Appendix A: Setting

Whatcom County was created in 1854 by the territorial legislature, and at that time also encompassed all of present-day San Juan, Skagit, and Island Counties.

The county is located in the northwest corner of the state extending:

- ***north*** - to Point Roberts in the Georgia Strait and the International Boundary with British Columbia, Canada,
- ***west*** – to the Mt Baker Snoqualmie National Forest through North Cascades National Park and across Mt. Baker Wilderness in the Cascade Mountains,
- ***south*** – to the Skagit County line, and
- ***east*** – to the International Boundary with British Columbia in the Georgia Strait and the San Juan County line.

The county encompasses an area of 2,120 square miles. This Park, Recreation, & Open Space Plan focus is on the portion of the county west of the Mt Baker Snoqualmie National Forest boundary.

A.1 Climate

Washington State's climate is strongly influenced by moisture-laden air masses created in the Pacific Ocean. The air masses may move into the region any time of the year, but particularly during fall, winter and spring seasons. The air flowing from the Pacific Ocean is interrupted first by the Olympic Mountains and then significantly by the Cascade Mountains. As a result of the mountain ranges, the west or windward sides of the Cascades receive moderate to heavy rainfall and the east or leeward side of the state located in the "rain shadow" of the Cascades receive a light to moderate amount of precipitation.

The Cascades also affect temperature ranges in the state. The west or windward side is influenced by maritime air masses generally milder than those that sweep down from the Canadian Rocky Mountains on the east or leeward side of the state. Consequently, eastern Washington usually has colder winters and hotter summers, while western Washington is milder and more frost-free.

In Whatcom County, average temperatures vary from a high of 74 degrees in July to a low of 34 degrees Fahrenheit in January with an average annual maximum temperature of 59 degrees and an average annual minimum temperature of 44. Average annual precipitation is about 37 inches with a mean growing season with temperatures above 32 degrees Fahrenheit for about 170-190 days. Approximately 80% of the precipitation occurs from October through March with less than 6% falling during June, July, and August.

A.2 Earth

Whatcom County is located within the eastern edge of the Puget Trough section of the Cascade Mountain province of the Pacific Mountain System. The Cascade Mountains were created by continuous volcanic activity along the border of the underlying continental plates. The mountains were in turn, subject to the action of periodic glacial intrusions - the most recent being the Pleistocene glacial period more than 15,000 years ago. The Pleistocene glacial intrusion gradually carved and flooded Puget Sound, the lowland areas, and other valleys alongside the Cascade foothills.

Whatcom County is located in the Georgia Strait with Vancouver Island to the west and the San Juan Islands to the southwest. The county includes Point Roberts, the part of the Delta Peninsula that extends into the Georgia Strait south of the International Canadian/US Boundary.

Whatcom County includes Drayton Harbor, Birch, Lummi, Bellingham, and Chuckanut Bays, and Lummi, Portage, and Eliza Islands.

Topography - ranges from 0 to about 10,778 feet above sea level at the glacial summit of Mount Baker – the third highest point in Washington State.

The Puget Sound lowland area of the western portion of the county is a relatively flat plain ranging in elevation from 100 to 700 feet above mean sea level, rising approximately 2,000 feet where the forested foothills begin. The plain is broken at irregular intervals by rolling terrain, and by the steep-walled valleys of the North, Middle, and South Forks of the Nooksack River.

The Cascade foothills are an undulating to rolling belt of benches and low hills with fairly shallow stream channels except for the upper forks of the Nooksack River. The Cascade Mountains, with the exception of Mount Baker, range in elevation from 2,500 to 7,000 feet.

Soil regions
Washington State soils were created by a combination of elements including the nature of the parent material or rock type, climate, and the characteristics of the local terrain. These combined processes created 11 principal soil regions in the state ranging from deposits with high concentrations of organic matter created by glacial and marine actions along Puget Sound to deposits with very low organic matter located in the eastern arid portions of the state.

A.3 Water

Rivers
The major rivers in the county are the Nooksack, Lummi, and Skagit Rivers:

- ***Nooksack River*** - the North, Middle, and South Forks of the Nooksack River originate on the slopes of the Cascade Mountains and Mount Baker, converge at Deming to flow through the Nooksack River valley past Nooksack, Everson, Lynden, and Ferndale to drain into Bellingham Bay.
- ***Lummi River*** - originates as a secondary outflow of the Nooksack, flowing southwest to drain into Lummi Bay.
- ***Skagit River*** - originates in British Columbia then flows through the eastern portion of Whatcom County and then across into Skagit County to drain into Skagit Bay in Skagit County.

Glacial meltwater contributes heavy loads of sediment of glacial origin to each waterway. The lower reaches of the Nooksack River have been substantially modified through channelization and diking for flood control purposes. The upper reaches of the Skagit River have been dammed (Diablo and Baker Dams) for hydroelectric power and water reservoirs creating Ross Lake (that extends into British Columbia) and Baker Lake.

Principal streams within the urbanizing areas of the county include Dakota and California Creeks draining into Drayton Harbor; Terrell and Fingalson Creeks draining into Birch Bay; Silver, Squalicum, and Padden Creeks drain into Bellingham Bay; and Chuckanut Creek draining into Chuckanut Bay.

Wetlands
Hundreds of small ponds and wetlands are located throughout the county, many of which are directly connected to rivers, streams, lakes, or the bays. The surface water area varies considerably in these systems depending on the time of year.

Wetlands perform a variety of functions including:
- providing habitat for fish and wildlife,
- maintaining water quality by filtering pollutants, removing sediments, producing oxygen and recycling nutrients,

- reducing floods, and
- recharging ground water.

In 1991 Whatcom County Planning & Development Services inventoried the wetlands that cover Whatcom County. The inventories identified and evaluated wetlands that included bogs, forested wetlands, scrub/shrub wetlands, wet meadows, shallow marsh wetlands, deep marsh wetlands, and open water wetlands (lakes or ponds). Wetlands were found distributed throughout the county, especially near principal stream corridors.

A.4 Wildlife habitat and species

Habitat conservation areas are critical to the survival of Whatcom County's diverse plant and wildlife communities. Habitats encompass a variety of areas including large parcels of contiguous undeveloped land, special areas like streams or wetlands, and structural elements like rocky shorelines or standing dead trees.

The ecological value of an area depends on the quantity, quality, diversity, and seasonality of the food, water, and cover that it provides wildlife species. A particular site's value also depends on proximity to other usable habitats, the presence of rare species, and the rarity of the habitat type.

The preservation and restoration of critical habitat areas are key to protecting the biological diversity of Whatcom County. Critical habitat can be lost or degraded due to urban and some rural land use activities. Critical habitat threats can be reduced with effective land use policies and regulations. In some instances, valuable habitat can also be restored or enhanced through preservation and conservation efforts.

Wildlife habitats are generally classified as marine, estuarine, freshwater, and terrestrial. Many wildlife species rely upon most, even all, of these habitat types for survival. Whatcom County has all four types of wildlife habitat.

MARINE HABITAT

Marine habitats are salt water areas that extend outward from the upper limit of wave spray on land. In Whatcom County, marine habitats extend the complete circumference of the mainland and Point Roberts, and Lummi, Portage, and Eliza Islands.

Marine habitats provide critical plant, fish, and wildlife habitat that can be greatly affected by land and water-based activities. The waters of Georgia Strait, Drayton Harbor, Birch Bay, Lummi Bay, Bellingham Bay, and Chuckanut Bay depend on the health of tideflats and the water column for primary production. Eelgrass, kelp, and phytoplankton provide the primary cornerstone for the grazing food chain, and shelter for both invertebrate and vertebrate animal species.

The deeper waters and narrow channels of Georgia Strait, Rosario Strait, and Hale Passage, as well as the shallower waters of Drayton Harbor and Birch, Lummi, Bellingham, and Chuckanut Bays produce a unique marine environment rich in nutrients hosting a remarkable diversity of fish and other animal life.

The open channels, rocky outcrops, islands, and large bays of Whatcom County provide wintering and breeding habitat for a wide variety of marine birds including loons, grebes, cormorants, gulls, ducks, geese, shorebirds and alcids.

Fish and Wildlife Species

Special status/priority fish and wildlife species (or particular relationships between species and habitat) that rely on the marine habitat in Whatcom County for at least part of the year or part of their life cycle include: bald eagle, Brandt's cormorant, regular large concentrations of brant (geese), haulout areas for California sea lion, common loon, common murre, breeding concentrations of cormorants and alcids, regular concentrations of Dall's porpoise, breeding areas and regular

concentrations of Dungeness crab, regular concentrations of geoduck, breeding areas for great blue heron, haulout areas for harbor seal, regular marine concentrations of harlequin duck, killer whale, regular concentrations of Manila clam, marbled murrelet, native littleneck clam; nonbreeding concentrations of Barrow's goldeneye, common goldeneye, and bufflehead; nonbreeding concentrations of loons, grebes, cormorants, and alcids; nonbreeding concentrations of plovers, sandpipers, and phalaropes; northern abalone, Olympia oyster (restoration effort in progress), Pacific harbor porpoise, regular concentrations of Pacific oyster, regular concentrations of Pandalid shrimp, peregrine falcon, regular concentrations of red urchin, regular large concentrations of waterfowl, western grebe, Chinook salmon, coho salmon, chum salmon, pink salmon, sockeye salmon, bull trout, steelhead, coastal cutthroat trout, Pacific herring, Pacific sand lance, surf smelt, longfin smelt, and numerous rockfish species.

Kelp and eelgrass beds - are identified in the Whatcom County Critical Areas Ordinance as Habitat Conservation Areas (HCAs). These beds provide habitat, feeding, and rearing grounds for a large number of marine organisms including crabs, fish, and birds. Kelp are the large brown seaweeds typically found in rocky intertidal and subtidal areas. Eelgrass is a vascular plant that grows most commonly in intertidal and shallow subtidal sandy and muddy areas.

Kelp beds provide a surface upon which other plants and animals grow. They are used as resting areas by birds and mammals including gulls, herons, waterfowl, shorebirds, and seals. Kelp beds also protect environments for intertidal plants and animals by reducing current, wave action, and inshore erosion on sand and gravel beaches. The beds provide a protected beach habitat for marine organisms that would not be present otherwise.

