>30% Income	% >30%
Island County Total	4,187	2,242	34.9%	8,084	2,156	21.1%
Income < \$10,000	187	673	78.3%	162	383	70.3%
Income \$10,000-19,999	773	1,170	60.2%	890	491	35.6%
Total < \$20,000	960	1,843	65.8%	1,052	874	45.4%
Camano	272	165	37.8%	1,662	307	15.6%
Est. < \$20,000 Income		109			139	
Coupeville	119	110	48.0%	187	37	16.5%
Est. < \$20,000 Income		72			17	
Langley	81	86	51.5%	118	27	18.6%
Est. < \$20,000 Income		57			12	
Oak Harbor	2,028	1,093	35.0%	1,293	516	28.5%
Est. < \$20,000 Income		719			234	

Source: U.S. Census, 1990, Sample Data. Some units not computed.

While incomes have risen sharply, they have not kept pace with housing prices and rents in Island County. The area's growing popularity for retirees and vacationers has driven up housing costs and kept a significant amount of the available stock off the market. Housing prices are out of range of 75 percent of the County's households. The average price of a house was \$116,024 in 1990; a price fewer than one quarter of the County's families could afford to pay. Nearly two thirds of owners with incomes below \$10,000 and 31 percent with incomes between \$10,000 and \$20,000 are paying more than 30 percent of their incomes for owner costs (Table ____). The affordability problem is greater for renters than for owners. Sixty percent of renter households with incomes below \$20,000 are paying more than 30 percent of their incomes for rent. More than 7 percent of renter households are living in overcrowded conditions.

There are long waiting lists for public housing and Section 8 certificates throughout the County with nearly 2,000 households needing assistance as defined by HUD. The majority of low income households in need are found in the cities. There are few non-profit developers in Island County. Neither of the two major organizations, Island County Housing Authority and the Opportunity Council, have developed any housing for families in Island County.

Housing prices continued to rise in 1992, stabilizing by year end. However, there is little prospect of relief for overburdened renters and owners. Uncertainty about the future of Whidbey NAS has combined with the general housing credit crunch to limit new market rate multi-family and single-family housing production in North Whidbey area.

Significant Impacts

Alternative 1 - No Action

Residential development would continue to follow current trends. Single-family homes would be the predominant housing type and few new multi-family homes would be developed in the unincorporated County. Housing would most likely continue to be a problem for households below median income. Residential development may be attracted to less expensive land away from existing incorporated cities or developed areas.

Alternative 2 - Major Urban Growth Areas

Single-family residential development in rural areas would be less than Alternative 1 and more multi-family residential housing would be provided in the designated UGAs. Residential developments will be planned with a goal of providing a diversity of housing opportunities to help ensure a fair, equitable and rational distribution of low-income, moderate-income and special needs housing. However, establishment of UGAs may limit land supply and create potential shortages in housing, thereby increasing costs.

Rural development will range from one dwelling unit per one acre to one dwelling unit per five acres. Cluster developments of one dwelling unit per 2.5 acres to one dwelling unit per acre will be allowed and encouraged to preserve open space when achieving specified open space requirements and minimizing encroachment on existing land uses. Because of restrictions in the amount of development in rural Island County, the price of rural housing may become more expensive than would occur under Alternative 1.

Alternative 3 - Rural Activity Centers

Under Alternative 3, single-family residential development in rural areas would be less than Alternative 1, but more than Alternative 2 since development would be allowed within and surrounding RACs. High-density mixed land use would be limited to UGAs and moderate-density mixed land use would be provided in RACs. Residential developments will be planned with a goal of providing a diversity of housing opportunities to help ensure a fair, equitable and rational distribution of low-income, moderate-income and special needs housing.

Residential areas of one to 3.5 dwelling units per acre will be allowed within or surrounding RACs, or within areas meeting designation criteria, or by purchasing TDRs.

As with Alternative 2, under Alternative 3 rural development will range from one dwelling unit per one acre to one dwelling unit per five acres. Cluster developments of one dwelling unit per 2.5 acres to one dwelling unit per acre will be allowed and encouraged to preserve open space when achieving specified open space requirements and minimizing encroachment on existing land uses.

Because more mixed density residential will be allowed in more areas in the County, the impacts to affordability may be less significant than Alternative 2.

Mitigation Measures

The following lists mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Minimize public service cost, and associated housing costs, by concentrating growth in UGAs and/or RACs.
- Accommodate a variety of housing needs by providing a range of residential densities, from low density rural residential development to higher density attached multi-family housing.
- Promote housing affordability by encouraging a variety of housing types in appropriate locations, including common wall housing, accessory units, manufactured housing, clustered developments and farm worker housing.
- Identify surplus public lands that may be suitable sites for future development of low and moderate income housing.
- Establish policies and incentives to support the availability of affordable housing.

Unavoidable Impacts

The need for more housing units of various types increases with population growth.

Light and Glare

Affected Environment

The primary source of light emission in Island County is from the Whidbey NAS and from residential, commercial and industrial/business uses and street lighting. Also lighting from public facilities, motor vehicles and parking lots contributes to overall lighting levels. The primary sources of glare are glass windows and reflective metal surfaces. Light and glare can impede a person's ability to see. Light and glare can be annoyances if they interfere with daily activities or views.

The majority of light and glare sources are concentrated in the Whidbey NAS facilities and in the cities of Oak Harbor, Langley and Coupeville and smaller commercial areas such as the area between Camano Plaza and Courthouse Annex, S.R. 532 and Terry's Corner on Camano; and Freeland, Clinton, S.R. 20 near Oak Harbor, Greenbank, Ken's Corner and Bayview on Whidbey. Commercial and business centers can appear to be illuminated to a level similar to daylight. In addition, the traffic associated with the centers, and street and parking lot lights can increase the quantity of light and glare emitted. The larger illuminated centers are less likely to occur in rural areas.

Light and glare sources are less troublesome in rural areas where large buffers of dense vegetation absorb light. However, exterior lights on structures in rural areas can result in a glow in the sky visible to adjacent communities regardless of visual screens used. Because of existing low light levels in rural County areas, rural development could have a significant light and glare impact on adjacent land uses.

Significant Impacts

Alternative 1 - No Action

Sources of light and glare would gradually increase throughout the County under the No Action Alternative. The most noticeable changes would be in rural areas.

Alternative 2 - Major Urban Growth Areas

Light and glare would gradually increase slightly in the rural areas, but would be primarily concentrated in the UGAs.

Alternative 3 - Rural Activity Centers

Light and glare levels in the rural areas, outside of the RACs would generally remain the same as existing conditions. Light and glare levels would increase and be concentrated in the UGAs and RACs. Because UGAs are larger and are associated with existing cities, these areas would continue to be the greatest source of light and glare.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Require the use of directional shields and timers on new outdoor lighting.
- Establish standards for building and landscape materials that would absorb, rather than reflect, light and glare.
- Establish development standards that restrict the levels of light and glare that new development may emit.

Unavoidable Impacts

Potential sources of light and glare increase as more development occurs.

