

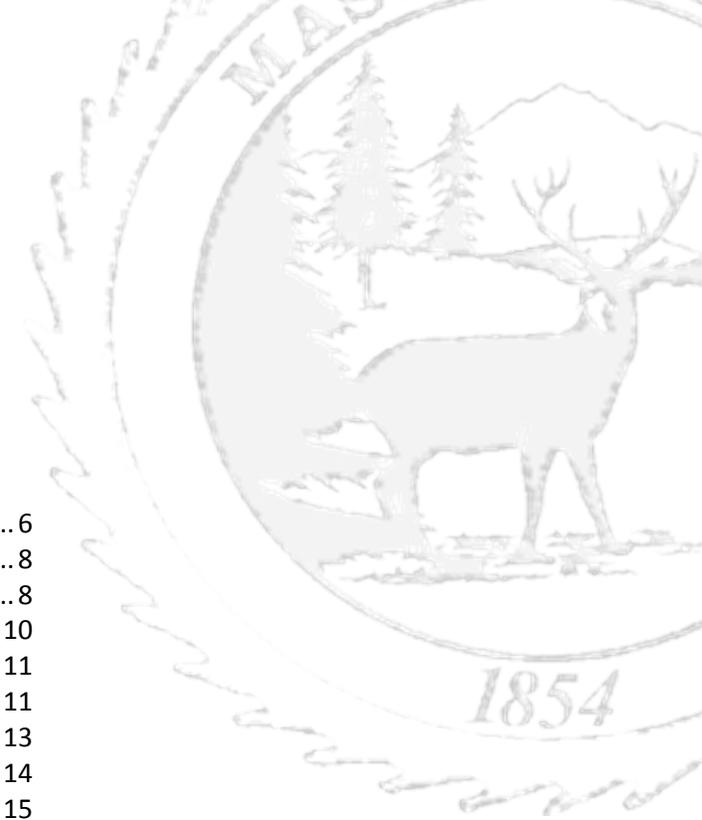


CHAPTER 3 - LAND USE ELEMENT

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I. INTRODUCTION

Washington State’s Growth Management Act (RCW 36.70A) is a series of state statutes that were first adopted in 1990, that require growing cities and counties to develop a Comprehensive Plan that will help ensure municipal services and infrastructure are planned in a way that support projected population and housing growth while maintaining the quality of life Washington is known for. It is primarily codified under [Chapter 36.70A RCW](#), although it has been amended and added to in several other parts of the RCW.

The Land Use Element of a Comprehensive Plan is the central document required by the Growth Management Act that directs land use patterns and guides land use decisions within Mason County. This element provides the basis for the Housing, Parks, Transportation, Utility, Transportation, Economic Development, and Capital Facility Plans because it identifies the proposed distribution of land uses and addresses other concerns such as the protection of groundwater quality and quantity, drainage, flooding, and storm water run-off and potential mitigation measures.

The Growth Management Act specifies:

“A land use element designating the proposed general distribution and general location and extent of the uses of land, where appropriate, for agriculture, timber production, housing, commerce, industry, recreation, open spaces, general aviation airports, public utilities, public facilities, and other land uses. The land use element shall include population densities, building intensities, and estimates of future population growth. The land use element shall

provide for protection of the quality and quantity of groundwater used for public water supplies. Wherever possible, the land use element should consider utilizing urban planning approaches that promote physical activity. Where applicable, the land use element shall review drainage, flooding, and storm water run-off in the area and nearby jurisdictions and provide guidance for corrective actions to mitigate or cleanse those discharges that pollute waters of the state, including Puget Sound or waters entering Puget Sound.”

The Land Use Element of Mason County’s Comprehensive Plan identifies the existing land use conditions throughout Mason County, projects the land requirements to the year 2036 to meet projected population growth, and determines how that growth should be most cost effectively accommodated. It is organized into the following four sections:

- **INTRODUCTION:** The Growth Management Act – the reason for the Land Use Element
- **POPULATION:** The twenty (20) year projected population growth the County will accommodate
- **EXISTING LAND USE:** The buildable lands analysis and existing zoning and demographics for the Urban Growth Areas and Rural Mason County
- **FUTURE LAND USE PLAN:** The population growth distribution throughout the County and plan for protection of critical areas, natural resource lands, historic and cultural resources, and more.

II. POPULATION

The Mason County Comprehensive Plan was developed based on both historical trends and future projections of Mason County's population. Using this information, future development demands and appropriate ways to manage land use in the county were developed.

The population projections used were prepared by the Washington State Office Financial Management in August of 2012. Additionally, the City of Shelton prepared a detailed population forecast. Mason County is required to use these population projections shown in Table 1 as a basis for developing the County's Comprehensive Plan and across all elements of the Plan.

The State Office of Financial Management projections coupled with the Shelton forecast show that the total population for Mason County will be 83,800 by 2036. This means an increase in the total population of the county by 19,300 people, or 31 percent over the 20-year period from 2016 to 2036. While an increase in population this large sounds remarkable, the historic population growth in Mason County in the 20 years from 1980 to 2000 was 58 percent. In the last thirteen years, from 2000 to 2014, the population grew an additional 28 percent.