Eelgrass is a highly productive plant that provides trophic functions and nutrient infusions for the entire coastal zone. Eelgrass beds provide an important stopover and wintering area along the Pacific flyway for a variety of migratory birds. The eelgrass beds in Georgia Strait and Puget Sound further south have been found to be three times more productive to diving birds, for example, than non-vegetated near- shore areas.

Kelp and eelgrass beds have declined in number and overall size in Georgia Strait and Puget Sound in recent years. The decline may be due to changes in water quality and turbidity resulting from urban development and forest cutting activities, or to natural fluctuations due to storms, unusually hot weather, or an increase in the population of grazing species.

Shellfish

Commercial and recreational shellfish areas are identified in the Whatcom County Critical Areas Ordinance as Habitat Conservation Areas (HCAs). Shellfish inhabit the muds, sands, and rocky substrata of Georgia Strait, Drayton Harbor, and Birch, Lummi, Bellingham and Chuckanut Bays. Intertidal areas support hardshell clams including butter clams, native littleneck, manila clams, cockles, and horse clams. Geoducks typically burrow in subtidal areas up to 2 to 3 feet into the mud or soft sand. Shrimp, crab, and oysters also inhabit the shoreline areas. Dungeness crab frequent eelgrass beds, and red rock crab inhabit rocky terrain with less silt content.

Surf smelt, Pacific herring, and Pacific sand lance spawning areas - are identified in the Whatcom County Critical Areas Ordinance as Habitat Conservation Areas (HCAs). Surf smelt inhabit marine nearshore areas year-round, and spawning may occur year-round. Significant spawning concentrations of Pacific herring are found in the Cherry Point and Samish-Portage Bay areas. Most Pacific herring stocks spawn from late January through early April, although the Cherry Point stock (the largest in the state) spawns from early April through early June. Spawning areas for Pacific sand lance are scattered along nearshore areas in Whatcom County, with

spawning in intertidal areas occurring annually from November 1 through February 15.

ESTUARINE HABITAT

Estuaries are semi-enclosed bodies of water that are freely connected with the open sea and within which saltwater mixes with freshwater drainage. Estuaries create transitions between marine, freshwater, and terrestrial environments that support a rich and diverse variety of wildlife species.

By definition, estuaries have a salt concentration from 0.5 parts per trillion up to 30 parts per thousand. Estuaries include subtidal and intertidal zones as well as lagoons, sloughs, and channels that meet this salinity definition. Estuaries are typically shallower with warmer water temperatures than marine habitat zones.

In Whatcom County, the estuarine environment may extend inland for some distance where freshwater from the Nooksack and Lummi Rivers, and Dakota, California, Terrell, Squalicum, Padden, and Chuckanut Creeks mixes with saltwater tidal currents. Salinity content may be affected by the amount of freshwater flow that enters the saltwater, the strength of the tides, and the resulting amount of fresh to saltwater mixing. Salinity is not constant within such a mixing and may vary with depth and area of flow. The animals and plants that are established within the area are often better predictors of the estuary's influence than salinity alone.

Wildlife Species

Estuaries support many of the same species that are present in the marine environment described above (refer to “Species” section under “Marine Habitat”. Some species, such as oysters, are more abundant in estuaries.

FRESHWATER HABITAT

Freshwater bodies include lakes, rivers, creeks, wetlands, riparian areas, and all other types of water bodies not included in estuaries or marine habitat that have a low salt content. Freshwater habitats support different wildlife than saltwater systems, particularly species that depend on wetland vegetation. However, 87% of all wildlife and fish species are estimated to depend on streams, wetlands, or other freshwater bodies during some part of their life cycle for drinking water, foraging, nesting, and migratory movements.

Riparian areas - are the vegetated corridors located along rivers, streams, and springs. Riparian corridors have free-flowing water or moist conditions that result in high water tables, certain soil characteristics, and vegetation that is transitional between freshwater and terrestrial. The transitional edges are usually defined by a change in plant composition, relative plant abundance, and the end of high soil moisture content.

Riparian corridors transport water, soil, plant seeds, and nutrients to downstream areas, and thereby serve as important migration routes for many wildlife species. Riparian areas, though small in overall size, are one of the most important sources of wildlife biodiversity in the landscape.

Riparian areas in Whatcom County are located along the Nooksack and Lummi Rivers and all stream corridors. These areas are covered with riparian vegetation and should be considered important wildlife corridors.

Wetlands

Freshwater wetland habitats are water bodies less than 20 acres in size or less than 6 feet in depth and include marshes, swamps, bogs, seeps, wet meadows, shallow ponds, and lakes. Like riparian areas, wetlands are very productive, supporting diverse and dense populations of plants and animals. The wooded areas that are located adjacent to wetlands provide nesting areas, forage, and cover that are critical to wetland-dependent species, such as waterfowl and small mammals including beaver.

Riparian and wetland vegetation provides significant food and cover for wildlife. Generally, riparian areas and wetlands provide substantially more important wildlife habitat than drier forested areas. Riparian areas are also passageways for wildlife moving between or around developed areas. Riparian vegetation also helps maintain optimum fish spawning conditions by providing shade, bank stabilization, a breeding ground for insects, and a source of organic material for streams.

Lakes - are water bodies greater than 20 acres in size or more than 6 feet in depth. The deeper waters and larger surface of a lake support many fish and wildlife species. However, most species prefer to nest and forage in shallower ponds and the wetlands that adjoin larger open water bodies.

Numerous lakes are located in the central and western parts of the county, including Silver Lake, Lake Terrell, Lake Padden, Lake Samish, and Lake Whatcom. Ross and Baker Lakes in the eastern portion of the county were formed by impounding the Skagit River.

Wildlife species
Special status/priority wildlife species (or particular relationships between species and habitat) that rely on freshwater habitat in Whatcom County for at least part of the year or part of their life cycle include: bald eagle, Cascades frog, Columbia spotted frog, common loon, red-legged frog, tailed frog, western toad, cavity-nesting ducks, breeding areas for great blue heron, harlequin duck breeding areas, regular occurrences of mink, regular concentrations of snow geese, regular concentrations of trumpeter and tundra swans, and significant breeding areas and large wintering concentrations of all waterfowl except Canada geese in urban areas.

Fish habitat and species
County streams provide freshwater habitat for various species of anadromous fish, including salmon and sea-run trout that live in saltwater but return to spawn in freshwater. These fish species have evolved over time to fit the specific characteristics of their stream of origin, and are uniquely imprinted compared with other members of the same species.

Anadromous fish require cool, uncontaminated water with healthy streambeds and insect populations. Vegetated riparian areas maintain stream habitats critical to fish by stabilizing water temperature, producing an insect supply, controlling erosion, and providing woody debris.

Chinook salmon (Puget Sound) and bull trout, both found in Whatcom County, are candidates on the Washington State and federal threatened species lists. Other special status/priority fish species that rely on freshwater habitat in Whatcom County include coho salmon, chum salmon, pink salmon, sockeye salmon, rainbow trout/steelhead, and coastal cutthroat trout.

Factors that have caused the diminishment of wild runs of anadromous fish in Whatcom County include:
- ***forest clearcutting and land developments*** - that create sediment loads which increase water turbidity and silt in gravel spawning beds;
- ***clearcutting tree stands in riparian areas*** – that remove natural shading which increases water temperatures; and
- ***water diversions*** – that restrict access to the upper reaches and spawning areas of rivers.

TERRESTRIAL HABITAT
Terrestrial habitat includes those lands located above freshwater, estuarine, and marine habitats. These areas extend from the level lowlands that border marshes, rivers, etc., to the tops of bluffs, foothills and mountains in Whatcom County.

Plants

Natural plant communities are described in terms of broad vegetation patterns called vegetation zones. Washington plant communities are divided into three major vegetation groupings including:

- forests,
- grasslands and shrub/grass communities, and
- timberline and alpine areas.

Western Whatcom County contains three primary forested vegetation zones: the western hemlock, Pacific silver fir, and mountain hemlock zones. These zones are defined by their elevation which affects temperature and vegetation types.

Much of western Whatcom County is located within the western hemlock zone. This zone is the most extensive vegetation zone in all of western Washington, extending from the Pacific coast to an elevation of about 2,500 feet, and characterized by a mild and generally wet climate.

The western hemlock zone is the major source of commercially harvested coniferous trees including western hemlock, Douglas fir, and western red cedar. Grand fir, western white pine, and lodgepole pine also occur within this zone although on a sporadic basis.

Deciduous tree species, such as red alder, big leaf maple, and paper birch, are generally dominant on lands that have been cleared for urban and agriculture uses in Whatcom County. Black cottonwood, willow, red alder and big-leaf maple, tend to grow along major watercourses.

Understory vegetation in the western hemlock zone varies substantially depending upon soils, wetness, and other environmental factors. Some typical understory species in this zone in Whatcom County include Oregon grape, salal, vine maple, salmonberry, and sword fern.

Development in Whatcom County has substantially reduced terrestrial habitat throughout the years. However, valuable habitat still remains in undeveloped, large native forests. Some wildlife species may feed in more than one type of habitat during the day but retreat for night and seasonal cover into upland wooded areas. Mature forests provide thermal cover during winter months allowing larger game mammals to forage up to 3,000 feet in elevation during normal seasons, or 2,000 feet during especially harsh winters.

Some previously forested portions of the county's low-lying areas are now converted to pastures and meadows which may contain agricultural crops, woody vegetation, grasses, and wildflowers. These areas provide food for migratory waterfowl and deer, habitat for birds and small mammals, and hunting grounds for predators like garter snakes, barn owls, red-tailed hawks, and coyotes.

Many wildlife species can tolerate urban development as long as some adjacent habitat and connecting migration corridors remain undisturbed, and large reserves remain connected by natural migration corridors. These corridors enable species to colonize new areas, forage for food, find mates, and exchange genes with neighboring populations.