Aesthetics

Affected Environment

Aesthetics deal with the overall physical appearance of the natural and built environments and the quality of life in Island County. The aesthetic character of Island County is considered to be a primary asset. The natural environment of Island County dominates the aesthetic character of the County. Open prairies, forests, lakes, approximately 200 miles of saltwater shoreline, protected coves, high seaside bluffs, rugged beaches, rolling hills, the rural nature of the community, and scenic views of the Cascades and Olympic mountain ranges, all contribute to an aesthetically pleasing environment. The varied visual experiences in the County are reinforced by the distinctive manmade environment including: farms and buildings; historic buildings, communities and towns; the presence of the Whidbey NAS and eight small private airfields. Both natural and manmade features provide a unique environment for community identity and interaction.

Aesthetics is a vital aspect to the residents and visitors of Island County. Island County, known for its natural beauty and rural lifestyle, has become a favorite place for many to live, retire and visit. Island County has a significant influx of tourists who visit Island County for its scenic and historical attributes and beach access. A total of 1,918 miles have been designated as scenic highways and another 1,360 miles have been determined to be eligible in Island County.

Significant Impacts

The measurement of aesthetic impacts is difficult because of the individual perceptions and values which define aesthetics. In general, the loss of views and loss of an aesthetically pleasing environment would have negative impacts on residents, lessening their quality of life. Moreover, in residential areas community appearance directly affects property values. Commercial areas with a pleasing environment attract customers and entice them to stay longer.

Alternative 1 - No Action

As growth spreads throughout the rural areas of the County, the rural character of these areas may convert to a more developed, suburban character. Commercial and industrial land uses may also locate in rural areas and contribute to the loss of rural character.

Alternative 2 - Major Urban Growth Areas

The low density rural character of the rural areas would be minimally impacted. In the UGAs, a gradual transition from the existing development pattern to a more urban character would occur.

Alternative 3 - Rural Activity Centers

Under Alternative 3, most or all of the rural areas outside of the RACs would remain largely unchanged from current conditions. In the UGAs, impacts would be similar as those described for Alternative 2. In the RACs, a gradual transition from the current rural character to a more suburban developed appearance would occur.

Mitigation Measures

The following are measures that the Comprehensive Plan and future regulatory efforts could implement:

- Provide for the preservation of agricultural, forestry and mineral resources and protect wetlands, fish and wildlife habitats, and steep hillsides.
- Limit development in scenic rural areas to low intensity uses, such as agriculture and recreation uses.
- Limit commercial development to UGAs, RACs and designated areas.
- Discourage strip retail and haphazard commercial development in rural areas.
- Establish design standards and a design review process for new development.
- Insure that structures, roads and utility systems are designed and constructed to minimize the unnecessary alteration of the landscape and to preserve natural systems and scenic amenities.

Unavoidable Impacts

Increased development of natural landscapes reduces overall aesthetic quality.

Recreation

Affected Environment

Island County has a variety of parks and recreation facilities which are owned and maintained by many different government and volunteer organizations and include:

Federal: National Park Service with Ebey's Landing National Historic District Trust board.

State: Parks and Recreation Commission, Department of Fish and Wildlife, Department of Natural Resources.

Local: Island County, City of Oak Harbor, City Langley, Town of Coupeville, North Whidbey Parks and Recreation District, South Whidbey Parks and Recreation District, Port of South Whidbey, Port of Coupeville, Oak Harbor School District, Coupeville School District, South Whidbey School District plus non-profit organizations such as the Whidbey-Camano Land Trust and Lions Club.

Commercial: Private golf clubs, marinas and sport clubs.

Table summarizes the parks and recreation facilities by the four areas of Island County including Camano Island, North Whidbey Island, Central Whidbey Island, and South Whidbey Island.

The County has been experiencing increased population growth and increased demand for park space and recreation facilities. The scenic quality and beaches of Island County attracts increasing tourism. The small historic towns of Coupeville and Langley rely heavily on tourism.

Island County has an adopted Comprehensive Parks and Recreation Plan that includes goals and policies for parks, open space and recreation, an inventory, need assessments, recommendations, and an action program with a 6 year capital improvement program. The purpose of the plan is to guide planning of parks and recreation facilities in Island County (Island County, 19).

Significant Impacts

Alternative 1 - No Action

With the No Action Alternative the designation of recreation and open space areas would be less than with the other alternatives.

TABLE
SUMMARY OF PARKS AND RECREATION FACILITIES

Area	Type	Name	Acres	Facilities
Camano Island	County	Maple Grove	.76	Boat ramp, parking area, picnic area and beach access
		Utsalady Vista	1	Picnic area and view point
		Utsalady #2	.5	Boat ramp
		Livingston Bay	.75	Beach access
		Camano Park	6	Multi-purpose center, one ballfield, one tennis court, and a picnic area
		Cavalero Beach	.5	Boat ramp and picnic area
		Walter G. Hutchinson Park	5	Nature trails and picnic area
	State	Camano Island State Park	134.4	Picnic area, two boat launches, view point and camp units
North Whidbey Island	County	Monroe Landing	.25	Boat ramp and beach access
		Scenic Heights	.75	Picnic area
		Hastie Lake	.75	Boat ramp and beach access
		West Beach Vista	-	View area (closed due to hazardous bluff)
		Moran Beach	.5	Beach access
		Mariners Cove	.25	Boat ramp
	City of Oak Harbor	City Beach Park	28.5	Ballfields, picnic area, exercise course and children's play area
		Neil Park	3.5	Tot lot and Halland Gardens
		Smith Park	1	Picnic sites and children's play area
		Sumner Park	4	Two tennis courts and covered picnic site
		Flintstone Point	1.5	Beach access, picnic sites, pier and float
		Tyhius Park	.75	Tot lot
		Koetje Park	.75	Baseball field and tot lot
		Kimball Park	.75	Tot lot
		Hal Ramaley Memorial Park	.5	
		Well Site #11	1.5	Tot lot and picnic site
		Well Site #12	.8	Tot lot and picnic site
		Shadow Glen Subdivision	.75	Tot lot, picnic site and baseball field
		Oak Harbor Marina	-	420 boat facilities

TABLE
SUMMARY OF PARKS AND RECREATION FACILITIES
(continued)

Area	Type	Name	Acres	Facilities
North Whidbey Parks and Recreation District		Civic Center	14	Softball field and senior center
	North Whidbey Parks and Recreation District	John Vanderzicht Pool	-	Indoor pool
		Clover Volleyball Field	4	Ballfield
	Oak Harbor School Districts	Administrative Compound/ Elementary/Middle/Junior High School Sites	159.3	Football stadium, football fields, playfields, tennis courts, tracks, basketball courts, softball and soccer fields
	U.S. Dept. of Navy	Whidbey NAS	206.86	Six softball fields, one football field, one soccer field, six tennis courts, two volleyball courts, four basketball courts, running track and fitness trail, 18-hole golf course and picnic area
	State	Deception Pass State Park	1195	Camping, picnic areas, environmental center, moorage and docks, outdoor amphitheater, hiking trails and beach access
		Joseph Whidbey State Park	112	Beach access
		Duguailla Bay	586	Beach access
Central Whidbey Island	County	Rhododendron Park	32	Ballfield and picnic area
		Libbey Beach Park	3	Picnic area and beach access
		Telaker Shores	.74	Picnic area and beach access
		Ledgewood Beach	.5	Beach access
	Town of Coupeville	Town Playground	1.2	Tennis court and playground
		Town Park	3.8	Tennis court, trail, beach access and picnic area
		Alexander Blockhouse	.1	Historic blockhouse
		Captain Thomas Coupe Park	.8	Beach access, boat ramp and picnic facilities
		Triangle Park	.11	Park benches