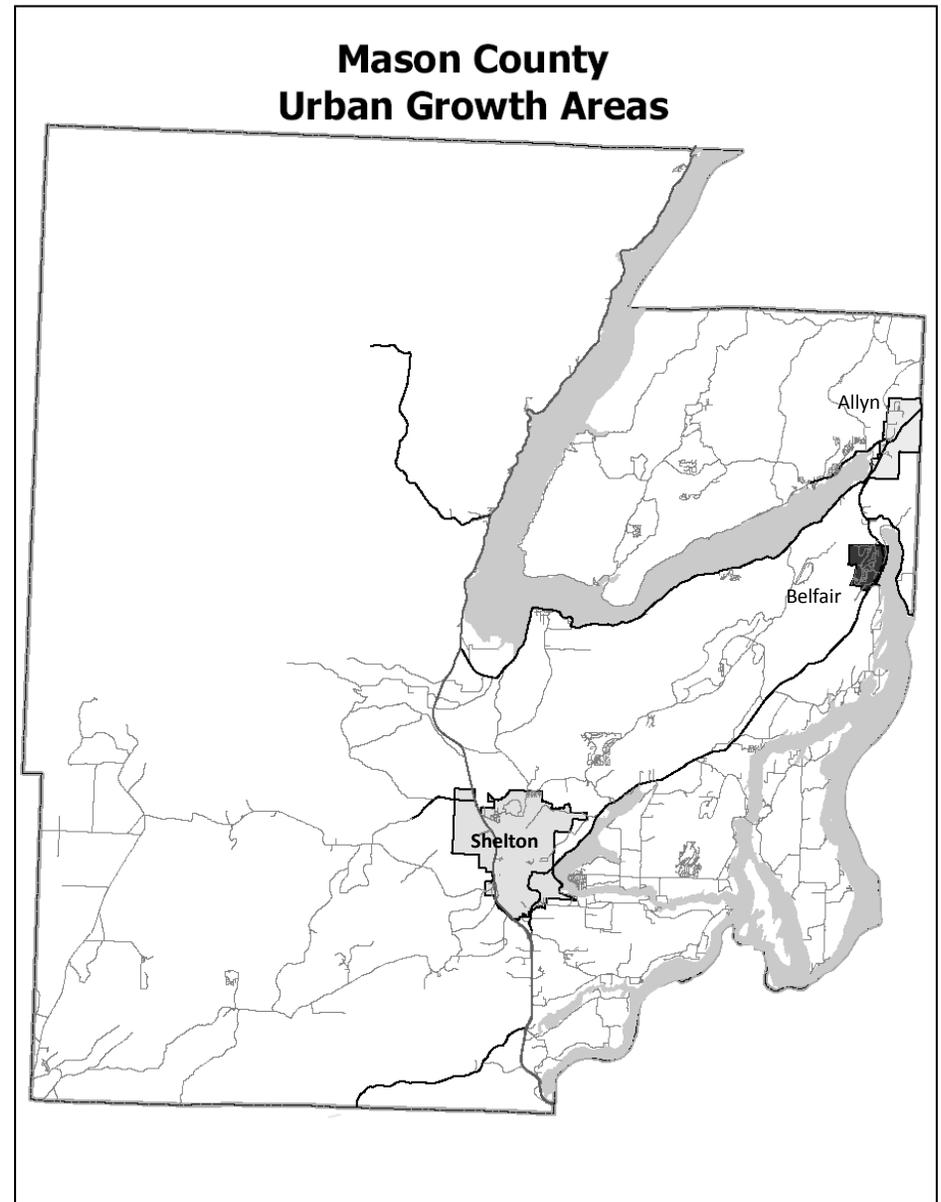
Table 1. Mason County Population Projection 2016-2036

MASON COUNTY AND URBAN GROWTH AREA				
20 YEAR POPULATION PROJECTION				
	2016	2036	Population Increase	Percent Increase 2016-2036
Mason County Total	62,320	83,800	21,480	34%
City of Shelton	10,070	16,200	6,130	61%
Shelton UGA	3,740	7,220	3,480	93%
Urban Growth Areas (Allyn, Belfair)	2,990	4,720	1,730	58%
Rural County	45,520	55,660	10,140	22%

Source: Washington State Office of Financial Management

Figure 1. provides a map of the areas of Mason County discussed throughout this Land Use Element and referenced throughout the Mason County Comprehensive Plan. See also See the Mason County Planning Map Library available on the Mason County Website for a series of maps reference throughout the Comprehensive Plan.for a map series illustrating the land use, future land use and critical areas throughout Mason County.

Figure 1. Mason County Urban Growth Areas



A. Historic Trends

In 1970, Mason County's population was 20,918, only slightly more than one third of the County's population in 2010. During the decade of 1970 to 1980, the statewide population grew by 21 percent, or an average of 2.1 percent annually. At the same time, Mason County's population grew by 49.1 percent to reach a 1980 population of 31,184.

Table 2 and Table 3, based on data provided by the Washington State Office of Financial Management, show fairly consistent historical population growth.

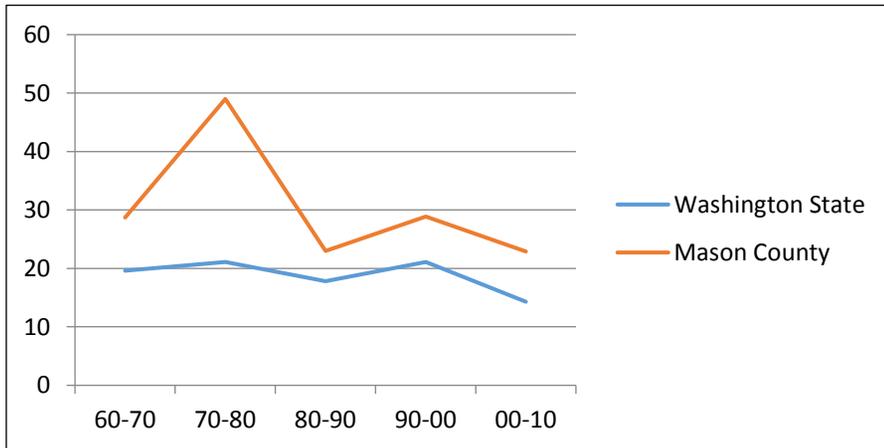
Table 2. Population by Decade – Washington State and Mason County

	Population					
	1960	1970	1980	1990	2000	2010
Washington State	2,853,214	3,413,250	4,132,353	4,866,663	5,884,143	6,724,540
Mason County	16,251	20,918	31,184	38,341	49,405	60,699

Table 3. Population Growth by Decade – Washington State and Mason County

	Percent Change					Average Annual Increase				
	60-70	70-80	80-90	90-00	00-10	60-70	70-80	80-90	90-00	00-10
Washington	19.6	21.1	17.8	21.1	14.3	1.8	1.9	1.6	1.9	1.3
Mason County	28.7	49.0	23.0	28.9	22.9	2.6	4.0	2.1	2.6	2.1

Figure 2. Population Growth by Decade – Washington State and Mason County



The decade between 1980 and 1990 Mason County experienced a slower rate of growth going from 49 percent in 1980 to 23 percent in 1990. By 2010, growth had slowed to 22.9 percent. Increases in the state’s overall population have remained steady from 1960 through 2010 at levels between 1 percent and 2 percent consistently.