Wildlife Species

Special status/priority wildlife species (or particular relationships between species and habitat) that rely on terrestrial habitat in Whatcom County for at least part of the year or part of their life cycle include: bald eagle, golden eagle, marbled murrelet, northern goshawk, northern spotted owl, peregrine falcon, pileated woodpecker, purple martin, Townsend's big-eared bat, Vaux's swift, willow flycatcher, wolverine (very rare), band-tailed pigeon; roosting concentrations of big brown, Myotis and pallid bats; blue grouse, cavity-nesting ducks, regular large concentrations of /migration corridors for Columbian black-tailed deer, regular occurrences of mink and marten, breeding areas and regular concentrations of

mountain goat; and regular concentrations, calving areas, and migration corridors for Roosevelt elk.

OTHER IMPORTANT HABITATS
Whatcom County has a number of other specific habitat types that are critical to wildlife including caves, cliffs, urban natural open space, and snag-rich areas.

A.5 Unique and threatened plant species

The Washington State Department of Natural Resources' Natural Heritage Program has compiled a list of endangered, threatened and otherwise sensitive plant species in Washington State. A list of the known occurrences of rare plants in Whatcom County is provided at the end of this Appendix.

A.6 Wildlife habitat concerns

Marine Habitat
Urban development and forest cutting practices along the shoreline can seriously impact the marine environment by increasing the amount of suspended solids, pollutants, or freshwater entering marine areas. Suspended solids introduced into saltwater can reduce light penetration, increase sediment deposition, increase water temperature, and affect dissolved oxygen and pH balance, thereby affecting all forms of marine habitat.

An increase in turbidity as slight as 1% can reduce light penetration and affect kelp and eelgrass beds. An increase in sedimentation levels can smother eelgrass beds in shallow areas, as can long term exposure to sewage effluent.

Sedimentation created by natural or urban erosion can cover shellfish beds and fish spawning gravel. Shellfish beds can also be contaminated by chemical and bacterial discharge, and viruses created by agriculture practices, failing septic drainfields, sewage outfalls, and stormwater runoff. Some contaminants may not harm shellfish, but may adversely affect birds and other animals that feed on the shellfish.

Toxic contaminants contained within urban stormwater runoff or industrial discharge can poison the marine water column and sediments creating tumors and poisonous concentrations in fish and invertebrate species.

Bulkhead, dock, and other waterfront structures can reduce the natural shoreline and affect the rate of natural beach deposition resulting in loss of vegetation and loss of the shoreline and intertidal habitat that support herring, smelt, and other fish.

Estuarine Habitat
Some estuarine areas have been filled or drained in the past, especially around developed waterfront. The remaining unaltered estuarine areas may be protected by the Shoreline Management Act, which virtually prohibits further alterations.

Among the greatest risks to estuarine areas are contaminants that may enter the saltwater from oil transportation hazards and recreational boating activity and from freshwater by way of general stormwater pollution from agriculture, septic failures, and other degradations. Water quality risks are dramatically increased where land development activities occur along freshwater streams that feed an estuary.

Freshwater Habitat
Some freshwater habitats have been altered in the county by landfill or piped diversions. Past development activities adjacent to urban areas, particularly along the shorelines and waterfronts, have filled valuable wetland habitat areas.

Among the greatest risks to freshwater habitats are contaminants that may enter the stormwater runoff from agriculture, septic failures, and other urban land uses. Water quality risks are also dramatically increased where land development or timber clearing activities increase erosion and siltation, and where vegetation is cleared within the riparian buffer along freshwater corridors.

Development activities most adversely affect the quality of freshwater habitat by removing vegetation, and increasing silt, organic debris, and other stormwater contaminants that enter the natural drainage system. Generally, studies have determined that the hydrological balance of a stream begins to decline when 12% of the watershed becomes impervious.

Terrestrial Habitat

Considerable terrestrial habitat has been permanently lost by the clearing of lands for agriculture and urban land developments. Commercial forest management practices have included replanting clearcuts with single species, thereby reducing wildlife diversity and isolating habitat and migration corridors, particularly along riparian areas.

Fire suppression, particularly of naturally occurring wildfires has reduced the amount and diversity of meadowlands and other open areas necessary for foraging activities.

The greatest risk to the terrestrial habitat, however, is the continued pace of urban land conversions, particularly land development patterns that block or demolish migration corridors, log timbered areas, remove riparian cover, erode productive topsoils, and introduce urban activities - potentially including intense recreational uses - into wildlife areas.

As the most important habitats are isolated, wildlife species decline in diversity and number. Urban tolerant species, like raccoons and crows, invade the remaining habitat from the urban edges, supplanting and driving out many native species.

A.7 Land use implications

Marine, estuarine, freshwater, and terrestrial habitats contribute to the overall biological diversity of the region and provide a number of additional environmental functions and values of interest to Whatcom County residents. Many species depend on the constant interaction of all four of these habitat systems for food, cover, nesting, and other survival requirements.

Impacts on plant, fish, and wildlife habitat can be minimized by sensitive land use patterns, innovative design concepts, and performance oriented development standards that:

- ***replant*** - native vegetation along the shoreline and tidal boundaries, within the estuarine zone, and along drainage corridors,
- ***remove*** - artificial shoreline structures, barriers to the mixing of salt and freshwater, and freshwater impoundments or diversions,
- ***control*** – the content and quality of stormwater runoff that enters freshwater systems and marine and estuarine environments,
- ***cultivate*** – native trees and shrubs that support and retain native species, and
- ***cluster*** – roadways and other improvements to preserve natural shorelines and to provide contiguous open spaces as common lands.

Within a park setting, the most intense park activities must be separated from the most sensitive habitats by creating conservancies, open space corridors, and other protected areas.

This park, recreation, and open space plan seeks to preserve and enhance critical and unique habitat areas by purchasing development rights or title for resource conservancy parks.

A.8 Historical development

Archaeological sites

The arrival of people in the Pacific Northwest cannot be dated with great precision. However, archaeological investigations at the Manis mastodon site near Sequim on the Olympic Peninsula indicate humans were in the area as early as 12,000 years ago.

There are more than 5,000 Native American sites on record in the state, only a few of which have been professionally evaluated. Generally, sites are located at river conjunctions within valleys and along the shoreline. Known sites have been grouped into three rather broad time periods:

- ***early sites*** - approximately 12,000-8,000 years old,
- ***middle-period*** - sites between 8,000-3,000 years old, and
- ***late-period*** - sites about 3,000 years old.

Native American tribes

Many Native American tribes inhabit the Pacific Northwest region with diverse life-styles, languages and traditions. The people who lived in the Puget Lowlands depended largely on seafood—salmon and shellfish, supplemented by berries, roots, and game. The tribes built substantial cedar plank houses, often big enough to house a number of families clustered in villages. Cedar trees also provided transport, in the form of dugout canoes. The local Native American population is estimated to have declined by nearly 90% as a result of smallpox and other epidemics after European settlement.

In Whatcom County, the traditional territories of the Semiahmoo, Lummi, and Samish people center on the marine resources of the Strait of Georgia and Northern Puget Sound. These groups developed reef-net fishing for salmon, and proficient food-preservation techniques. They share language and cultural characteristics with the Saanich First Nation on Vancouver Island. The Nooksack Indian Tribe traditional homeland is located along the main stem and three forks of the Nooksack River. Salmon from spring and fall fish runs has been an important part of life for the Nooksack for thousands of years, centered on the artery of the river.

Treaties with the US Government limited the tribes' territorial extent and established rights to traditional resources. The tribes remain an integral part of the region, with important roles in natural resource management and restoration, as well as contributions to the cultural and economic fabric of the community.

European exploration

The first European exploration of Puget Sound was accomplished in 1792 by British explorer Captain George Vancouver. More detailed mapping was accomplished by Lieutenant Charles Wilkes in 1841. Religious missions and a nominal military presence were established after the 1846 Oregon Treaty established the international boundary.

In 1841, Wilkes sailed two ships for the Oregon Country entering the Strait of Juan de Fuca and anchoring in Port Discovery. The expedition explored the entire Puget Sound region.

City development

Bellingham - In 1852, Henry Roeder and Russell Peabody arrived from California and started the Roeder-Peabody-Page sawmill on Whatcom Creek Waterway to process virgin red cedar and Douglas fir.

By 1854, the towns of Whatcom, Sehome, Bellingham, and Fairhaven were settled around Bellingham Bay; the Washington Territorial Legislature established Whatcom County; and designated the residence of RV Peabody, near the mouth of Whatcom Creek, as the county seat. Whatcom was derived from a Lummi Indian term meaning "noisy, rumbling waters" – a reference to Whatcom Falls.

In 1857, gold was discovered on the Fraser River creating an instant stampede through the Whatcom Creek settlement then north to Sumas to the gold fields. On a peak day, 7 steamers and 13 square-rigged sailing ships anchored at the mouth of the Whatcom Creek Waterway. Soon after, the British government required all miners to clear customs in Victoria then travel by steamboat directly up the Fraser River, bypassing the Bellingham area.

Following the gold rush, the four towns emerged around Bellingham Bay separated from each other by dense forest.

Fairhaven - It developed in earnest in the 1880s in expectation of becoming the western terminus of the Great Northern Railway. The central business district housed 135 brick and commercial block buildings including retail stores and fine mansions. The Panic of 1893 dried up investments in Fairhaven.

Sehome - It developed in 1858 around a vein of coal that angled into the bay at the bottom of Sehome Hill. Coal tailings were dumped at the base of the hill and into the bay until the coal vein ran out in 1878. In 1893, Sehome resident and Washington poet laureate Ella Higginson persuaded officials to locate a state normal school (teachers' college) on the hill above the abandoned mine. The school, which evolved into Western Washington University, occupies the former site of the Higginson home.

Whatcom – The earliest settlement, Whatcom was settled in 1853 by Henry and Elizabeth Roeder, who established a sawmill along Whatcom Creek. Despite the 1858 Fraser River Gold Rush and the boom it brought to the town, Whatcom remained a small and difficult place to do business. The Roeder mill eventually folded and growth was slow. Still, the town built a wharf out across the mudflats in Bellingham Bay and dredged waterways to ease the passage of ships into the harbor. The Whatcom area is now known as Old Town in Bellingham.