TABLE
SUMMARY OF PARKS AND RECREATION FACILITIES
(continued)

Area	Type	Name	Acres	Facilities
	Port of Coupeville	Coupeville Wharf	-	Public pier
	Coupeville School District	Elementary/Junior/Senior High School Sites/Clark Field	16.7	Sport court, tennis courts, baseball fields, gymnasiums, athletic fields and stadium
	State	Ebey Landing	22	Interpretive displayboard, hiking trails and view sites
		Fort Casey State Park	411.5	Picnic units, boat launches, view points, military structures, camping spaces and underwater park
		Fort Ebey State Park and Point Partridge	644	Camp units, picnic areas, historic fort and scenic vistas
	Dept. of Natural Resources	Lagoon Point #1 and #2	-	DNR beach access
		Rhododendron Park	120	Ballfield and picnic area
South Whidbey Island	County	Dave Mackie Park	5	Boat ramp, ballfield, playground, picnic area and beach access
		Dan Porter Park	85	Playground, tennis court, ballfield, nature trails and picnic area
		Hurt Property	30	Passive Park
		Double Bluff	-	Road provides access to public tidelands
		Mutiny Bay	.33	Boat ramp
		Freeland Park	17	Boat ramp, picnic area and community hall
		Baby Island Heights #1 and #2	5	Unaccessible beach
		Fairgrounds	13	Annual Island Co. fair and camping area
	Dept. of Fish & Wildlife	Deer Lake Fishing Area	.2	Boat ramp/dock and picnic area
		Lone Lake Fishing Area	5	Boat ramp and picnic area
		Goss Lake Fishing Area	.6	Boat ramp and picnic area
	City of Langley	Sunrise Beach	.20	Beach access
		Seawall/Totem Park	1	Picnic tables, beach and access

TABLE
SUMMARY OF PARKS AND RECREATION FACILITIES
(continued)

Area	Type	Name	Acres	Facilities
		Phil Simon Memorial Park	.21	Picnic tables and beach access
		Langley Small Boat Harbor	.11	Marina, fishing pier, boat launch and beach access
		Community Center Park	.43	Community center, picnic shelter, ballfields, amphitheater and trails
	Port of South Whidbey	Possession Beach Waterfront Park	11.9	Boat ramp, picnic sites, nature trail, beach access walkway and small float
		Clinton Recreation Pier	.5	Walkway and small float
	South Whidbey School District	Primary/Middle/Intermediate/ High School Sites	118	Softball and football fields, playgrounds, basketball courts, running track and tennis courts
	State	South Whidbey State Park	85	Camping sites, picnic sites, hiking trails and beach access
	Dept. of Fish & Wildlife	Public Recreation - Shellfish Harvest Areas/Artificial Reefs	-	-

Alternative 2 - Major Urban Growth Areas

As development occurs in UGAs, open space will be designated through planning policies. These policies should provide more recreation areas than with Alternative 1.

Alternative 3 - Rural Activity Centers

As development occurs in UGAs and RACs, open space will be designated through planning policies. Encouragement of cluster developments with required open space will also provide more lands for recreation opportunities. Alternative 3 should provide more open space and recreation opportunities than Alternative 1 and 2.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Implement recommendations outlined in the County Comprehensive Parks and Recreation Plan.

- Establish an inter-connected open space network throughout Island County.
- Identify priority areas for future open space acquisition.
- Require that new development provide recreational open space to meet the established standards.
- Seek funds to acquire new open space by assessing impact fees on new development, issuing open space bonds, or pursuing other funding sources.

Unavoidable Impacts

Increase in population can decrease the supply of recreation opportunities.

Historic and Cultural Preservation

Affected Environment

The relatively dry, warm climate, the sheltered waters, and the productivity of the prairies brought dense populations of Native Americans to Island County. In historic times, inhabitants of Island County were predominantly Salish Indians of the Skagit Tribe and the Snohomish Indians. In addition to hunting and fishing, the Indians were known to routinely manage their lands to enhance food production, both by selective burning to stimulate new growth, and by purposeful transplanting of favored species. White explorers came next. Spaniards first saw the northern end of Whidbey Island in 1790, but it was Captain Vancouver that determined that the land was an Island and named it after Joseph Whidbey, the ship's sailing master who mapped Whidbey Island. Later the first settlers came to Island County. Natural resources such as timber, fish and rich farm land provided the economic basis for early settlers. In 1848, Thomas Glasgow first farmed near Coupeville. Coupeville, the second oldest town in Washington state, was founded in 1852 and was home to many pioneers who were deep water sailors. Captain Thomas Coupe, who the town was named after, was one of them. He and his wife Maria filed a claim for a 320 acre tract and built their home on what is now Front Street, where the home still stands. In 1853, Island County was established and the first sawmill and trading post was established on Whidbey Island.

The shorelines on Camano Island and south and north Whidbey Island in addition to all of central Whidbey Island are known to have hundreds of archaeological and historic sites. Efforts to preserve and protect archaeological and historic places and artifacts are directed by Federal, State, and local acts or ordinances whose mandates are carried out by several agencies. In Washington State, the Office of Historic Preservation maintains a complete inventory of known archaeological resources as well as significant properties worthy of preservation. The Island County Historical Museum in Coupeville is the main local source of historical information for Island County.

Island County has three properties that are listed on the National Register of Historic Places. These are the Loers House in Oak Harbor; the Central Whidbey Island Historic District, located roughly six miles either side of Coupeville; and the Olympic Club House in Langley. Five properties are listed on the State Register of Historic Places. These include the Camano Lutheran Church on Camano Island; the Old County Courthouse, one mile northwest of Coupeville; the Sanford House and Farm in Freeland; the Griffiths Farmstead in the vicinity of Oak Harbor; and Neil Barn and Water Tower in Oak Harbor.

The Central Whidbey Island Historic Preservation District (District), established in 1972, is currently the only established historic district in the County. In addition to the entire District, many homes, barns and blockhouses within the District, have been placed on the National Register of Historic Places. The boundaries of the District are based on historic land claims and also correspond with the boundaries of the Ebey's Landing National Historical Reserve (ELNHR), except the ELNHR includes the historic town of Coupeville. The ELNHR was established by the Congress in November, 1978.

The Central Whidbey Island Historic Preservation District Citizens' Advisory Committee was appointed by the County Commissioners to advise all county agencies and legislative bodies with respect to land division, land use, new construction, renovation of and addition to historic structures, archaeological sites, signage, and demolition of historic structures within the boundaries of the District. The Town of Coupeville has an independent Historic Advisory Committee to deal with matters concerning historic structures within its incorporated boundary.

A Conceptual Plan was developed for the ELNHR in cooperation with the citizens and governments of the Central Whidbey Island area, the Town of Coupeville, and Island County and adopted in May 1980 as part of the County Comprehensive Plan. The Plan envisioned the purchase of lands and scenic easements by the National Park Service and Washington State Parks. After the National Park Service established interpretive facilities and cooperative agreements to provide for the future operation and maintenance of the ELNHR, the reserve will be transferred to a unit of local government. The National Park Service in cooperation with Island County and the Town of Coupeville continues to implement the plan for the protection of the historic rural area. A Land Protection Plan has been developed that explains the National Park Service approach to protecting and preserving critical lands within the ELNHR. The stated goal of the Land Protection Plan is to protect the open space/agricultural lands of the reserve through exchanges or donation of development rights; the National Park Service does not intend to become a major land owner within the reserve.