In April of 1996, Mason County adopted its first GMA compliant Comprehensive Plan replacing the Comprehensive Plan of Mason County from 1970 and incorporating the Southeast Mason County Subarea Plan. At that time, growth projections for 2014 were 81,102 (20,000 more than actual 2014 population). However, refinements in population forecasting methods and a larger data set have improved the ability to project and plan for population, housing, transportation and related growth over time.

B. Current Conditions

According to the Washington Office of Financial Management, growth in the state continues to be concentrated in the metropolitan areas with 79 percent occurring in the five largest counties (Clark, King, Pierce, Snohomish, and Spokane). King County had the largest portion of the state’s growth with a 38 percent increase over the past year. Mason County had the fourth highest percent increase from 2000 to 2010, and fell to twenty fifth between 2010 and 2015.

The majority of Washington’s population (78 percent) lives in the western portion of the State. In 2015, Eastern Washington’s population grew by 0.8 percent and Western Washington by 1.5 percent. That is also a pattern of higher growth in counties along the Interstate 5 corridor compared to the rest of the state; and a similar pattern of faster growth in metropolitan than non-metropolitan counties. In 2015, 10 counties had a growth rate of more than 1 percent, three of those were non-metropolitan counties (Grant, Kittitas and Whitman). Grays Harbor and Wahkiakum counties lost population over the past year. Mason County’s population stayed fairly consistent with an increase of 200 people in 2015, or 0.32 percent.

C. Projecting Future Growth

Using the historic trends and current conditions, Mason County has chosen to base it’s 2016-2036 Comprehensive Plan on the State’s mid-range population projection prepared by the Office of Financial Management (OFM). The decision to use the medium series projection for planning purposes was based on a recent slowing of growth rates in the county that trend toward the medium series. Growth in Mason County is still expected to experience steady growth and the City of Shelton has developed a population forecast based on recent developments and infrastructure investments that also indicate steady strong growth.

What Is Driving Growth?

Statewide increases in population have been mostly due to net migration. In 2015 there was a statewide increase of 1.34 percent due to migration, the highest since 2008. Mason County is expected to follow that trend, although it may be at a slower rate. Between 2010 and 2015, the state experienced a 5 percent increase in population, while Mason County’s increase was at 2.5 percent. Technological advances make it possible to work for companies located in the more metropolitan areas along the Puget Sound corridor, while still living in rural areas. Since Mason County is in relative proximity to Olympia, Bremerton, Tacoma, and Seattle, it is a desirable location for those looking to live in a rural area while telecommuting to work in metropolitan areas.

Given that Mason County is a popular destination for retirees, the County is expected to experience a higher rate of population growth as baby-boomers continue to retire, and a higher conversion rate of seasonal residence to year round occupancy is projected. Table 4 shows the annual population growth of Mason County in the rural versus urban areas. The rate of growth in the rural areas has been slower since 2012, while the urban growth areas population has fluctuated.

D. Components of Population Change

Net Migration and Natural Increase

The main components of population change are births and deaths, “decrease” is defined as the difference between live births and deaths. “Net migration” is defined as the difference between the number of people moving into an area and the number of people moving out. Tables 5 and 6 show the impact net migration and natural increase have had on both the State's and County's populations.

Table 4. Countywide Growth/Annual Growth in Population 2010-2015

	Population						Annual Growth in Population				
	2010	2011	2012	2013	2014	2015	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Mason County											
Unincorporated	44,173	44,455	44,862	45,075	45,255	45,367	282	407	213	180	112
Allyn UGA	1,971	1,976	1,988	2,001	2,000	2,003	5	12	13	-1	3
Belfair UGA	992	992	996	997	1,001	1,007	0	4	1	4	6
Shelton and UGA	13,563	13,577	13,604	13,727	13,744	13,823	14	27	123	17	79

Source: Washington State Office of Financial Management, Small Area Estimate Program, September 2015; State of Washington 2015 Population Trends, Forecasting & Research Division, Office of Financial

Over the past 15 years, Mason County experienced more deaths than births and a lower rate of in migration (2.5 percent) decreasing the total population by 11 people. It should be noted that the State and nation experienced a recession during this same time period. The overall percentages for the State are still greater with a reduction of almost half the number of people moving to Washington from 2010 to 2015.

Table 5. Components of Population Change 2000-2010

	2000	2010	Natural Increase	Net Migration	Percent Change
Washington	5,894,143	6,724,540	380,065	450,332	14.09
Mason County	49,405	60,699	521	10,773	22.86

Table 6. Components of Population Change 2010-2015

	2010	2015	Natural Increase	Net Migration	Percent Change
WASHINGTON	6,724,540	7,061,410	184,107	152,763	5.01
MASON COUNTY	60,699	62,200	-11	1,512	2.47

Source: State of Washington 2015 Population Trends, Forecasting & Research Division, Office of Financial Management, September 2015

Seasonal Population

Mason County experiences significant seasonal fluctuations in population. Seasonal residents are not completely captured in the State population projections because their official residence may not be in Mason County. However, it is important that they be considered since there are definite increases in demand for certain types of capital facilities during the summer months when seasonal population is high and tourism is at its peak.

In order to approximate the seasonal population variation, the County has used billing addresses from both PUD #1 and PUD #3 customers. In this case, a seasonal resident is one who receives utility billings at an out of county address.