Bellingham - The smallest of the bay's settlements, Bellingham began along the base of Sehome Hill at the Pattle coal claim. Although Bellingham proved to be inconsequential and transitory, the other communities chose the name when they decided to overcome rivalry and merge into a single town.

In 1903, the towns of Whatcom, Sehome, Bellingham, and Fairhaven were consolidated into the City of Bellingham. Tideland areas were filled and the Great Northern Railway constructed passenger and freight depots in the Whatcom "Old Town" business district to service the rapidly expanding city.

As Bellingham continued to expand, the business district core gradually moved south onto the hill overlooking Whatcom Creek and Bellingham Bay. Development in the Whatcom "Old Town" business district waned and the district became a specialized waterfront extension of the new downtown and civic center.

Blaine - The Semi-ah-moo Indians occupied Semiahmoo Spit in pre-settlement times and were subject to constant warfare with the Haida and other tribes from Vancouver Island and further north. Blaine was initiated in 1857 by survey crews who camped on the Spit while performing fieldwork to establish the international boundary between the United States and Britain. Some merchants set up stores on the mainland to furnish supplies to the surveyors, providing the nucleus for the town's development.

A year after the survey began gold was discovered on the Fraser River in British Columbia, initiating a rush of miners through the area, some of whom settled on the Spit.

In 1891 a cannery on the Spit processed 36,000 cases of sockeye salmon in a single season attracting the attention of the Alaska Packers Association, who bought the cannery and enlarged it to process the catch from local and northern waters. Several cannery buildings are currently included in the county park holdings at Semiahmoo Spit.

Sumas - The city boomed as a border way station on the Whatcom Trail during the 1858 Fraser River gold rush, and then continued as a railroad town on the Northern Pacific and Milwaukee Road railroad lines thereafter.

East of Sumas, a grassy strip is located between two Boundary Roads, the only physical demarcation of the border. The strip is the remnant of the original 40 foot wide swath that surveyors cleared in the 1800s to identify the boundary. Iron posts and rock cairns were located within the cleared strip to identify the exact location of the boundary line.

Lynden - Phoebe and Holden Judson settled in Lynden in 1871 after paddling upriver by dugout canoe to establish a preemption claim. Logjams blocked the river until 1881, preventing sternwheelers from traveling upriver to Lynden. Early settlers logged the land and built sawmills allowing later settlers to begin farming the rich soil in the 1880s. Lynden attracted immigrants and by the 1890s was the largest Dutch settlement in the state.

Everson and Nooksack - These rivertown communities were established in 1858 when the Whatcom Trail became the route to the Fraser River goldfields. The trail crossed the Nooksack River near Everson at a site called the “upper crossing”.

Deming - The Nooksack Indians occupied the North Fork of the Nooksack River and frequently camped in the Deming area during salmon season. Logging and sawmills replaced the Indian encampments during the 1860s, followed by steamboat landings – Deming being as far upriver as the sternwheelers could navigate, and later by early railroad lines.

Ferndale - In the 1870s, Ferndale was known as the “lower crossing” or “Jam” due to the massive logjams that would block the Nooksack River from upriver travel. Early settlers logged the land and built sawmills. Agriculture was established by Hokan Hovander, a self-taught architect who migrated with his family from Sweden. Hovander’s homestead and early antique farm equipment is part of the county’s Hovander Park.

Ferndale’s isolation ended with the construction of the first highway north in 1884 followed in 1894 by the construction of the Great Northern Railway to Vancouver, British Columbia.

Point Roberts - The US and Canada agreed in 1846 to extend the 49th parallel as the boundary between the two countries. The agreement was made to resolve the 13-year standoff between the United States and Canada over the San Juan Islands. In 1861 the Joint Boundary Survey Commission erected boundary marker Number One, a 19-foot obelisk imported from Scotland, at the western end of the mainland boundary. The obelisk is located in the county’s Monument Park at the corner of Marine Drive and Roosevelt Way.

In 1858 the steamship Commodore anchored off Point Roberts to set ashore California miners headed for the Fraser River goldfields. A few miners lingered to sell whiskey. Although the United States classified the Point as a military reservation, squatters raised cattle and operated fish traps on the Point in the years following.

Lummi Island - Fish traps were set west of Lummi Island in the 1900s and supplied 3 large canneries staffed by hundreds of Chinese, Native American, and white workers. Flat-bottomed reef net barges are still stored on the beach at Legoe Bay when not in use during the Fraser River salmon runs.

A.9 Population and socioeconomic characteristics

Population trends

Whatcom County's population was estimated to be 166,814 persons in 2000 and 174,500 in the year 2005 - equal to an average annual increase of 0.9% per year over the 5 year period. By comparison, Puget Sound increased at an annual average rate of 1.1%, Washington State by 1.3%, and the US by 0.5% during the same period.

According to the Washington State Office of Financial Management (OFM) and Whatcom County's Planning Department, the county's population will increase to 236,837 persons by the year 2022 – or by another 62,337 persons or by 36%. The county's rate of population increase will be equal to an annual average increase of 1.5% to 1.7% compared to 1.2% for Puget Sound, 1.3% for Washington State, and 0.5% for the US over this 15-year time period.

Most of this projected increase will come from the in-migration of households seeking to live, work, and retire within Whatcom County. The projected growth will be significant and will increase demand for park, recreation, and open space resources within the county.

Socioeconomic characteristics – age and household status

In 2000, the US Department of Census compiled demographic statistics on a jurisdictional basis for the entire United States including Washington State, Puget Sound (King, Kitsap, Snohomish, and Pierce Counties), and Whatcom County. The statistical census information has been complied in report format by the Puget Sound Regional Council (PSRC).

According to the statistical findings, the population within Whatcom County in 2000 had age and household characteristics that were significantly different than the averages typical of the nation, state, and region. For example:

- *Average household size* - was 2.51 persons per household in Whatcom County compared with 2.55 in Puget Sound, 2.53 in Washington State, and 2.59 in the United States. Whatcom County households average slightly less members than is common of the surrounding region and state.

- *Percent households in families* – was 64% in Whatcom County compared with 64% in Puget Sound, 66% in Washington State, and 68% in the United States. Whatcom County households are composed proportionately of households consisting of family members that are typical of the surrounding region and state.

- *Median age* - was 34.0 in Whatcom County compared with 35.2 in Puget Sound, 35.3 in Washington State and 35.3 in the United States. Whatcom County attracts a population with a larger proportion of younger age members than is common of the surrounding region due most likely to the presence of Western Washington University (WWU).

- *Population under age 18* – was 25% in Whatcom County compared with 25% in Puget Sound, 26% in Washington State, and 28% in the United States. Whatcom County attracts family households with children and younger age adults in a pattern typical of the surrounding more urban region.

- *Population over age 65* – was 9% in Whatcom County compared with 9% in Snohomish County, 10% in Puget Sound, 11% in Washington State, and 13% in the

United States. Whatcom County has thus far retained a lesser proportion of older age adults than is comparable to the region and state.

- *Percent of all households in families* – was 64% in Whatcom County compared with 64% in Puget Sound, 66% in Washington State, and 68% in the United States. Whatcom County attracts a proportionately more non-family oriented households compared with the region – likely due to the presence of Western Washington University (WWU).

- *Percent of all families headed by a male or female only member* – was 20% in Whatcom County compared with 20% in Puget Sound, 22% in Washington State, and 24% in the United States. Whatcom County attracts a comparable percentage of families headed by a single member compared with the county, region, and state.

- *Percent of non-family households living alone* – was 71% in Whatcom County compared with 49% in Puget Sound, and 77% in Washington State. Whatcom County likely attracts a larger proportion of college age adults living alone than typical of the surrounding region but common of the state.

The statistics indicate Whatcom County has retained somewhat younger family oriented households with slightly fewer children including a significant proportion of young adults living alone than is typical of the surrounding region and state. This household composition will tend to pursue more active recreational activities than typical of the region if this trend prevails.

Education, occupation, and income

- *The percent of persons over the age of 18 without high school diplomas* – was 13% in Whatcom County compared with 10% in Puget Sound, 13% in Washington State, and 20% in the United States. Whatcom County contains a population with an education level more typical of rural than urban areas in spite of the presence of Western Washington University (WWU).

- *The percent of persons over the age 18 with a college degree* – was 34% in Whatcom County compared with 41% in Puget Sound, 45% in Washington State, and 31% in the United States. Whatcom County contains a population with a higher proportion of high school diplomas and some college than of advanced college degrees more typical of urban areas in the state.

- *The percent of persons over the age 16 employed in the civilian labor force* – was 62% in Whatcom County compared with 69% in Puget Sound, 66% in Washington State, and 64% in the United States. Whatcom County contains a college age population with a lower ratio of and requirement for employment than typical of the surrounding region.

- *The percent of employed persons in managerial and professional occupations* – was 32% in Whatcom County compared with 39% in Puget Sound, 36% in Washington State, and 34% in the United States. Persons with these skills may not be able to find employment in Whatcom County or not attracted to live in the area compared with the rest of the region.

- *The percent of employed persons in base or resource and product oriented industries* – was 24% in Whatcom County compared with 21% in Puget Sound, 22% in Washington State, and 23% in the United States – reflecting the skill levels and possibly the type of employment locally available.

- *The percent of employed persons in service oriented industries* – was 76% in Whatcom County compared with 79% in Puget Sound, 78% in Washington State, and 77% in the United States – reflecting the more rural nature of the county's economy at the time of the census.

- *Median household income* – was $40,005 in Whatcom County compared with $51,386 in Puget Sound, $45,776 in Washington State, and $41,994 in the United States. Whatcom County households, with less working members and more resource oriented employment, accumulate less income than typical of the region, state, or nation.

- *Per capita income* – was $20,025 in Whatcom County compared with $26,048 in Puget Sound, $22,973 in Washington State, and $21,587 in the United States. Whatcom County households, with more college attending individuals and more resource oriented employment average less income per person than typical of county, region, state, and nation.

The statistics indicate Whatcom County has attracted a population proportionately more composed of high school graduates with resource oriented job skills, and more non-working college attendees than is typical of the surrounding region. As a result, Whatcom County per capita incomes are and will remain lower than is typical of all comparable areas if this trend continues.