Significant Impacts

Alternative 1 - No Action

Under the No Action Alternative, growth would continue to disperse to rural areas. More disruption or destruction of cultural sites would likely occur because undeveloped rural areas would be disturbed. However, this alternative probably provides the greatest opportunity to discover unknown cultural sites in rural areas. Less pressure and emphasis would be placed on redevelopment in urban areas.

Alternative 2 - Major Urban Growth Areas

Under Alternative 2, historic and cultural sites would be more likely to remain undisturbed in rural areas than with Alternative 1. Loss of historic structures in UGAs could be accelerated through redevelopment efforts due to increased development pressure in those areas.

Alternative 3 - Rural Activity Centers

Under Alternative 3, the rural areas outside of the RACs would be the most protected from disruption of historic or cultural sites. Impacts to the UGAs and RACs would be similar to those described under Alternative 2.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Work with the Washington State Office of Historic Preservation to identify and document priority historic and/or cultural sites and establish criteria for evaluation of future sites.
- Continue to carry out the objectives of the Ebey's Landing National Historical Reserve, and continue to support the functions of the Central Whidbey Island Historical Preservation District Advisory Committee.
- Continue to provide, and develop additional, incentives such as reduced tax assessments and the purchase of development rights to preserve historic structures.
- Give high priority to the preservation of historic and cultural sites when redevelopment plans are reviewed.
- Encourage the rehabilitation of historic structures.

Unavoidable Impacts

None identified.

Natural Resource Lands

Affected Environment

Natural resource lands include agricultural land, mineral resources and forest lands.

Agricultural land is defined as land uses primarily for production of horticultural, viticultural, floricultural, dairy, apiary, vegetable, or animal products or of berries, grain, hay straw, turf, seed, Christmas trees not subject to excise tax, or livestock, and that has long term commercial significance for agricultural production. Agricultural lands in Island County encompasses a total of approximately ____ acres or roughly ____ percent of Island County.

Mineral resource lands include those lands primarily devoted to the extraction of minerals or that have a known potential for long-term commercial extraction of minerals. Minerals are defined as sand, gravel and valuable metallic substances. Existing approved operations and other known areas of surficial sand and gravel deposits encompass approximately ____ acres in Island County.

Forest lands in Island County are defined as areas primarily devoted to and used for growing and harvesting timber and other forest crops. Forest lands encompass approximately ____ acres or ____ percent of Island County. Douglas Fir is the predominant tree species.

Significant Impacts

Alternative 1 - No Action

Under this Alternative, the dispersed development pattern would potentially place the most pressure to convert natural resource lands to other uses.

Alternative 2 - Major Urban Growth Areas

Under Alternative 2, less pressure to convert natural resource lands in the rural areas would occur. Most growth would be concentrated in the UGAs. Resource lands, in a UGA would feel the greatest pressure to convert to other uses.

Alternative 3 - Rural Activity Centers

Under Alternative 3, impacts to designated natural resource lands would be similar to those described for Alternative 2. For RACs in close proximity to designated natural resource lands, the potential for conversion and/or land use conflicts may be greater.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future policy and regulatory efforts could implement:

- Reduce development pressure on designated natural resource lands by concentrating growth in UGAs and/or RACs and away from resource lands.
- Explicitly preserve resource lands through agricultural, forest and mineral resource lands zoning designations, large minimum lot sizes and other zoning techniques, preferential tax treatment, TDRs programs, and other creative techniques.
- Reduce the potential for conflict between resource lands and adjacent uses by promoting special buffers, setbacks and opportunities for clustered development.

Unavoidable Impacts

None Identified.

H. TRANSPORTATION

Affected Environment

Transportation Systems

Island County has been divided into four major planning areas based upon geographic location and population growth. These planning areas are each centers for population and employment. The transportation system must meet forecasted transportation needs within, and between, each of these areas.

Island County's transportation system is composed of interconnected linkages between land, water, and air modes of travel. The system includes roadways, bikepaths, ferries and air facilities. The various modes of transportation accommodate the movement of both goods and people.

The motor vehicle road system is composed of state highways, major arterials, secondary arterials, and collector and local access roads. The state route (SR) 20/525 transportation corridor provides major north-south transportation through Whidbey Island, and acts as an interregional connector to the mainland. The arterials and collectors roads are bituminous or asphalt concrete surfaces, as are most local roads.

In addition to motor vehicle traffic, the County has designated three levels of bicycle routes in a bicycle plan recommended as part of the 1980 to 2000 Island County Comprehensive Plan. The islands are popular bicycle riding areas, particularly in summer. The County has placed signs designating bike routes, in addition to widening roadways to accommodate four foot paved shoulders, where feasible. However, there are still many roads designated on the bicycle plan that have minimal shoulders.

Scheduled ferry service links Island County to the mainland. This service is provided by the Washington State Ferries, the Marine Division of Washington Department of Transportation (WSDOT). The ferries provide two connections to Whidbey Island, a Mukilteo - Clinton run, and a Keystone - Port Townsend run.

Currently there are ten air facilities located in Island County. Three facilities are located on Camano Island, while the rest are located on Whidbey Island. Two of the airfields are associated with the Whidbey Island NAS.

Motor Vehicle Traffic

Automobile/Truck: Travel on local roads and highways is a major component of the Island County transportation system. The SR 20/525 routes provide primary access across Whidbey Island as does SR 532 on Camano Island. These routes all connect with the mainland, SR 20 through the Deception Pass Bridge to Anacortes, SR 525 through the Clinton ferry terminal to Mukilteo, and SR 532 through to Stanwood.

Levels of traffic in Island County have increased approximately 70 percent over the past ten years. New residential development, increased commercial development and a disbursed pattern of development are some of the factors that may contribute to the increased traffic levels. This increased traffic has decreased the level of service which each route previously provided.

Level of Service (LOS) is a rating technique that describes the relative congestion of an intersection or road segment. There are six levels ranging from A to F. LOS A indicates free flowing traffic with no delays, while LOS F signifies unacceptable traffic congestion. LOS E means that traffic has reached the capacity of the road.

Table below identifies the road segments in the County with average daily trip (ADT) counts in 1992 of 10,000 vehicles or greater and the associated LOS for those areas.

TABLE
ISLAND COUNTY EXISTING ROAD CONDITIONS*

Road	Classification	ADT	LOS
Ault Field Road	Major Collector	13,830	E
Goldie Road	Major Collector	10,940	E
SR 20 @ County Line	State Route	12,200	D
SR 20 @ Troxell Road	State Route	14,100	E
SR 20 @ Frostad Road	State Route	16,400	E
SR 20 @ Oak Harbor limits	State Route	11,500	D
SR 532 @ E. Camano Dr.	State Route	14,840	E

Source: Island County Comprehensive Transportation Plan
* Average daily trips based on 1992 traffic counts.

All other county roads had an existing 1992 LOS of "C" or better.

Transit: The Island County Public Transportation Benefit Area (PTBA) was initiated in 1987 and has expanded its service to include Fixed Route Service, Paratransit Service, Vanpool Service and Ride Matching Programs. The fixed route service offers four routes, two which run the length of Whidbey Island, and two which loop Oak Harbor. The paratransit service is an on-call curbside service for disabled persons, whereas the vanpool service offers seven scheduled vans between Island County and the Boeing Company's facilities in Everett. All of these facilities service Whidbey Island; Camano Island has no public transportation.