According to Mason County PUD #3 records, there are 27,730 residential households in their service area; however 21 percent of those are seasonally occupied. The billing records for Mason County PUD #1 show a total of 5,058 customers, with 54 percent of those customers considered seasonal.

Seasonal increases in population will have a number of long term impacts on the County, particularly along the County’s waterfront areas. Visitors and seasonal residents contribute to peak congestion resulting from vehicle and pedestrian traffic. Seasonal population increases will also continue to place increased demands on County services. Those services, which are designed to accommodate the average and peak demands of resident populations, are often under severe stress during seasonal population peaks.

III. EXISTING LAND USE

This section of the Land Use Chapter summarizes existing and planned land use in the Urban Growth Areas and rural Mason County. Data presented in this section was compiled from the Mason County Tax Assessor's database. In addition, the National Park Service provided data related to the National Park and Forest lands, and the Squaxin Island and Skokomish Tribes provided data related to tribal lands.

A. Mason County Land Use Categories

Residential

This category includes properties that have any type of dwelling unit placed upon it, except those with an improvement value of less than \$20,000. The Assessor considers properties with improvements valued at less than \$20,000 as vacant. Residential uses include single family, multi family, mobile homes, convalescent centers, rooming and boarding houses, etc. In addition, this category includes personal properties that have a building (other than a dwelling unit) with an improvement value of greater than \$20,000.

Rural Vacant

This category includes parcels determined vacant by the Mason County Assessor's office. Additionally, this category includes Lake Cushman leasehold properties and residential and personal property with an improvement value of less than \$20,000.

Commercial

This category includes properties used for wholesale and retail trade, service industries, health care providers, and warehouses. This category also includes privately owned open spaces, such as privately owned parks and other privately owned entertainment and recreation facilities.

Agriculture/Aquaculture

This category includes all agricultural properties, tidelands, fisheries, and aquaculture related land classes.

Forestry

This category includes all properties in open space forest lands, classified forests, designated forest lands, forest-related activities, and Christmas tree farms. The Forestry category does not include Long Term Commercial Forests designated under Mason County's Resource Land Ordinance, Ordinance Number 77-93, as required by GMA.

Long Term Commercial Forests

This category includes only those lands designated as Long Term Commercial Forests under Mason County's Resource Lands Ordinance, Ordinance Number 77-93, as required by GMA.

Mineral Extraction

This category includes mining activities and mining services.

Transportation

This category includes all parcels related to transportation uses including railroads, rights-of-way, motor vehicle transportation, mass transit, aircraft runways, and parking lots.

Utilities

This category includes all parcels used for utility related purposes including communications, electrical, natural gas, water, and sewage related uses; landfills; and pipelines.

B. Mason County Land Area

This section characterizes the current land use in Mason County. The Mason County Assessor's Database provided the primary source of data for this section. It is important to distinguish land use as categorized by the Assessor from zoning. The Assessor's data is based on the parcel's actual use and taxing distinction. Zoning indicates a link to the Mason County Municipal Code, Development Regulations and helps determine what types of development are appropriate and which restrictions may apply to development.

Countywide Land Use

Mason County includes approximately 620,067 acres of land, about 972 square miles, and an additional 57,600 acres, 90 square miles of water, as shown in Table 7.

Approximately 154,080 acres of Mason County are within the boundaries of the Olympic National Park and the Olympic National Forest.

The incorporated City of Shelton occupies an additional 3,900 acres of Mason County and Tribal lands account for approximately 8,180 acres of the County. Mason County includes three Urban Growth Areas - Belfair, Allyn, and Shelton (See **Figure 1** for a map of these areas). Belfair is located in the northeastern corner of Mason County and covers approximately 2,500 acre. Just south of Belfair along the western shoreline of Case Inlet is Allyn, consisting of approximately 1,000 acres. In the southeastern region is the Shelton UGA, encompassing 5,500 acres that surround the Shelton city limits.

Table 7. Urban and Rural Land Area (Acres) within Mason County

Area	Total Acres	Percent of Total Acres
Rural Lands	387,300	63%
Olympic National Forest	154,080	25%
Waters	57,600	9%
Tribal Nations	8,180	1%
Shelton Urban Growth Area	5,500	.9%
City of Shelton	3,900	.6%
Belfair Urban Growth Area	2,500	.4%
Allyn Urban Growth Area	1,000	.1%
Total County	620,060	100%

C. Land Use in the Urban Growth Areas

Methods for Determining Land Use Acreage

By comparing two different data sets, the Assessor’s data and the County zoning data, we see a clearer picture of trends in land use. It should be noted that the Assessor’s data and the County zoning data are two different data sets used for different purposes. While the categories are similar, the total acreage will differ. In order to get to a general capacity for dwelling units, parcel data was first organized by current land use in accordance with the codes as provided by the County Assessor’s Office. Zoning district data obtained from Mason County Geographic Information Systems (GIS) was also compiled in order to determine the number of parcels and amount of acreage in each area that is currently devoted to various land uses, land use codes were grouped into broader land use categories (i.e. Residential, Commercial, Transportation, etc.).

Table 8. Land Uses in Belfair Urban Growth Area 2015-2016

Land use	Total Acres	% of UGA	Improved Acres (building value >\$20k)	% Total	Unimproved Acres (building value <\$20k)	% Total	Total Acres 2005	Percent Change
Forest/Water	888	35%	33	4%	855	53%	877	42%
Vacant	584	22%	30	3%	554	34%	483	23%
Residential	499	20%	423	45%	76	5%	403	19%
Commercial	327	13%	315	33%	12	<1%	183	9%
Utilities	90	4%	79	8%	11	<1%	57	3%
Transportation	83	3%	2	<1%	81	5%	52	2%
Agriculture/ Aquaculture	67	3%	50	5%	17	1%	32	2%
Mining								
Government	8	<1%	8	<1%	0	<1%	8	<1%
Parks	4	<1%	3	<1%	1	<1%	Na	
Total	2,551	100%	943	100%	1,608	100%	2,095	

Source: Mason County Assessor’s Office, 2015

*Assessor’s data only reflects primary use of land and does not identify secondary uses like home-based businesses.