Housing characteristics

- *The percent of owner occupied housing units* – was 63% in Whatcom County compared with 62% in Puget Sound, 65% in Washington State, and 66% in the United States. Whatcom County owner occupied statistics may be lower than the region because Whatcom County includes a larger proportion of college age renters.

- *The percent single family detached units are of all structures* – was 61% in Whatcom County compared with 60% in Puget Sound, 62% in Washington State, and 60% in the United States. Single family units may be the preferred choice of Whatcom County households and/or the past predominant market offering.

- *The percent mobile homes or trailers area of all structures* – was 12% in Whatcom County compared with 5% in Puget Sound, 8% in Washington State, and 8% in the United States. Mobile or manufactured homes on single lots may be the preferred choice of Whatcom County households in rural areas and/or the past predominant market offering.

- *The median value of owner occupied housing units* – was $155,700 in Whatcom County compared with $199,302 in Puget Sound, $168,300 in Washington State, and $119,600 in the United States. Whatcom County has 61% of its housing stock concentrated within the $100-199,999 value ranges compared with 44% in Puget Sound, 49% in Washington State, and 39% in the United States - possibly reflecting the county's older housing units and higher percentage of mobile and manufactured housing stock.

- *The percent of owner occupied housing units paying more than 35% of household income for housing costs* – was 18% in Whatcom County compared with 19% in Puget Sound, 18% in Washington State, and 16% in the United States. Though Whatcom County may have a greater proportion of lower value housing stock in its inventory, housing prices are still higher than household incomes may be reasonably able to afford.

- *The median cost of renter occupied housing units* – was $622 in Whatcom County compared with $660 in Puget Sound, $663 in Washington State, and $602 in the United States. Whatcom County has 26% of its rental stock concentrated below $499 monthly rent compared with 23% in Puget Sound, 23% in Washington State, and 32% in the United States. Whatcom County households may choose to live in less expensive rental housing because such units are readily available in a college town than is typical of the surrounding region and state.

- *The percent of renter occupied housing units paying more than 35% of household income for housing costs* – was 38% in Whatcom County compared with

30% in Puget Sound, 31% in Washington State, and 30% in the United States. Though Whatcom County may have a greater proportion of lower priced rental units in its inventory, housing costs are still higher than household incomes may be reasonably able to afford, particularly college age students.

The statistics indicate Whatcom County households are predominantly housed in owner occupied single family and mobile home units less expensive than the surrounding region, and in lower cost rental units less expensive on average than the surrounding area. Nonetheless, a significant percent of Whatcom County households in owner and renter occupied units are also paying more for housing costs than household incomes may be reasonably able to afford. Whatcom County residents will continue to pay high percentages of their household incomes for housing if this trend continues.

Transportation characteristics

- *Percent that commute to work in car, truck, or van* – was 76% in Whatcom County compared with 84% in Puget Sound, 86% in Washington State, and 88% in the United States – indicating Whatcom County residents are very dependent on automobiles. Approximately 11% in Whatcom County commuted in carpools compared with 13% in Puget Sound, 13% in Washington State, and 12% in the United States.

- *The mean travel time to work in minutes* – was 20.8 minutes in Whatcom County compared with 27.8 minutes in Puget Sound, 25.5 minutes in Washington State, and 25.5 minutes in the United States. Whatcom County households may live closer to work and drive on less congested roadways on average than employees in the region, state, and nation.

The statistics indicate Whatcom County's working population is predominantly commuting to work by vehicles in shorter travel times possibly due to less roadway congestion and closer proximity to job locations than is typical of the region. Whatcom County residents will continue to commute by automobile to local sources of employment if this trend continues.

Conclusion

Based on the year 2000 characteristics, Whatcom County park, recreation, and open space demands would be expected to reflect slightly younger populations interested in more active pursuits requiring less income than would be typical of the park, recreation, and open space demands of the surrounding region, state, and nation.

However, the 36% increase in population projected to occur in the next 15 years may attract a somewhat different, more age, profession, and income balanced population group than has been typical of the county to date. In most respects, this new in-migrant population will be attracted and in turn impact the park, recreation, and open space facilities the county proposes to provide.

Washington Natural Heritage Information System
List of Known Occurrences of Rare Plants in Washington
Whatcom County – August 2005

Scientific Name	Common Name	State Status	Federal Status	Historic Record
Agoseris elata	Tall Agoseris	S		H
Anemone nuttalliana	Pasqueflower	T		H
Aster sibiricus var. meritus	Arctic Aster	S		
Botrychium ascendens	Triangular-lobed Moonwort	S	SC	
Botrychium pedunculosum	Stalked Moonwort	S	SC	
Carex comosa	Bristly Sedge	S		
Carex flava	Yellow Sedge	S		
Carex heteroneura	Different Nerve Sedge	R2		
Carex macrochaeta	Large-awn Sedge	T		
Carex magellanica ssp. irrigua	Poor Sedge	S		
Carex pauciflora	Few-flowered Sedge	S		
Carex pluriflora	Several-flowered Sedge	S		
Carex scirpoidea var. scirpoidea	Canadian Single-spike Sedge	S		H
Carex stylosa	Long-styled Sedge	S		
Chaenactis thompsonii	Thompson's Chaenactis	S		
Cicuta bulbifera	Bulb-bearing Water-hemlock	S		
Cimicifuga elata	Tall Bugbane	S	SC	
Draba aurea	Golden Draba	S		
Eupatorium maculatum var. bruneri	Spotted Joe-pye Weed	X		H
Fritillaria camschatcensis	Black Lily	S		
Gentiana glauca	Glaucous Gentian	S		H
Hypericum majus	Canadian St. John's-wort	S		
Impatiens aurella	Orange Balsam	R2		H
Lobelia dortmanna	Water Lobelia	T		H
Lycopodiella inundata	Bog Clubmoss	S		
Lycopodium dendroideum	Treelike Clubmoss	S		
Nymphaea tetragona	Pygmy Water-lily	X		H
Opuntia fragilis	Brittle Prickly-pear	R1		H
Orthocarpus bracteosus	Rosy Owl-clover	E		H
Platanthera obtusata	Small Northern Bog-orchid	S		
Platanthera sparsiflora	Canyon Bog-orchid	T		
Poa arctica ssp. arctica	Gray's Bluegrass	R2		
Puccinellia nutkaensis	Alaska Alkaligrass	S		H

Scientific Name	Common Name	State Status	Federal Status	Historic Record
Rotala ramosior	Lowland Toothcup	T		H
Salix sessilifolia	Soft-leaved Willow	S		
Saxifraga rivularis	Pygmy Saxifrage	S		
Subularia aquatica	Water Awlwort	R1		H
Utricularia minor	Lesser Bladderwort	R1		

Historic Record
H indicates most recent sighting in the county is before 1977.

State Status
State Status of plant species is determined by the Washington Natural Heritage Program. Factors considered include abundance, occurrence patterns, vulnerability, threats, existing protection, and taxonomic distinctness.
Values include:
E = Endangered - in danger of becoming extinct or extirpated from Washington.
T = Threatened - likely to become Endangered in Washington.
S = Sensitive - vulnerable or declining and could become Endangered or Threatened in the state.
X = Possibly extinct or Extirpated from Washington.
R1 = Review group 1 - of potential concern but needs more field work to assign another rank.
R2 = Review group 2 - of potential concern but with unresolved taxonomic questions.

Federal Status
Federal Status under the U.S. Endangered Species Act (USESA) as published in the Federal Register:
LE = Listed Endangered - in danger of extinction.
LT = Listed Threatened - likely to become endangered.
PE = Proposed Endangered
PT = Proposed Threatened
C = Candidate species - sufficient information exists to support listing as Endangered or Threatened.
SC = Species of Concern - an unofficial status, the species appears to be in jeopardy but insufficient information to support listing.

Source: http://www.dnr.wa.gov/nhp/refdesk/lists/plantsxco/whatcom.html

A.11: WA endangered, threatened, sensitive, candidate, and monitor animal species

Endangered	*common name*	*federal status*
Birds	American White Pelican	
	Brown Pelican	endangered
	Peregrine Falcon	endangered**
	Sandhill Crane	
	Snowy Plover	threatened
	Upland Sandpiper	
	Spotted Owl	threatened
Mammals	Pygmy Rabbit	species of concern
	Sperm Whale	endangered
	Fin Whale	endangered
	Sei Whale	endangered
	Blue Whale	endangered
	Humpback Whale	endangered
	Black Right Whale	endangered
	Gray Wolf	endangered
	Grizzly Bear	threatened
	Fisher	species of concern
	Sea Otter	
	Columbian White-tailed Deer (fe)	endangered
	Woodland Caribou	endangered
Reptiles	Western Pond Turtle	species of concern
	Leatherback Sea Turtle	endangered
Amphibians	Oregon Spotted Frog	candidate
Insects	Oregon Silverspot Butterfly	threatened

Threatened		
Birds	Aleutian Canada Goose	threatened
	Bald Eagle	threatened**
	Ferruginous Hawk	species of concern
	Marbled Murrelet	threatened
	Sage Grouse	species of concern
	Sharp-tailed Grouse	species of concern
Mammals	Western Gray Squirrel	species of concern
	Steller Sea Lion	threatened
	North American Lynx	proposed threatened
Reptiles	Green Sea Turtle	threatened
	Loggerhead Sea Turtle	threatened

Sensitive		
Mammals	Gray Whale	
Fish	Pygmy Whitefish	
	Margined Sculpin	species of concern
Amphibians	Larch Mountain Salamander	species of concern

Candidate		
Birds	Common Loon***	
	Short-tailed Albatross	proposed threatened
	Brandt's Cormorant	
	Northern Groshawk	species of concern
	Golden Eagle	
	Merlin	
	Commn Murre***	
	Cassin's Auklet	
	Tufted Puffin	
	Yellow-billed Cuckoo	
	Flammulated Owl	
	Burrowing Owl	species of concern
	Vaux's Swift	
	Lewis' Woodpecker	
	Whited-headed Woodpecker	
	Black-backed Woodpecker	
	Pileated Woodpecker	
	Loggerhead Shrike	species of concern
	Streaked Horned Lark	