Waterborne and Air Traffic

Waterborne Traffic: The Washington State Ferry System runs ferries from Clinton to Mukilteo, and from Keystone to Port Townsend. The Clinton - Mukilteo run serves to link Whidbey Island with the Seattle - Everett communities and provides transportation for island residents who work on the mainland. There are forty scheduled trips per day for this run and a 1992 total ridership of 4,003,278.

The Keystone - Port Townsend run links central Whidbey Island to the Olympic Peninsula. This run is scheduled for 8 trips per weekday, 10 trips on week ends. Total ridership in 1992 was 822,703. In 1994, a passenger-only ferry demonstration project is planned from Seattle to Langley.

Air Traffic: Currently there are seven air facilities on Whidbey Island, and three on Camano Island. Except for two large naval facilities, the airfields are small private facilities offering general aviation services. Harbor Airlines operates out of Oak Harbor Airpark and provides scheduled service to the San Juan Islands and SeaTac Airport.

The Whidbey Island NAS is a major transportation facility. It is used exclusively by military aircraft.

Movement/Circulation of People and Goods

Island County's transportation system is primarily based on the use of automobiles and trucks. Materials and goods require transportation from agricultural lands, forest areas, urban centers and industrial zones are most often sent via ground transportation.

Major regional transportation include SR 525/ SR20 for north/south traffic. This route crosses Deception Pass Bridge to allow for a connection to Interstate 5, the major route to the nearest major metropolitan areas of Vancouver, B.C. and Seattle, Washington. Approximate driving distances between Clinton and various cities in the region are shown in Table ___ below.

TABLE
DRIVING DISTANCE TO MAJOR DESTINATIONS

City	Distance From
Seattle, WA	30 miles
Vancouver, B.C.	115 miles
Tacoma, WA	65 miles
Yakima, WA	160 miles
Spokane, WA	285 miles
Portland, OR	205 miles

Traffic Hazards

Traffic hazards may arise from congestion, built hazards and natural hazards. In general, arterials in unincorporated Island County experience few hazards associated with traffic congestion. At certain times of the year, however, such as during the summer season, heavy visitor traffic creates significant traffic congestion and may contribute to hazardous conditions. On County and State roads outside of Oak Harbor there have been approximately 450 accidents reported each year.

Significant Impacts

To develop a future conditions analysis, the county chose to estimate travel demand on the arterial network, using growth factors developed from socio-economic and land-use forecasts. The total permanent population of Island County is expected to increase from 64,800 in 1992 to 76,630 in 2003, an increase of 18.3 percent. In addition, seasonal tourist populations are expected to increase from 9,500 to 10,850 persons per year.

Traffic patterns were analyzed under each of the three growth alternatives. Traffic will increase under each of the alternatives, however, the level of reliance on private automobiles, the amount of new roadway and potential for congestion varies between the alternatives.

Alternative 1 - No Action

Under the No Action Alternative, the dispersed pattern of growth may impair the County's ability to anticipate and plan transportation improvements. Decisions regarding road improvements, transit service, non-motorized facilities and other transportation improvements would be made in reaction to development as it occurs.

The single occupant vehicle would continue to be the primary mode of transportation. The dispersed, low density pattern of development in the rural areas would not support transit or other alternative modes of transportation, such as ridesharing, vanpools or demand generated transit. Therefore, this Alternative would likely increase automobile trip lengths and associated maintenance needs of the County road system.

Due to reliance on the private automobile and the relatively poor ability to anticipate the need for transportation services, this Alternative may result in some increased congestion. Residents may also experience decreased mobility as transportation improvements lag behind new development and growth.

Traffic hazards associated with traffic congestion in rural areas may also increase under this Alternative. In addition, as more people drive through hazardous areas associated with built and natural features, the potential for accidents due to these causes will increase.

Alternative 2 - Major Urban Growth Areas

Under Alternative 2, the dispersed rural population may continue to contribute to a less efficient road system, longer trips and reliance on the private automobile. However, because new growth in the rural area is limited, these impacts may be minimal and would be less than under Alternative 1.

In the UGAs, the potential for congestion would likely increase as the population grows. The concentrated population base, however, would be more likely to be able to support corrective measures plus transit and other alternative modes of transportation within and between developed UGAs. Public investment to improve the transportation infrastructure may be needed to avoid congestion in these areas.

In the rural areas, traffic hazards would increase less than under Alternative 1. In the UGAs, traffic hazards would increase due to the concentration of people and vehicles in and around the UGAs. As high capacity transit use increases, the potential for a significant accident involving these vehicles would also increase.

Alternative 3 - Rural Activity Centers

Under Alternative 3, the rural transportation system and rural area traffic hazards would remain largely unchanged from existing conditions.

Transportation impacts and traffic hazards in the UGAs and rural community centers would be similar to those described for urban areas under Alternative 2. Compared to the UGAs, the average density and geographic size of the rural community centers is relatively limited. Therefore, the rural community centers may be less able to support transit or other alternative transportation modes and may have continued reliance on the private automobile. However, because services will be located near residential areas, vehicle trips may be shorter and the opportunity for non-motorized trips may be greater.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Promote greater transportation system efficiencies, such as transit and other alternative modes of transportation, by creating designated areas with relatively higher residential densities.
- Minimize trip lengths and maximize the opportunity for non-motorized transportation by locating services and employment centers near residential areas.
- Establish a land use pattern that contributes to a decreased reliance on the private automobile. This may include residential densities that are high enough to support transit, location of services and employment near residential areas, and development standards that promote ease of access to transit and other alternative modes of transportation between UGAs and RACs.
- Assist in future transportation planning by clearly designating the location of future population concentrations and other traffic generators.
- Pursuant to the GMA, establish levels of services for the future transportation system.
- Identify specific transportation system improvements that would be necessary to maintain the established level of service.
- Require funding and construction of major transportation facilities concurrent with new development.

- Establish a land use pattern that would minimize future traffic hazards due to congestion and the need to build transportation system improvements through hazardous areas, such as floodplains and steep slopes.
- Assist in the avoidance of future traffic hazards by providing some predictability and improved ability to plan needed improvements.
- Seek additional funding for the correction of existing and projected traffic hazard areas.

Significant Unavoidable Impacts

Increased population will result in increased traffic and demand for transportation system improvements.

I. PUBLIC SERVICES AND UTILITIES

Fire/Law Enforcement/Government Services

Affected Environment

Island County has three fire districts serving Whidbey Island. These districts operate 19 fire stations and are run by 6 career fire personnel and nearly 150 volunteer firefighting personnel. In addition, the towns of Oak Harbor and Langley each have their own fire stations and staff, as does the NAS. Oak Harbor has one fire station, and a staff of 5 career and 37 volunteer firemen.

Camano Island is served by one fire station located at Terry's Corner. This station is tied to the Stanwood Fire District.

Whidbey Island is served by two dispatch services. The north island and Oak Harbor are served by the Oak Harbor Police Dispatch. The central and southern portions of the island are served by the Island County Sheriff dispatch. Ambulance services on Whidbey Island are provided by Whidbey Island General Hospital, whereas residents of Camano Island have three ambulance services, from the mainland, to choose from for service. Almost 100 percent of emergency calls were received through the 911 emergency system.