Once divided by existing land use, the zoning classification of each parcel was determined. This shows the current land use and what its potential residential use was according to its zoning district. This type of calculation and analysis was conducted for each of the districts and zones.

Belfair Urban Growth Area

Unincorporated Belfair is the primary commercial center in the Northeast corner of North Mason County. Mason County recently identified Belfair as an Urban Growth Area (UGA) of approximately 2,500 acres.

Table 9. Belfair Urban Growth Area Zoning Summary 2015-2016

Zone	Total Acres	Undeveloped Acres	Dwelling units/acres	Potential Units	Times 2.5 persons/unit
Long Term Agriculture (LTA)	17	0	1/10	1	2
Festival Retail (FR)	20	3	0	0	0
General Commercial (GC)	146	107	0	0	0
General Commercial Business Industrial (GC-BI)	146	83	0	0	0
Mixed Use (MU)	185	78	10/1	787	1967
Business Industrial (B-I)	133	59	0	0	0
Multi Family Residential (R-10)	197	158	10/1	1584	3961
Med. Density Residential (R-5)	825	716	5/1	3580	8951
Single Family Residential (R-4)	723	279	4/1	1117	2794
Totals	2,392	1,483		7,069	17,675

Source: Mason County Assessor’s Office, 2015 and Mason County Zoning Map

*Assessors Data and Zoning Data are different data sets, used for distinct purposes, and define land use differently.

The current population within the UGA is approximately 1,000. However, Belfair serves residents within a larger rural geographic area as well as tourists visiting the Hood Canal and unique Theler Wetlands.

While new development is on the rise in Belfair, the town is in the midst of trying to develop a particular character or ‘theme’ based around the Theler Wetlands as the town’s anchor. Belfair is also home to over 150 businesses located mostly along State Route 3. With the anticipated addition of pedestrian facilities, the continued development of a consistent town theme, an improved local economy, Belfair will be served as a destination well into the foreseeable future.

As shown in Table 8, forested lands and water represent the primary land use within the Belfair UGA encompassing more than 800 acres, and accounting for approximately 35 percent of the area’s total land. There is also a large share of vacant land, over 20 percent in the UGA.

Belfair Buildable Lands

Table 9 shows “buildable lands” or land supply with potential for development. This data is a combination of both Assessor land use and Mason County Municipal Code Zoning Districts or the classifications that tell what types of development are permitted.

Each parcel is separated into its Urban Growth Area and Zoning District, and then identified as developed or undeveloped. Undeveloped parcels of land that are zoned for residential housing development are identified. Then average household size based on US Census Data is applied to determine persons per household. Based on this data, Belfair UGA has nearly 1,500 undeveloped acres and if developed, it has the potential to accommodate over 17,000 people.

Allyn Urban Growth Area

The Allyn Urban Growth Area is located along the upper, western shoreline of the Case Inlet in eastern Mason County (See Figure 1 for a Map). A portion of the Urban Growth Area called Lower Allyn was the original community first platted in 1889. It has a mix of residences and commercial businesses covering 385 of the 1000 acres within the Urban Growth Area. Lakeland Village, a planned residential development, makes up the largest land area and population base.

Table 10. Land Uses in Allyn Urban Growth Area 2015-2016

Land use	Total Acres	% of UGA	Improved Acres (building value >\$20k)	% Total	Unimproved Acres (building value <\$20k)	% Total	Total 2005	Percent Change
Vacant	698	70%	521	79%	177	52%	369	89%
Residential	110	11%		14%	19	6%	479	-77%
Utilities	107	11%	0		107	32%	29	269%
Transportation	38	4%	30	5%	8	2%	66	-42%
Commercial	19	1%	19	2%	0	0	167	-89%
Government	17	2%	0		17	5%	na	
Parks	7	<1%	0		7	2%	na	
Forest/Water	3	<1%	0	<1%	3	1%	137	-98%
Total	999	110%	661	100%	338	100%	1,247	

Source: Mason County Assessor's Office, 2015

*Assessor's data only reflects primary use of land and does not identify secondary uses like home-based businesses.

Table 11 reviews the Assessor’s data with zoning to determine build out potential and shows that nearly 250 acres remain undeveloped with the potential to accommodate over 4,000 people in Allyn UGA.

State Route 3 connects Allyn to several major regional cities. Shelton is 18.5 miles to the south and Bremerton, in Kitsap County, is 16 miles to the north. The Belfair Urban Growth Area is just 4 miles north. Table 10 indicates that some land in Allyn has been reclassified since 2005, making comparisons of some land categories difficult.

Table 11. Allyn Urban Growth Area Zoning Summary 2015-2016

Zone	Total Acres	Total Undeveloped Acres	Dwelling Units/Acre	Potential Units	Times 2.5 persons/unit
Business Park (BP)	30	25	0	0	0
Highway Commercial (HC)	8	0	0	0	0
Public Open Space (POS)	5	2	0	0	0
Residential 1 (R-1)	158	87	4/1	347	867
Residential 1 Platted (R-1P)	490	45	6/1	270	675
Residential 2 (R-2)	43	3	10/1	33	84
Residential 3 (R-3)	46	38	20/1	752	1881
Village Commercial (VC)	43	3			
Residential 1 Recreational (R-1R)	200	45	5/1	223	558
Total	1,023	248		1,625	4,065

Source: Mason County Assessor’s Office, 2015 and Mason County Zoning Map

*Assessors Data and Zoning Data are different data sets, used for distinct purposes, and define land use differently.

Shelton Urban Growth Area

The Shelton UGA is about 5,500 acres total. This does not include the incorporated City of Shelton.