	Purple Martin	
	Slender-billed White-breasted Nuthatch	
	Sage Thrasher	
	Oregon Vesper Sparrow	
	Sage Sparrow	
Mammals	Merriam's Shrew	
	Townsend's Big-eared Bat	species of concern
	Gray-tailed Vole	
	Brush Prairie Pocket Gopher	
	Western Pocket Gopher	species of concern
	Washington Ground Squirre	species of concern
	Wolverine	species of concern
	Pacific Harbor Porpoise	
Reptiles	Sharp-tailed Snake	
	California Mountain Kingsnake	
	Striped Whipsnake	
Amphibians	Dunn's Salamander	
	Van Dyke's Salamander	species of concern
	Columbian Torrent Salamander	species of concern
	Cascade Torrent Salamander	
	Western Toad	
	Columbian Spotted Frog	species of concern
	Northern Leopard Frog***	
Beetles	Beller's Ground Beetle	species of concern
	Columbian River Tiger Beetle	
	Hatch's Click Beetle	species of concern
	Long-horned Leaf Bettle	
Butterflies	Mardon Skipper***	species of concern
	Yuma Skipper	
	Shepard's Parnassian	
	Makah Copper	
	Chinquapin Haristreak***	
	Johnson's Hairstreak	
	Juniper Hairstreak	
	Puget Blue	
	Valley Silverspot	
	Silver-bordered Fritillary	
	Whulge Checkerspot	
	Great Artic	
Fish	Olympic Mudminnow***	
	Mountain Sucker	
	Lake Chub	
	Leopard Dace	
	Umatilla Dace	
	River Lamprey	species of concern
	Herring	candidate*
	Cherry Point	candidate
	Discovery Bay	candidate
	Euchalon (Columbia River Smelt)	
	Pacific Cod	candidate*
	South/Central Puget Sound	candidate
	Walleye Pollock	candidate*
	South Puget Sound	candidate
	Pacific Hake (Whiting)	candidate*
	Central Puget Sound/Port Susan	candidate
	Black Rockfish*	
	Brown Rockfish*	candidate*
	Copper Rockfish*	candidate*
	Quillback Rockfish*	candidate*
	Tiger Rockfish*	
	Bocaccio Rockfish*	
	Canary Rockfish*	
	Yelloweye Rockfish*	
	Yellowtail Rockfish*	
	Greenstriped Rockfish*	
	Widow Rockfish*	
	Redstripe Rockfish*	

	China Rockfish*	
	Chinook Salmon	
	Snake River Fall	threatened
	Snake River Spring/Summer	threatened
	Puget Sound	threatened
	Upper Columbia Spring	endangered
	Lower Columbia	threatened
	Chum Salmon	
	Hood Canal Summer	threatened
	Strait Juan de Fuca	threatened
	Columbia River	threatened
	Sockeye Salmon	
	Snake River	endangered
	Ozette lake	threatened
	Steelhead	
	Snake River	threatened
	Upper Columbia	endangered
	Middle Columbia	threatened
	Lower Columbia	threatened
	Bull Trout	
	Columbia River	threatened
Mollusks	Giant Columbia River Limpet	
	Great Columbia River Spire Snail	species of concern
	Newcomb's Littorine Snail	species of concern
	California Floater	species of concern
	Northern Abalone	
	Olympia Oyster	

Not state candidates

Fish	Coho Salmon	
	Puget Sound/Strait of Georgia	candidate
	Lower Columbia/SW Washington	candidate
	Coastal Cutthroat Trout	
	SW Washington/Columbia River	proposed threatened
	Bull Trout	
	Coastal/Puget Sound	proposed threatened

* Candidates only within Puget Sound, San Juan Islands, Strait of Juan de Fuca east of Sekiu River
** Status under review.
*** Listing currently under review.

Endangered = any wildlife species to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state - WAC 232-12-014

Threatened = any wildlife species native to the state of Washington that is likely to become endangered within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats - WAC 232-12-011.

Sensitive = any wildlife species native to the state of Washington that is vulnerable or declining and is likely to become endangered or threatened in a significant portion of its range within the state without cooperative management or removal of threats - WAC 232-12-011.

Source: Washington State Department of Fish & Wildlife, 6 July 199

A.12: Population projections by nation, state, region, county

Update 28 June 2004

	United States	Washington State	Puget Sound (King/Kitsap/Pierce/Snohomish	Whatcom County	Bellingham (1903)	UGA	Blaine (1890)	Everson (1929)	Ferndale (1907)	Lynden (1891)	Nooksack (1888)	Sumas 1
Historical												
1900	76,094,000	518,100	196,285	24,116	11,062		1,592			365		319
1910	92,407,000	1,142,000	492,306	49,511	24,298		2,289		691	1,148		902
1920	106,466,000	1,356,600	634,254	50,600	25,585		2,254		759	1,244	283	854
1930	123,077,000	1,563,400	736,996	59,128	30,823		1,642	295	752	1,564	293	647
1940	132,594,000	1,736,200	820,202	60,355	29,314		1,524	292	717	1,696	302	650
1950	152,271,000	2,379,000	1,196,172	66,733	34,112		1,693	345	979	2,161	323	658
1960	180,671,000	2,853,200	1,512,979	70,317	34,668		1,735	431	1,442	2,542	318	629
1970	204,879,000	3,413,300	1,938,899	81,983	39,375		1,955	633	2,164	2,808	322	722
1980	226,500,000	4,132,200	2,240,269	106,700	45,794		2,363	898	3,855	4,028	429	712
1990	250,410,000	4,866,663	2,748,895	127,780	52,179		2,489	1,490	5,398	5,709	584	744
2000	268,266,000	5,894,121	3,275,847	166,814	67,171	78,040	3,770	2,035	8,758	9,020	851	978
2002					69,620	81,454	4,959	2,321	10,396	10,186	997	1,032
Projections												
2005	275,604,000	6,291,772	3,454,780	174,500	70,503		4,025	2,030	9,155	9,740	902	1,002
2007				187,980		88,565						
2010	282,575,000	6,693,329	3,660,179		75,845							
2012				202,562		95,756						
2015	288,997,000	7,142,148	3,888,572		83,740							
2017				219,998		102,866						
2020	294,364,000	7,610,090	4,122,117									
2022				236,837	113,055	113,055	7,942	3,912	17,322	16,900	1,881	1,669
Average annual rate of growth												
1900-1910	2.0%	8.2%	9.6%	7.5%	8.2%		3.7%			12.1%		11.0%
1910-1920	1.4%	1.7%	2.6%	0.2%	0.5%		-0.2%		0.9%	0.8%		-0.5%
1920-1930	1.5%	1.4%	1.5%	1.6%	1.9%		-3.1%		-0.1%	2.3%	0.3%	-2.7%
1930-1940	0.7%	1.1%	1.1%	0.2%	-0.5%		-0.7%	-0.1%	-0.5%	0.8%	0.3%	0.0%
1940-1950	1.4%	3.2%	3.8%	1.0%	1.5%		1.1%	1.7%	3.2%	2.5%	0.7%	0.1%
1950-1960	1.7%	1.8%	2.4%	0.5%	0.2%		0.2%	2.3%	3.9%	1.6%	-0.2%	-0.4%
1960-1970	1.3%	1.8%	2.5%	1.5%	1.3%		1.2%	3.9%	4.1%	1.0%	0.1%	1.4%
1970-1980	1.0%	1.9%	1.5%	2.7%	1.5%		1.9%	3.6%	5.9%	3.7%	2.9%	-0.1%
1980-1990	1.0%	1.6%	2.1%	1.8%	1.3%		0.5%	5.2%	3.4%	3.5%	3.1%	0.4%
1990-2000	0.7%	1.9%	1.8%	2.7%	2.6%		4.2%	3.2%	5.0%	4.7%	3.8%	2.8%
2000-2002					1.8%	2.2%	14.7%	6.8%	9.0%	6.3%	8.2%	2.7%
Projected average annual rate												
2000-2005	0.5%	1.3%	1.1%	0.9%	1.0%		1.3%	0.0%	0.9%	1.5%	1.2%	0.5%
2002-2007						1.7%						
2005-2010	0.5%	1.2%	1.2%		1.5%							
2207-2012				1.5%		1.6%						
2010-2015	0.5%	1.3%	1.2%		2.0%							
2012-2017				1.7%		1.4%						
2015-2020	0.4%	1.3%	1.2%									
2017-2022				1.5%		1.9%						

US Bureau of the Census, Current Population Reports, Series P-25, Number 1018, Mid Series 14:
fertility=1.8 births/woman, mortality=81.2 years, 500,000 yearly net immigration.
Washington State, Office of Financial Management, Population Trends for Washington State
Washington State Data Book, Office of Financial Management, Mid series
Whatcom County Planning Department - 2002 estimates
Bellingham Planning Department, ECONorthwest forecast for urban growth area, 2002, Mid series

A.13: Socioeconomic characteristics
Age and household status

	United States	Washington State	Puget Sound	Whatcom County
Persons	281,421,906	5,894,121	3,275,847	166,814
Households	105,480,101	2,271,398	1,283,491	64,446
Average household size	2.59	2.53	2.55	2.51
Families	71,787,347	1,499,127	825,489	41,094
Percent households in families	68%	66%	64%	64%
Age by sex				
0- 4	19,175,798	394,306	212,666	10,210
5- 9	20,549,505	425,909	230,195	11,312
10-14	20,528,072	434,836	234,375	11,707
15-19	20,219,890	427,968	217,664	13,946
20-24	18,964,001	390,185	212,868	16,776
25-34	39,891,724	841,130	513,143	21,429
35-44	45,148,527	975,087	586,160	24,418
45-54	37,677,952	845,972	474,784	24,018
55-59	13,469,237	285,505	153,259	7,819
60-64	10,805,447	211,075	108,778	5,779
65-74	18,390,986	337,166	169,197	9,833
75-84	12,361,180	240,897	122,153	6,985
85+	4,239,587	84,085	41,632	2,582
Median age	35.3	35.3	35.2	34.0
Percent under 18	26%	26%	25%	55%
Percent 65+	12%	11%	10%	9%
Family household	71,787,347	1,499,127	825,489	41,094
Percent of all households	68%	66%	64%	64%
married couple	24,835,505	541,636	314,430	33,025
married couple w/related child	29,657,727	640,359	339,821	14,423
male only	2,190,989	53,925	27,661	2,400
male only w/related child	2,203,023	38,589	22,171	1,379
female only	7,561,874	146,920	77,952	5,669
female only w/related child	5,338,229	77,698	43,454	3,806
Non-family households	33,692,754	772,271	458,002	23,352
Percent of all households	32%	34%	36%	36%
living alone		594,325	225,355	16,491
over 65		184,924	232,647	5,429
Total households	105,480,101	2,271,398	1,283,491	64,446
Residence in 1995				
same house in 1995		2,675,514	1,453,020	70,994
different house in same county		1,511,065	876,483	43,766
different house in same state		520,757	261,882	21,932
elsewhere		175,667	116,768	4,437
Population age 5+		5,501,398	3,063,181	156,441