The Island County Sheriff's Department provides patrol and detective services to the residents of unincorporated Island County. It operates out of four facilities, and an evidence storage facility. In addition to the Coupeville department offices in the County Courthouse Annex, the Sheriff's department operates Camano, North Whidbey and South Whidbey precincts.

In 1992, the Sheriff's Office received ____ calls for service. The most frequent types of calls in 1992 are shown in Table _____. Overall, felony crimes, such as serious assaults, burglaries, rapes, homicides, and others comprised about ____ percent of the total calls received by the Sheriff's Office in 1992. Total calls for service have been increasing in recent years. As calls have increased, less time has been available for traffic enforcement. In 1992, ____ traffic infractions were issued compared to ____ in 1990.

TABLE
MOST FREQUENT CALL FOR SERVICE IN 19__

Type of Call	Number
Suspicious Circumstances	
Property Watch	
Agency Assists	
Theft	
Malicious Mischief	
Assaults	

In addition, the town of Oak Harbor also has its own police force with 25 commissioned personnel, 14 non-commissioned personnel and approximately 12 reserve officers.

The Island County Detention/Corrections Center serves the entire County population. It has a current capacity of 57 inmate beds. This equates to .85 beds per 1000. To keep this same level of service an additional 17 inmate beds will be required by 2010 based upon projected population growth.

Island County houses two courts, a District Court and a Superior Court. The District Court holds court in Oak Harbor, and in addition, twice per month in Langley and once per month in Camano. In 1994, an estimated 9,187 cases were heard by the District courts.

The Superior Court facilities are located in Coupeville. The Superior court heard an estimated 3,055 cases in 1994. The number of cases for this court are expected to increase to 3,973 by 2000.

In addition to the services described previously in this EIS, Island County provides general administration, health, public service and internal County management functions from the County seat in Coupeville.

Significant Impacts

Alternative 1 - No Action

A continuation of the dispersed pattern of development would contribute to a more inefficient system of fire and emergency service protection. This Alternative would continue the County's extensive reliance on volunteer fire fighters. Development in the rural areas near forested areas could increase the potential for fires, threatening the forest resource base and adjacent structures.

Lower density, scattered development would make it more difficult for the Sheriff's Office to respond to calls in a timely efficient manner. Longer times to respond to calls would also reduce the amount of time for patrol officers to engage in pro-active interaction with the community.

As the County's population grows, demand for services will increase and the associated service area will grow. Future departmental needs may include personnel, transportation, building maintenance and operation, youth center recreation and youth counseling, an information center and a County library system. The dispersed population base may make it difficult to provide services efficiently. Also, additional satellite offices including law enforcement, courts, engineering, permitting, and health and social services, to serve the rural area may be necessary.

Alternative 2 - Major Urban Growth Areas

Some limited expansion of fire and emergency services in the rural areas may be required. Concentrated growth in the UGAs would require expansion of fire stations and services in these areas.

The major emphasis on law enforcement services would be in the UGAs. These areas would require additional police personnel, stations and support staff. Because urban style development in the UGAs would be relatively compact, police response time may be maintained or improved.

The more concentrated population growth in the UGAs may allow the County to continue to provide most services from the current Coupeville location. Expansion of the existing offices and development of some new offices as described under Alternative 1, however, would be necessary to serve the increased population. Some satellite offices would also continue to be necessary.

Alternative 3 - Rural Activity Centers

No new fire or sheriff services would be required in the rural areas outside of the rural community centers to maintain existing levels of service. Within the UGAs and RACs impacts would be similar to those described under Alternative 2.

Impacts would be similar for government services as to those described under Alternative 2.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Emphasize a compact land use pattern that would increase the efficiency of fire and emergency service delivery.
- Assist future fire service planning by providing direction regarding future population growth.
- Establish levels of service for fire services, sheriff response times and facilities which are adequate to meet the needs of new development.
- Emphasize a compact development pattern that would increase the efficiency and economy of police and public safety service delivery.

- Assist future service law enforcement planning by providing direction regarding future growth areas.
- Prohibit new development until law enforcement services are adequate to meet the needs of the development.
- Concentrate growth in designated areas to provide for better access and more efficient provision of County services.
- Establish levels of service for administrative County services.
- Consider enhancement of user fees and other techniques to fund needed increases in services.

Schools

Affected Environment

Island County has three school districts. These districts all operate on Whidbey Island. The districts and their total enrollment are shown in Table ____.

TABLE
ISLAND COUNTY SCHOOL DISTRICTS

School District	Total Enrollment (1993-1994)
Coupeville	1,045
Oak Harbor	6,042
South Whidbey	2,194

Together, these districts provide 8 elementary schools, 1 intermediate school, 3 middle schools, 1 combined middle/high school and 2 high schools. In addition, there are 4 private schools at various locations on Whidbey Island. Students from Camano Island are part of the Stanwood School District, and are bused to facilities on the mainland.

Post secondary school education is available at Skagit Valley College, a two year community college with an enrollment of approximately 6,000. Western Washington University, in Bellingham, Washington, is the nearest four-year institution, however, it is currently operating a satellite facility in Oak Harbor.

Significant Impacts

Alternative 1 - No Action

Under the No Action Alternative, new or expanded school facilities would be needed throughout the County. The continued spread of development to rural areas would limit the efficiency of serving these areas. Greater bus travel distances would be required to serve relatively few students.

Alternative 2 - Major Urban Growth Areas

Concentrated growth in the UGAs could cause over-crowding of existing facilities. New school facilities, expansion of existing facilities and new school staff would be necessary in the UGAs.

Alternative 3 - Rural Activity Centers

Impacts would be similar to those under Alternative 2.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Provide for concentration of growth in the UGAs and/or RACs to reduce reliance on school buses, reduce the length of school bus trips and to increase the efficient use of existing and future school facilities.
- Assist in future school needs planning by providing clear guidance on the direction of future growth.
- Establish a level of service for school facility capacity.
- Require impact fees on new development to pay a fair share of the cost of facilities needed to service the new student population of the development.

Parks and Other Recreational Facilities

Affected Environment

Island County owns and operates 24 community parks on Whidbey and Camano Islands. Rhododendron Park is the largest of these facilities. Many of the park sites are water access and boat launch facilities less than one acre in size. In addition, the Parks and Recreation Districts and the Port District operate about 60 acres of recreational facilities in unincorporated areas.

In the future the County is planning for the establishment of a 2 - 4 miles of non-motorized vehicle trails. In addition, it plans to maintain a level of service at 3.5 acres per 1,000

population which will require an additional 48 acres of park land by 2000. Detailed analyses of recreational facilities are presented under Section III, G.

Significant Impacts

Alternative 1 - No Action

As population disperses throughout the rural County, it may become more difficult for the County to efficiently serve rural area residents. Access to recreational services may become more limited. However, because rural area residents may not have high expectations for recreational services, the increased need for such services may not be significant.

Alternative 2 - Major Urban Growth Areas

In the rural areas, impacts would be similar, but to a lesser degree, to those described under Alternative 1.

In the UGAs, demand for recreational services and programs may increase significantly. Urban area residents may have higher expectations and needs for recreational programs than the rural population.