The existing land use patterns within the Shelton UGA can generally be described as containing a mix of land uses including residential, commercial, parks, resource lands and undeveloped areas. In the 2005 Plan update, residential development was the predominant land use. A review of 2016 data shows that forestry is now the primary at 26 percent of Shelton’s UGA’s. Residential is the second largest use, followed by undeveloped or vacant land.

Table 12. Land Uses in the Shelton Urban Growth Area 2015-2016

Land use	Total Acres	% of UGA	Improved Acres (building value >\$20k)	% Total	Unimproved Acres (building value <\$20k)	% Total	Total Acres 2005	Percent Change
Forest	1430	26%	20	<1%	1410	45%	1395	3%
Residential	1109	20%	1014	43%	95	3%	1103	1%
Vacant	954	17%	34	1%	920	29%	835	14%
Commercial	672	12%	578	24%	94	3%	240	180%
Transportation	505	9%	485	20%	20	<1%	662	-24%
Government	499	9%	147	6%	352	11%	Na	
Parks	274	5%	28	2%	246	8%	Na	
Utilities	51	1%	41	2%	10	<1%	57	-11%
Agriculture/ Aquaculture	42	1%	35	2%	7	<1%	72	-42%
Mining	18	<1%	6	<1%	12	<1%	12	50%
Total	5,554	100%	2,388	100%	3,166	100%	4,376	

Source: Mason County Assessor’s Office, 2015

*Assessor’s data only reflects primary use of land and does not identify secondary uses like home-based businesses.

Table 13 reflects the Assessor’s data together with zoning to show the build out and population potential of undeveloped lots in the Shelton Urban Growth Area (See Figure 1. for an Urban Growth Area Map). As shown in Table 15, there are over 3,000 acres undeveloped in the Shelton UGA with the potential to accommodate over 19,000 people.

Table 13. Shelton Urban Growth Area Zoning Summary 2015-2016

Zone	Total Acres	Total Undeveloped Acres	Dwelling Units/Acre	Potential Units	Times 2.5 persons/unit
Airport Industrial (AI)	981	79	0	0	0
Commercial Industrial (CI)	409	277	0	0	0
General Commercial (GC)	75	31	0	0	0
Industrial (I)	738	508	0	0	0
Mixed Use (MU)	309	143	12/1	1716	4290
Neighborhood Residential (NR)	2171	1508	4/1	6032	15080
Public Institutional (PI)	503	351	0	0	0
Total	5,186	3,079		7,748	19,370

Source: Mason County Assessor’s Office, 2015 and Mason County Zoning Map

*Assessors Data and Zoning Data are different data sets, used for distinct purposes, and define land use differently.

IV. FUTURE LAND USE PLAN

The future land use map represents Mason County’s plan to accommodate projected population growth in a way that maximizes existing infrastructure and ensures adequate public facilities and services can be provided in a way that maintains the quality of life enjoyed in Mason County. Urban type growth and development is planned for the urban growth areas, including the City of Shelton and the communities of Allyn and Belfair. A more rural development pattern for housing and a slower rate of growth is planned for the rural county. The Rural Activity Centers, or areas where you would expect to find rural commercial services and other rural community development include Union, Hoodspout and Taylor Town. The Hamlets include Bayshore, Dayton, Deer Creek, Grapeview, Lilliwaup, Matlock, Potlatch, Spencer Lake, and Tahuya. **See the Mason County Planning Map Library available on the Mason County Website for a series of maps referenced throughout the Comprehensive Plan.**

Based on historic trends, the County has estimated how the future growth in population will be distributed between Urban Growth Areas and rural Mason County.

Table 14 shows population growth projected for these areas as it relates to the total land area. The trend of faster growth in the urban growth areas that Mason County has experienced over the past decades is expected to continue through the 20 year planning horizon.

Table 14. Area Growth Projections for Mason County 2016-2036

Area	Additional Population	Share of Population Growth	Percent Total Land Area
Shelton Urban Growth Area	9,610	44%	1.5%
Belfair Urban Growth Area	430	2%	.4%
Allyn Urban Growth Area	1,300	6%	.1%
Fully Contained Community Reserve	600	3%	-
RAC – LAMIRDS	400	2%	<1%
Rural Lands	9,140	43%	63%
Total County	21,480	100%	

Table 15. Historic Population Increase and Distribution – Urban Growth Areas and Rural County

	ALLYN		BELFAIR		SHELTON		RURAL	
	Increase	Share	Increase	Share	Increase	Share	Increase	Share
2000-2005	460	9%	97	2%	834	16%	3943	74%
2006-2010	374	8%	81	0.10%	717	16%	3313	74%
2011-2014	21	2%	11	1%	169	19%	699	78%
2000-2014	855	8%	189	2%	1720	16%	7955	74%

Table 15 provides a detailed picture of people moving to Mason County over the past 15 years and where they chose to live.

While a greater number of people overall located in rural Mason County as shown in Tables 16 and 17, population and growth in development was and is still very concentrated in the Urban Growth Areas. The relative size of rural Mason County when compared to the size of the Urban Growth Areas is important to consider. Rural Mason County is approximately 970 square miles and the Urban Growth Areas combined are a fraction of that at approximately 50 square miles.

A. Land Capacity Summary for Mason County

The Future Land Use Map for Mason County includes designated areas for the National Park and Forest, Long-Term Commercial Forest Lands, In-holding lands, Agricultural Resource Lands, Urban Growth Areas (UGAs), Rural Activity Centers, and Rural Areas. Mineral Resource Lands are also designated, but that designation is an overlay on other districts, primarily the Forest Lands or the Rural Areas.

The Urban Growth Areas include the City of Shelton and the un-incorporated communities of Belfair and Allyn. Rural Activity Centers include Union, Taylor Town, and Hoodspert. Table 16 provides a summary of demand for residential and non-residential land in the Urban Growth Areas over the 20 year planning horizon.

See the Mason County Planning Map Library available on the Mason County Website for a series of maps reference throughout the Comprehensive Plan.