Source: 2000 Census of Population & Housing, Puget Sound Regional Council

Age and household status

	United States	Washington State	Puget Sound	Whatcom County
Persons	281,421,906	5,894,121	3,275,847	166,814
Households	105,480,101	2,271,398	1,283,491	64,446
Average household size	2.59	2.53	2.55	2.51
Families	71,787,347	1,499,127	825,489	41,094
Percent households in families	68%	66%	64%	64%
Age by sex				
0- 4	7%	7%	6%	6%
5- 9	7%	7%	7%	7%
10-14	7%	7%	7%	7%
15-19	7%	7%	7%	7%
20-24	7%	7%	6%	8%
25-34	14%	14%	16%	10%
35-44	16%	17%	18%	13%
45-54	13%	14%	14%	15%
55-59	5%	5%	5%	14%
60-64	4%	4%	3%	5%
65-74	7%	6%	5%	3%
75-84	4%	4%	4%	6%
85+	2%	1%	1%	4%
Median age	35.3	35.3	35.2	34.0
Percent under 18	26%	26%	25%	55%
Percent 65+	12%	11%	10%	9%
Family household	71,787,347	1,499,127	825,489	41,094
Percent of all households	68%	66%	64%	64%
married couple	35%	36%	38%	80%
married couple w/related child	41%	43%	41%	35%
male only	3%	4%	3%	6%
male only w/related child	3%	3%	3%	3%
female only	11%	10%	9%	14%
female only w/related child	7%	5%	5%	9%
Non-family households	33,692,754	772,271	458,002	23,352
Percent of all households	32%	34%	36%	36%
living alone	0%	77%	49%	71%
over 65	0%	24%	51%	23%
Total households	105,480,101	2,271,398	1,283,491	64,446
Residence in 1995				
same house in 1995		49%	47%	45%
different house in same county		27%	29%	28%
different house in same state		9%	9%	14%
elsewhere		3%	4%	3%
Population age 5+		100%	100%	100%

Source: 2000 Census of Population & Housing, Puget Sound Regional Council

Education, occupation, and income

Educational attainment (age 25+ yrs	United States	Washington State	Puget Sound	Whatcom County
less than 9th grade	13,755,477	165,205	68,923	4,032
9th-12th grade, no diploma	21,960,148	329,131	160,740	8,820
high school graduate	52,168,981	953,544	498,336	28,344
some college, no degree	38,351,595	1,010,801	568,323	26,208
associate degree	11,512,833	307,401	173,901	7,395
bachelors degree	28,317,792	704,826	470,518	18,822
graduate or professional degree	16,144,813	356,599	228,365	9,166
Total	182,211,639	3,827,507	2,169,106	102,787
Total population	281,421,906	5,894,121	3,275,847	166,814
Total persons 16 years+	217,168,077	4,553,591	2,556,228	131,195
total in labor force	138,820,935	3,027,734	1,765,032	87,365
total civilian employed	137,668,798	2,979,824	1,730,922	80,773
total in armed forces	1,152,137	47,910	34,110	156
Occupation				
managerial, professional	43,646,731	993,198	633,797	25,445
service occupations	19,276,947	416,056	228,620	13,331
sales and office operations	34,621,390	723,256	434,126	21,252
faming, fishing, and forestry	951,810	43,495	6,305	1,654
construction, extraction, mainter	12,256,138	263,767	148,841	8,155
production, transportation	18,968,496	353,950	191,871	10,936
Industry	129,721,512	2,793,722	1,643,560	80,773
agriculture, forestry, fishing, min	2,426,053	68,976	10,810	2,662
construction	8,801,507	194,871	111,785	6,754
manufacturing	18,286,005	348,646	220,478	9,807
subtotal base industries	29,513,565	612,493	343,073	19,223
wholesale trade	4,666,757	113,526	66,476	2,803
retail trade	15,221,716	338,772	201,113	11,595
transportation, warehouse, utiliti	6,740,102	150,985	90,038	3,200
information	3,996,564	95,669	71,796	1,617
finance, insurance, real estate	8,934,972	170,622	112,899	3,917
professional, scientific, managem	12,061,865	272,466	183,414	6,569
education, health, and social serv	25,843,029	541,214	298,412	16,849
arts, enterainment, recreation	10,210,295	221,656	128,696	7,754
other services	6,320,632	135,379	77,791	4,373
public administration	6,212,015	140,940	69,852	2,873
subtotal service industries	100,207,947	2,181,229	1,300,487	61,550
total industries	129,721,512	2,793,722	1,643,560	80,773
Median household income	$41,994	$45,776	$51,386	$40,005
Median family income	$50,046	$53,760	$60,943	$49,325
Per capita income	$21,587	$22,973	$26,048	$20,025
Household (family/nonfamily) income				
$ 0- 9,999	10,067,027	171,863	85,287	6,281
$ 10- 14,999	6,657,228	124,848	59,166	4,344
$ 15- 24,999	13,536,965	265,131	131,261	8,911
$ 25- 34,999	13,519,242	284,630	151,371	8,614
$ 35- 49,999	17,446,272	389,434	212,413	11,599
$ 50- 74,999	20,540,604	486,392	280,715	13,003
$ 75- 99,999	10,799,245	264,498	167,416	5,955
$ 100-149,999	8,147,826	188,513	126,729	3,703
$ 150-199,999	2,322,038	47,615	33,535	1,016
$ 200,000+	2,502,675	49,337	35,598	1,038
Total	105,539,122	2,272,261	1,283,491	64,464

Source: 2000 Census of Population & Housing, Puget Sound Regional Council

Education, occupation, and income

Education (persons 18 years+)	United States	Washington State	Puget Sound	Whatcom County
less than 9th grade	8%	4%	3%	4%
9th-12th grade, no diploma	12%	9%	7%	9%
high school graduate	29%	25%	23%	28%
some college, no degree	21%	26%	26%	25%
associate degree	6%	8%	8%	7%
bachelors degree	16%	18%	22%	18%
graduate or professional degree	9%	9%	11%	9%
Total	182,211,639	3,827,507	2,169,106	102,787
Total population	281,421,906	5,894,121	3,275,847	166,814
Total persons 16 years+	217,168,077	4,553,591	2,556,228	131,195
total in labor force	64%	66%	69%	67%
total civilian employed	63%	65%	68%	62%
total in armed forces	1%	1%	1%	0%
Occupation				
managerial, professional	34%	36%	39%	32%
service occupations	15%	15%	14%	17%
sales and office operations	27%	26%	26%	26%
faming, fishing, and forestry	1%	2%	0%	2%
construction, extraction, mainter	9%	9%	9%	10%
production, transportation	15%	13%	12%	14%
Industry	129,721,512	2,793,722	1,643,560	80,773
agriculture, forestry, fishing, min	2%	2%	1%	3%
construction	7%	7%	7%	8%
manufacturing	14%	12%	13%	12%
subtotal base industries	23%	22%	21%	24%
wholesale trade	4%	4%	4%	3%
retail trade	12%	12%	12%	14%
transportation, warehouse, utiliti	5%	5%	5%	4%
information	3%	3%	4%	2%
finance, insurance, real estate	7%	6%	7%	5%
professional, scientific, managem	9%	10%	11%	8%
education, health, and social serv	20%	19%	18%	21%
arts, enterainment, recreation	8%	8%	8%	10%
other services	5%	5%	5%	5%
public administration	5%	5%	4%	4%
subtotal services industries	77%	78%	79%	76%
total industries	129,721,512	2,793,722	1,643,560	80,773
Median household income	$41,994	$45,776	$51,386	$40,005
Median family income	$50,046	$53,760	$60,943	$49,325
Per capita income	$21,587	$22,973	$26,048	$20,025
Family/nonfamily household income				
$ 0- 9,999	10%	8%	7%	10%
$ 10- 14,999	6%	5%	5%	7%
$ 15- 24,999	13%	12%	10%	14%
$ 25- 34,999	13%	13%	12%	13%
$ 35- 49,999	17%	17%	17%	18%
$ 50- 74,999	19%	21%	22%	20%
$ 75- 99,999	10%	12%	13%	9%
$ 100-149,999	8%	8%	10%	6%
$ 150-199,999	2%	2%	3%	2%
$ 200,000+	2%	2%	3%	2%
Total	105,539,122	2,272,261	1,283,491	64,464