Alternative 3 - Rural Activity Centers

Impacts would be similar to those described for the urban areas under Alternative 2.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future development regulations could implement:

- Establish an inter-connected open space network throughout Island County.
- Identify and document priority areas for future recreational facilities acquisition.
- Assist future open space and recreational service planning by clearly designating future population areas.
- Identify resources and criteria for additional recreational service funding.

Communications

Affected Environment

Two standard telephone utilities serve Island County. GTE-NW serves Camano Island and the north and central portions of Whidbey Island. The remainder of Whidbey Island is served by Whidbey Telephone. Except for lines and poles, most of GTE-NW's equipment is located on

the mainland, although there are office facilities located in Oak Harbor. Whidbey Telephone owns and operates its own equipment, and also provides marine telecommunication services.

Cellular service is becoming increasingly popular in Island County. Cellular Service is provided by US West and McCaw Cellular in selected areas.

A cellular system includes a cell site, the geographic area surrounding that cell, a switching station and the cellular phones. The phones can only operate in the range of the given cell, thus in order to provide coverage over broad service areas the cell sites must be located to provide uninterrupted service. Siting the cell towers can create environmental impacts.

Five cable television companies serve Island County. The companies include Interstate Cable Company, Network Cable Company, Northland Cable Company, TCI, and Viacom Cablevision.

Significant Impacts

Alternative 1 - No Action

Rural areas with low densities would become more developed, requiring communication services. Greater distribution distances would be required to serve these areas.

Alternative 2 - Major Urban Growth Areas

The distribution system to serve the UGAs would be more compact and efficient than would be likely in the rural areas. Planning for new communication services may be more predictable and the population base may be more capable of supporting optional communication services. As population becomes more concentrated, sites for distribution facilities, antennas and towers may be more difficult to acquire and develop.

Alternative 3 - Rural Activity Centers

Impacts would be similar to those under Alternative 2.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future development regulations could implement:

- Identify criteria for the location and evaluation of potential communication facilities.
- Establish design standards and a design review process for evaluation of potential communication facilities.

Island County is served by a number of public water systems, plus an unknown number of undocumented systems. Outside of Oak Harbor and the NAS, water supply is largely dependant upon local groundwater. Please refer to Section III, C for more information.

Water/Stormwater

Affected Environment

Island County is served by a number of public water systems, plus an unknown number of undocumented systems. Outside of Oak Harbor and the Whidbey NAS, water supply is largely dependent upon local groundwater. Refer to Section III, C for more information.

Existing stormwater facilities in Island County include both natural (streams) and man-made (pipeline) collection and conveyance systems. The County's stormwater facilities serve 132 drainage basins. A list of these facilities, some of which are private, does not exist. The County's goal is to create a current facilities inventory.

Storm drainage and flooding problems may have increased in the County as a result of residential and commercial development. Increases in the amount of impervious surface, such as rooftops, roads, driveways, and buildings, cause increased stormwater runoff. Forestry practices, such as logging, new roads and construction, can also increase runoff and downstream sedimentation. Existing natural and manmade collection and conveyance systems may now be too small to accommodate current stormwater flows.

Significant Impacts

Alternative 1 - No Action

Under the No Action Alternative, the scattered low density pattern of development would contribute to a more complex drainage network and more potential for development in flood prone areas. These factors would contribute to a drainage system that is more likely to be subject to failure. In addition, the cost of maintaining such a system would likely be greater than under the other alternatives.

Alternative 2 - Major Urban Growth Areas

The concentrated pattern of growth and associated runoff could impact existing stormwater facilities, requiring major improvements. Until improvements are made, the urban areas may experience increased flooding or contamination of stormwater runoff.

Alternative 3 - Rural Activity Centers

Impacts would be similar to those under Alternative 2.

Mitigation Measures

The following lists mitigation measures that the Comprehensive Plan and future development regulations could implement:

- Plan and implement a County-wide stormwater control system by providing direction regarding future growth.
- Minimize the potential increase in stormwater flows in the more intensively developed areas by encouraging a development pattern that minimizes impervious surface coverage, such as clustered development, multi-story buildings, or other innovative building designs. Provide stormwater detention facilities.
- Limit new development in the floodplain to low-intensity uses, such as agriculture and recreation.
- Encourage the retention of vegetation and use of natural stormwater management facilities, such as biofiltration swales.
- Establish levels of service for stormwater facilities.
- New development should meet concurrent requirements for stormwater facilities adequate to meet the needs of the new development.

Sewer/Septage/Solid Waste

Affected Environment

Sewer

Three wastewater treatment plants, one lagoon system and related collection lines/outfalls serve the three incorporated cities with sanitary sewer. An estimated 2,700 Camano Island residential on-site systems use out-of-county treatment plants.

In the near future, one existing treatment plant and an additional treatment plant in advanced planning will serve nearly 500 homes. Additionally, sewer studies are in process for Clinton and Juniper Beach.

Septage

An estimated 75% of Whidbey Islands' residential units are served by septage facilities. The County operates a septage treatment facility in Coupeville which has a design capacity of 5,100 gpd. This translates to about 104 and 88 gallons per year per residential equivalent in Whidbey and Camano Islands, respectively. 80 gallons per year per residential equivalent is the base level of service, based upon a 10-year pumping cycle. Based upon future growth projections and this level of service, the current facilities will suffice to serve the projected population.

Solid Waste

Most of Island County's municipal solid waste is received at the Coupeville Transfer Station. Waste from 4 outlying transfer stations is transported to this facility for final processing and shipment.

- Plan and implement a County-wide stormwater control system by providing direction regarding future growth.
- Minimize the potential increase in stormwater flows in the more intensively developed areas by encouraging a development pattern that minimizes impervious surface coverage, such as clustered development, multi-story buildings, or other innovative building designs. Provide stormwater detention facilities.
- Limit new development in the floodplain to low-intensity uses, such as agriculture and recreation.
- Encourage the retention of vegetation and use of natural stormwater management facilities, such as biofiltration swales.
- Establish levels of service for stormwater facilities.
- New development should meet concurrent requirements for stormwater facilities adequate to meet the needs of the new development.

Sewer/Septage/Solid Waste

Affected Environment

Sewer

Three wastewater treatment plants, one lagoon system and related collection lines/outfalls serve the three incorporated cities with sanitary sewer. An estimated 2,700 Camano Island residential on-site systems use out-of-county treatment plants.

In the near future, one existing treatment plant and an additional treatment plant in advanced planning will serve nearly 500 homes. Additionally, sewer studies are in process for Clinton and Juniper Beach.

Septage

An estimated 75 % of Whidbey Islands' residential units are served by septage facilities. The County operates a septage treatment facility in Coupeville which has a design capacity of 5,100 gpd. This translates to about 104 and 88 gallons per year per residential equivalent in Whidbey and Camano Islands, respectively. 80 gallons per year per residential equivalent is the base level of service, based upon a 10-year pumping cycle. Based upon future growth projections and this level of service, the current facilities will suffice to serve the projected population.

Solid Waste

Most of Island County's municipal solid waste is received at the Coupeville Transfer Station. Waste from 4 outlying transfer stations is transported to this facility for final processing and shipment.

All facilities operate recycling centers whereas asbestos disposal, moderate risk waste, and inert waste are handled at the Coupeville facility.

Waste hauling is contracted in unincorporated Island County and in Coupeville and Langley by franchised haulers. The city of Oak Harbor hauls its own solid waste. The Naval Air Station operates its own facilities for waste disposal.