Table 16. Land Capacity Summary (Net Acres)

Area (all acres are net acres)**	Residential Capacity	Non-Residential Capacity	Total Capacity
Urban Growth Areas	3,100	1,710	4,810
- Shelton	1,650	1,430	3,080
- Belfair	1,230	250	1,480
- Allyn	220	30	250

*Exclusively non-residential

** Net acres excludes unavailable lands, unsuitable lands; 20 percent roads & 25 percent market factor

Green Diamond Resource Company Lot Retirement Project

The Green Diamond Resource Company has worked with The Trust for Public Lands to retire thousands of acres of timberland into conservation easements in the coming decades. By 2020, it is anticipated that Green Diamond will have retired more than 1,700 units of potential residential development through this conservation process.

Rural residential districts are distinguished by the minimum number of acres required for each dwelling unit (e.g. rural residential 5 require a minimum of 5 acres per unit). The total number of housing units that will be forgone was estimated to be over 1,700 based on review of the buildable land in each zoning district. The population that would have occupied those residential units by 2036 is estimated at over 4,000 people.¹

B. Accommodating Growth and Protecting Critical Areas

Geologically Hazardous Areas

Geologically hazardous areas include areas susceptible to landslide, erosion, earthquake or other geological events. In many cases, hazards can be reduced or mitigated by engineering, design or modified construction practices. Because of their susceptibility however, some of these areas may not be suitable for new development.

Mason County's Resource Ordinance identifies three types of Geologic Hazard Areas: 1) Landslide Hazard Areas, 2) Seismic Hazard Areas, and 3) Erosion Hazard Areas. Landslide Hazard Areas are

¹ US Census Bureau, American Community Survey 5 year Estimates, 2.57 average household size for Mason County in 2014. 1700 units x 2.57 persons = 4,369.

lands that have an increased potential for landslides and other earth movement. Seismic Hazard Areas are lands that are particularly susceptible to damage from earthquakes and other seismic activity. Lastly, Erosion Hazard Areas are lands that are more susceptible to excessive erosion.

Landslide Hazard Areas

A landslide is a rapid down slope movement of a mass of material such as rocks, soil, or other debris. The speed and distance of movement, as well as the amount of material, varies greatly and depends on a combination of geologic, topographic and hydrologic factors. Especially susceptible to landslide hazards are marine bluffs and unconsolidated glacial deposits on steep hillsides (greater than 40 percent).

Potential Landslide Hazard Areas are areas that meet the following criteria:

1. Areas with indication of earth movement such as debris slides, earth flows, slumps and rock falls; or
2. Areas with artificial over steepened or unengineered slopes, i.e. cuts or fills;
3. Areas containing soft or potentially liquefiable soils;
4. Areas unstable as a result of stream incision, stream bank erosion, and undercutting by wave action;
5. Slopes greater than 15 percent (8.5 degrees), except areas composed of consolidated rock, and having either of the following:
 - a. Steep hillsides; or
 - b. Springs or groundwater seepage.

A key indicator of potential landslide areas is slope of the land. Approximately 10 percent of the landscape in Mason County (excluding Olympic National Forest and Olympic National Park areas) has a slope of 15-30 percent, and approximately 3 percent has steeper slopes of 30-45 percent (See the Mason County Planning Map Library available on the Mason County Website for a series of maps reference throughout the Comprehensive Plan for the Landslide Hazard Map).

The risk of landslide occurrence depends on a number of factors including soil vulnerability, slope, and the degree of water saturation. Development activities can increase the risk by exposing soil through clearing, altering natural drainage patterns, excavating the “toe” of slopes, or increasing soil moisture content.

An important measure of potential risk for landslide when development occurs is land clearing and alteration for development. Potential impacts to Mason County can be assessed based on the relative amount of land converted to urban uses during the 20-year planning under each of the alternatives.

In addition to the critical area regulations, the Comprehensive Plan minimizes the amount of land cleared for development by directing it to the County’s growth into Urban Areas. Further, options such as Master Planned Developments require clustering and open space. Both techniques reduce the amount of land disturbed by development while maintaining overall rural densities.

Seismic Hazards

Seismic Hazards occur in areas subject to severe risk of earthquake damage as a result of seismic induced settlement or soil liquefaction. These areas include soils containing high organic content (e.g., wetland soils), areas of loose sand and gravel, artificial fills, landslide deposits, and fine-grained soils with high water tables.

Seismic Hazard Areas are areas susceptible to ground failure, including the following:

1. Mapped geologic faults;
2. Deep road fills and areas of poorly compacted artificial fill;
3. Areas with artificially steepened slopes;
4. Post-glacial stream, lake or beach sediments;
5. River Deltas;
6. Areas designated as potential Landslide Hazard Areas;
7. Bluff areas;
8. Areas underlain by potentially liquefiable soils.

Seismic Hazard Areas are shown on the Mason County Seismic Hazards Map (FIGURE IV-4.2), as documented by the *Coastal Zone Atlas of Washington* and *Geology and Related Groundwater Occurrence, Southeastern Mason County, Washington, Water Supply Bulletin 29*.

All structures in Mason County are subject to the engineering and design requirements of the International Building Code for earthquakes. Seismic hazards requirements focus on effects to buildings and other facilities from intense ground shaking and/or liquefaction. Attention to seismically induced landslides could also cause structural damage to buildings, particularly on steeper slopes and shoreline bluffs. In addition, the critical area regulations do not allow significant public buildings in seismic hazard areas; and the future land use plan directs most growth away from these areas.

Erosion Hazard Areas

Erosion is a natural process in which the land surface is worn away by the action of water, wind, ice or other geologic processes. The most common cause of erosion is water falling or flowing across the land. Factors contributing to erosion hazard are soil type and slope. Erosion hazards generally occur on erosive soils where slopes exceed 15 percent.

The Mason County Resource Ordinance classifies Erosion Hazard Areas underlain by soils which are subject to severe erosion when disturbed. Such soils include, but are not limited to, those for which potential for erosion is identified in the Soil Survey of Mason County, USDA Soil Conservation Service, 1960, or any subsequent revisions or addition to that Ordinance.