Source: 2000 Census of Population & Housing, Puget Sound Regional Council

Housing characteristics

	United States	Washington State	Puget Sound	Whatcom County
Total housing units	115,904,641	2,451,075	1,348,146	73,839
Occupied housing units	105,480,101	2,271,398	1,282,984	64,446
percent owner occupied	66%	65%	62%	63%
percent rentor occupied	34%	35%	38%	37%
Units in structure				
1, detached	69,865,957	1,527,867	806,225	45,177
1, attached	6,447,453	75,807	47,105	2,006
2	4,995,350	68,836	33,392	2,234
3 or 4	5,494,280	92,243	54,893	3,022
5-9	5,414,988	112,031	77,339	2,664
10-19	4,636,717	125,087	92,471	3,891
20+	10,008,058	228,720	166,035	5,364
mobile home/trailer	8,779,228	207,861	66,622	8,512
boat, rv, van, etc.	262,610	12,623	4,064	1,023
Total	115,904,641	2,451,075	1,348,146	73,893
Value (owner-occupied units)				
$ 0- 49,999	5,457,817	19,062	4,733	312
$ 50- 99,999	16,778,971	155,140	34,326	2,980
$ 100-149,999	13,110,384	296,818	126,910	10,666
$ 150-199,999	8,075,904	265,104	167,379	7,933
$ 200-299,999	6,583,049	247,284	184,544	5,206
$ 300-499,999	3,584,108	128,147	104,850	2,456
$ 500-999,999	1,308,116	38,523	33,100	595
$1,000,000+	313,759	7,384	6,416	64
Total	55,212,108	1,157,462	662,258	30,212
Median value	$119,600	$168,300	$199,302	$155,700
Monthly owner costs as % of household income in 1999				
less than 15%	20,165,963	351,194	183,146	9,022
15.0-19.9%	9,661,469	191,738	109,314	4,695
20.0-24.9%	7,688,019	177,087	104,001	4,977
25.0-29.9%	5,210,523	132,297	80,504	3,360
30.0-34.9%	3,325,083	88,460	54,681	2,354
35.0+%	8,719,648	209,945	127,315	5,508
Not computed	441,403	6,741	3,297	296
Total	55,212,108	1,157,462	662,258	30,212
Rent (renter-occupied units)				
$ 0- 200	1,844,181	31,180	21,930	785
$ 200- 299	1,818,764	26,850	12,134	882
$ 300- 499	7,739,515	130,788	72,747	4,450
$ 500- 749	11,860,298	289,892	192,003	9,515
$ 750- 999	6,045,173	171,787	105,973	4,235
$ 1,000-1,499	3,054,099	87,199	46,282	1,887
$ 1,500+	1,024,296	24,252	13,769	521
No cash rent	1,813,176	33,575	14,702	803
Total	35,199,502	795,523	479,540	23,078
Median rent	$602	$663	$660	$622
Gross rent as % of household income in 1999				
less than 15%	6,370,263	120,221	71,939	3,004
15.0-19.9%	5,037,981	115,555	72,429	2,747
20.0-24.9%	4,498,604	110,719	70,762	2,964
25.0-29.9%	3,666,233	91,271	57,333	2,295
30.0-34.9%	2,585,327	66,114	41,408	2,062
35.0+%	10,383,959	244,942	142,890	8,791
Not computed	2,657,135	46,701	22,779	1,215
Total	35,199,502	795,523	479,540	23,078

Source: 2000 Census of Population & Housing, Puget Sound Regional Council

Housing characteristics

	United States	Washington State	Puget Sound	Whatcom County
Total housing units	115,904,641	2,451,075	1,348,146	73,839
Occupied housing units	105,480,101	2,271,398	1,282,984	64,446
percent owner occupied	66%	65%	62%	63%
percent rentor occupied	34%	35%	38%	37%
Units in structure				
1, detached	60%	62%	60%	61%
1, attached	6%	3%	3%	3%
2	4%	3%	2%	3%
3 or 4	5%	4%	4%	4%
5-9	5%	5%	6%	4%
10-19	4%	5%	7%	5%
20+	9%	9%	12%	7%
mobile home/trailer	8%	8%	5%	12%
other	0%	1%	0%	1%
Total	115,904,641	2,451,075	1,348,146	73,893
Value (owner-occupied units)				
$ 0- 49,999	10%	2%	1%	1%
$ 50- 99,999	30%	13%	5%	10%
$ 100-149,999	24%	26%	19%	35%
$ 150-199,999	15%	23%	25%	26%
$ 200-299,999	12%	21%	28%	17%
$ 300-499,999	6%	11%	16%	8%
$ 500-999,999	2%	3%	5%	2%
$1,000,000+	1%	1%	1%	0%
Total	55,212,108	1,157,462	662,258	30,212
Median value	$119,600	$168,300	$199,302	$155,700
Monthly owner costs as % of household income in 1999				
less than 15%	37%	30%	28%	30%
15.0-19.9%	17%	17%	17%	16%
20.0-24.9%	14%	15%	16%	16%
25.0-29.9%	9%	11%	12%	11%
30.0-34.9%	6%	8%	8%	8%
35.0+%	16%	18%	19%	18%
Not computed	1%	1%	0%	1%
Total	55,212,108	1,157,462	662,258	30,212
Rent (renter-occupied units)				
$ 0- 200	5%	4%	5%	3%
$ 200- 299	5%	3%	3%	4%
$ 300- 499	22%	16%	15%	19%
$ 500- 749	34%	36%	40%	41%
$ 750- 999	17%	22%	22%	18%
$ 1,000-1,499	9%	11%	10%	8%
$ 1,500+	3%	3%	3%	2%
No cash rent	5%	4%	3%	3%
Total	35,199,502	795,523	479,540	23,078
Median rent	$602	$663	$660	$622
Gross rent as % of household income in 1999				
less than 15%	18%	15%	15%	13%
15.0-19.9%	14%	15%	15%	12%
20.0-24.9%	13%	14%	15%	13%
25.0-29.9%	10%	11%	12%	10%
30.0-34.9%	7%	8%	9%	9%
35.0+%	30%	31%	30%	38%
Not computed	8%	6%	5%	5%
Total	35,199,502	795,523	479,540	23,078

Source: 2000 Census of Population & Housing, Puget Sound Regional Council

Transportation characteristics

	United States	Washington State	Puget Sound	Whatcom County
Workers 16 years and older	128,279,228	2,785,479	1,642,700	79,263
Commute to work				
car, truck, or van - drove alone	97,102,050	2,040,833	1,170,438	60,125
car, truck, or van - carpooled	15,634,051	357,742	210,377	8,385
public transportation (including t	6,067,703	136,278	117,020	1,591
walked	3,758,982	89,739	52,261	3,287
other means	1,532,219	40,057	23,669	1,877
worked at home	4,184,223	120,830	68,935	3,998
Total	128,279,228	2,785,479	1,642,700	79,263
Mean travel time to work in minu	25.5	25.5	27.8	20.8
Private vehicle occupancy				
Car, truck or van				
drove alone	97,102,050	2,040,833	1,170,438	
Carpooled				
in 2-person carpool	12,097,346	282,638	168,259	
in 3-person carpool	2,159,151	44,791	24,796	
in 4-person carpool	766,012	14,195	7,594	
in 5-6-person carpool	372,501	7,914	4,421	
in 7-person or more carpool	239,041	8,204	5,307	
Other means	15,543,127	386,904	261,885	
Total	128,279,228	2,785,479	1,642,700	
Vehicles per household (owner and renter)				
0 vehicle	unavailable	168,376	101,399	
1 vehicle	unavailable	720,922	423,032	
2 vehicles	unavailable	849,011	500,463	
3 vehicles	unavailable	343,125	183,084	
4 vehicles	unavailable	99,996	51,798	
5 or more vehicles	unavailable	44,968	23,208	
Total		2,226,398	1,282,984	
Average number of vehicles available		1.9	1.8	
Place of work				
Living in a central city			520,282	
worked in MSA/PMSA of residence			483,641	
central city			361,113	
remainder of this MSA/PMSA			122,528	
worked outside MSA/PMSA of residence			36,641	
worked in a different MSA/PMSA of residence			33,842	
central city			14,676	
remainder of different MSA/PMSA of residence			19,166	
worked outside any MSA/PMSA			2,799	
Living in remainder of an MSA/PMSA			1,122,418	
worked in MSA/PMSA of residence			1,000,095	
central city			358,771	
remainder of this MSA/PMSA			641,324	
worked outside MSA/PMSA of residence			122,323	
worked in a different MSA/PMSA			113,963	
central city			44,764	
remainder of different MSA/PMSA			69,199	
worked outside any MSA/PMSA			8,360	
Total			1,642,700	

Source: 2000 Census of Population & Housing, Puget Sound Regional Council

Transportation characteristics

	United States	Washington State	Puget Sound	Whatcom County
Workers 16 years and older	128,279,228	2,785,479	1,642,700	79,263
Commute to work				
car, truck, or van - drove alone	76%	73%	71%	76%
car, truck, or van - carpooled	12%	13%	13%	11%
public transportation (including t	5%	5%	7%	2%
walked	3%	3%	3%	4%
other means	1%	1%	1%	2%
worked at home	3%	4%	4%	5%
Total	128,279,228	2,785,479	1,642,700	79,263
Mean travel time to work in minu	25.5	25.5	27.8	20.8
Private vehicle occupancy				
Car, truck or van				
drove alone	76%	73%	71%	
Carpooled				
in 2-person carpool	9%	10%	10%	
in 3-person carpool	2%	2%	2%	
in 4-person carpool	1%	1%	0%	
in 5-6-person carpool	0%	0%	0%	
in 7-person or more carpool	0%	0%	0%	
Other means	12%	14%	16%	
	128,279,228	2,785,479	1,642,700	
Vehicles per household (owner and renter)				
0 vehicle		8%	8%	
1 vehicle		32%	33%	
2 vehicles		38%	39%	
3 vehicles		15%	14%	
4 vehicles		4%	4%	
5 or more vehicles		2%	2%	
Total	0	2,226,398	1,282,984	
Average number of vehicles availabl	0.0	1.9	1.8	
Place of work				
Living in a central city			32%	
worked in MSA/PMSA of residence			29%	
central city			22%	
remainder of this MSA/PMSA			7%	
worked outside MSA/PMSA of residence			2%	
worked in a different MSA/PMSA of residence			2%	
central city			1%	
remainder of different MSA/PMSA of residence			1%	
worked outside any MSA/PMSA			0%	
Living in remainder of an MSA/PMSA			68%	
worked in MSA/PMSA of residence			61%	
central city			22%	
remainder of this MSA/PMSA			39%	
worked outside MSA/PMSA of residence			7%	
worked in a different MSA/PMSA			7%	
central city			3%	
remainder of different MSA/PMSA			4%	
worked outside any MSA/PMSA			1%	
			1,642,700	

Source: 2000 Census of Population & Housing, Puget Sound Regional Council