Currently the County is recycling over ____ percent of its waste. Washington State's recycling goal is 50 percent by 1995.

Significant Impacts

Alternative 1 - No Action

New development in rural areas would likely result in individual and community septic systems as the most common form of sewage disposal. Such systems increase the potential for groundwater and surface water contamination.

A continuation of a scattered pattern of residential development would result in an inefficient, costly solid waste collection system. In addition, access to recycling centers and other solid waste reduction opportunities may be limited for rural area residents.

Alternative 2 - Major Urban Growth Areas

In the UGAs, there would be increased use of existing sanitary sewer facilities and may be a need to convert septic tanks to sanitary sewer systems. Expansion of the existing sewer system and development of a new sewer system would be a costly, long-term capital investment. Until the new system is complete, the urban areas would be at increased risk for groundwater contamination.

The need for solid waste facilities, such as transfer stations and compost/recycling facilities would increase in the UGAs. At the same time, siting of such facilities in urban areas would become increasingly difficult with population growth and potential conflicts with nearby residential uses.

Alternative 3 - Rural Activity Centers

Impacts would be similar to those under Alternative 2. In the rural community centers, the issue of septic tank conversion to sanitary sewer system may be more problematic because of the relatively lower population base. If this transition does not occur, the rural community centers may be at relatively higher risk for septic system failure and groundwater contamination.

Mitigation Measures

The following are mitigation measures that the Comprehensive Plan and future regulatory efforts could implement:

- Concentrate growth to provide for more efficient sewer system design and solid waste collection routes.
- Assist future sewer and solid waste planning by providing direction regarding future population growth.
- Accommodate public sewer systems and solid waste recycling programs by providing an adequate population base to support such services.
- Prohibit the development of new community septic systems in the more intensively developed areas, except on an interim basis.
- Provide coordinated planning for sanitary sewer when existing development patterns present adverse environmental impacts and unsanitary health conditions.
- Provide for solid waste service planning on a regional, County-wide basis.
- Over time, evaluate the need for expansion of existing solid waste facilities.
- Over time, evaluate the need for enhancement of sanitary sewer output treatment processes.

Unavoidable Impacts

New growth and development will result in increased demand for public services and utilities, including fire, law enforcement, school facilities, park and recreation facilities, stormwater facilities and sewer and solid waste collection services.

**APPENDIX A
REFERENCES**

APPENDIX B
TRANSFER OF DEVELOPMENT RIGHTS

Overview (TDRs)

TDR programs intend to transfer the development potential of certain types of land (agricultural and forest land, open space and environmentally sensitive areas) to designated growth areas where development is wanted.

TDRs can be seen as a form of compensation to landowners whose ability to develop their property is reduced by rezoning land for less density or downzoning.

TDR programs intend to maintain landowners' value in their land, while permitting effective land use regulation.

TDR programs are based on the notion that there is a bundle of rights associated with fee simple ownership of land. In a TDR program, part of this bundle of rights—the right to develop the land—is transferred to areas that are suitable for high density development. TDR programs intend to transfer the development potential of certain types of land—agricultural and forest land, open space and environmentally sensitive areas—to designated growth areas where development is wanted. In the process, the original owner retains saleable rights and the resource or environmentally sensitive area remains undeveloped.

TDR programs have been used as a tool for historic, environmental, and agricultural preservation in a variety of localities. Some of the more notable examples are programs designed to protect historic landmarks in the cities of Denver and New York; farmlands in Montgomery County, Maryland; pine barrens and other environmentally sensitive areas in New Jersey; and mountain vistas in the Santa Monica mountains of California.

The concept is fairly simple. TDR programs generally designate some land as preservation areas, where little or no development is allowed, and other land as growth areas, suitable for high density residential or commercial development. Local governments grant or assign a certain number of development rights to landowners in the preservation of resource lands or environmentally sensitive areas, called the *sending area*. These rights then can be transferred to tracts in areas where higher densities are suitable and allowed, called the *receiving areas*. Once development rights are sold or transferred from land in the sending area, there is usually a conservation easement attached to the deed permanently restricting development. TDRs allow for greater densities in the areas receiving the development rights, while maintaining open space and resources in the areas from which TDRs have been sent. TDR programs allow the transfer of density to non-adjacent properties, a feature distinguishing TDRs from density transfers, clustering, and Planned Unit Developments (PUDs).

TDR programs are attractive, because they overcome some of the major criticisms of Euclidean or traditional zoning. (See Glossary for a definition of Euclidean Zoning.) Under traditional zoning, if an agricultural area is zoned 1 dwelling unit per 80 acres, for instance, the landowner loses much of the development potential associated with the land. Effective TDR programs mitigate the impacts of downzoning. In this sense, TDRs can be seen as a form of compensation to landowners whose ability to develop their property is reduced by rezoning land for less density or downzoning. TDR programs intend to maintain landowners' value in their land, while permitting effective land use regulation.

Island County, Washington

In 1984, Island County created a TDR program to protect agricultural lands, forest lands, and wetlands. They established the program as part of their zoning code revision.

As part of the code revision, the county downzoned land in the agricultural and forest zones from 1 unit per $2\frac{1}{2}$ acres to 1 unit per 20 acres. In an attempt to compensate landowners for this substantial downzone, the county created a transfer of development rights option. Under the TDR option, landowners could sell their development rights on the open market. These TDRs could be used by a developer to increase the density of a Planned Residential Development (PRD).

In contrast to some TDR programs, Island County did not automatically assign development rights to all landowners whose property qualified. Instead, landowners apply to the county to create their TDRs. This is known as an "on demand" allocation of TDRs. Under this system, all areas within the forestry and agriculture zone are potential sending areas.

Receiving areas are essentially floating. PRD projects that meet county approval may be used as receiving sites. In addition, geographic areas which coincide with urban growth areas are also receiving areas. It is thought that these areas are logical places for growth and are good candidates for water and sewer service by the cities.

In the seven years since the program was established, there have been a total of 61 development rights issued on sending parcels. Approximately two of these development rights have been applied to projects in receiving areas. There is now a total of 61 acres of farm and forest land protected in perpetuity under conservation easement through the TDR program.

It appears that there are several factors which may explain why the program has not generated more activity and protected more acres of resource land. First, it is felt that there is a lack of demand for development using TDRs. The county is currently assessing options for "jumpstarting" the program and creating a demand for TDRs.

Second, the receiving areas that are available may not be capable of accommodating increased density. At present, TDRs can be applied to PRDs anywhere in agriculture, forest, residential, or rural zones, in what amounts to floating receiving zones. However, some developers have indicated that because of the lack of infrastructure, the receiving areas are not very meaningful. Without sewer service, it is almost impossible to take advantage of the increased density that TDRs afford. Using TDRs, it would be theoretically possible to build to 6 units per acre in the residential zone (over a base density of $3\frac{1}{2}$ units per acre), but health department standards will not allow densities over $3\frac{1}{2}$ units per acre without sewer.

Another factor which may contribute to the low level of TDR activity is a general misunderstanding of the TDR program among Island County landowners, realtors, and developers. TDR programs are complex and can be confusing to the general public. Active participation by these groups often requires aggressive public information programs to explain the rationale and mechanics of TDR programs.

APPENDIX C
DISTRIBUTION LIST