The erosion process can be accelerated by development activity that exposes and disturbs soils so they are more vulnerable to erosive forces. Further, increased areas of impervious surfaces reduce the infiltration of rainfall, increase stormwater runoff, and result in even greater erosion potential. Increased runoff, erosion, and sedimentation may adversely affect the physical and biological characteristics of streams and other water resources.

Erosion Hazards are similar to Landslide Hazards in that they are both often created by, or aggravated by development activities such as clearing and grading. The comprehensive plan controls the hazards through the critical areas regulations and by concentrating development in suitable areas.

Wetlands

Wetlands are natural ecosystems that serve a number of important beneficial functions. They assist in reducing erosion, siltation, flooding, and ground and surface water contamination. Wetlands provide habitat for wildlife, plants, and fisheries. They may also assist in recharging groundwater supplies. In addition, wetlands provide opportunities for recreation and education.

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. However, the term 'wetlands' may also include artificial wetlands intentionally created from non-wetland areas to for mitigation, if permitted by the county.

In making a determination regarding a wetland, Washington State Wetland Identification and Delineation Manual (Ecology #96-94), or as amended hereafter, shall serve as the technical resource guide on determining if an area possesses hydrophytic vegetation, hydric soils, and/or wetland hydrology.

Wetlands are classified by a rating system set forth in the Washington State Wetland Rating System for Western Washington by Washington State Department of Ecology. A four-tier wetlands

rating system has been adopted as the rating system for Mason County to protect wetlands and their critical functions. Wetland buffer widths, wetland activities, and replacement ratios are based on this rating system. These four categories include:

- 1) **Category I Wetlands.** Category I wetlands are those regulated wetlands that include but are not limited to rare, unique wetland types that are more sensitive to disturbance than most wetlands and that contain ecological attributes that are impossible to replace within a human lifetime. Category I wetlands score 70 points or more out of 100 on the wetlands ratings systems.
- 2) **Category II Wetlands.** Category II wetlands are those regulated wetlands that score between 51-69 points out of 100 on the wetlands ratings system.
- 3) **Category III Wetlands.** Category III wetlands are those regulated wetlands that score between 30-50 points on the wetlands ratings system.*
- 4) **Category IV Wetlands.** Category IV wetlands are those regulated wetlands that score less than 30 points out of 100 on the wetlands ratings system.*

* Non-Regulated Wetlands. Isolated wetlands under 1,000 square feet which are not associated with a riparian corridor, not part of a wetland mosaic, and not essential habitat of a priority species as identified by the Washington Department of Fish and Wildlife.

Mason County includes an abundance of wetland areas. Most of these areas are associated with larger freshwater and saltwater systems. Approximately 940 square miles in the County have been mapped as wetlands as documented by the National Wetland

Inventory, Mason County Generalized Wetland Inventory Map. Agricultural wetlands and isolated wetlands under one acre in size are exempt from most of the regulatory requirements of the Mason County Critical Area Ordinance.

The alteration or destruction of wetlands can eliminate or reduce the variety of biological and hydrological functions that wetlands perform. Direct impacts may result from clearing, grading or filling in advance of development. Of equal potential are indirect impacts from new development, which may alter surface water flows, or interrupt the infiltration of groundwater.

New development may increase volumes of sediment-laden runoff entering wetlands. This may inhibit the wetlands' natural capacity to remove nutrients and process chemical and organic wastes. In addition, increased sedimentation within wetlands may reduce their ability to temporarily store flood waters and increase the risk and magnitude of downstream impacts.

Wetlands may also often provide groundwater recharge. Development activities in areas near or connected to wetlands in recharge areas could interrupt infiltration to the groundwater system.

The Comprehensive Plan concentrates growth to Urban Growth Areas. It also provides for permanent open space and designated natural resource areas in development allowed within Rural Areas.

Fish and Wildlife Habitat Conservation Areas

Mason County contains an abundance of marine, freshwater and upland habitat for fish and wildlife. Preservation of fish and wildlife habitat is critical to protecting suitable environments for animal species, and in providing an important part of the local quality of life for County residents and visitors.

One of the most important functions of wildlife is in maintaining the health and diversity of ecosystems. Each species has its role in an ecosystem. When a species is eliminated, the ecosystem loses the functions it performed. As a result, the balance of the ecosystem is sometimes irreversibly lost or diminished. Given the inter-relation of all species in an ecosystem, species elimination may result in unpredictable consequences, though some consequences of habitat impact are known in advance. For example, a loss of marine invertebrates and kelp from over-harvesting ultimately affects the quality of habitat for larger fish, mammals and birds.

Fish and wildlife also provide important recreational and economic benefits such as hunting and fishing opportunities. The continued prosperity of the commercial and recreational fish and shellfish industries depends on maintenance of excellent water quality and unpolluted habitats for fish, shellfish, and their food sources.

Fish and wildlife habitat also provide significant social benefits. Mason County residents are accustomed to occasional encounters with wildlife such as bald eagles, great blue heron and elk. Wildlife provides the opportunity to educate the public about biological and ecological processes. Other less quantifiable benefits include wildlife viewing, and maintaining the historical, cultural, and spiritual values of Native American Tribes and the general public.

The Mason County Resource Ordinance guides management of the County's Fish and Wildlife habitat through the regulation of

conservation areas. Fish and wildlife habitat conservation means land management for maintaining species in suitable habitats within their natural geographic distribution so that isolated populations are not created. This does not mean maintaining all individuals of all species at all times, but it does mean intergovernmental cooperation and coordination is critically important in a region. In some cases, it is sufficient to assure that a species will usually be found in certain regions across the state.

The provisions for the protection of habitat cannot succeed in their purpose of supporting viable populations of fish and wildlife species unless other agencies and the public also act to protect the species. In the case of anadromous fish, the Statewide Salmon Recovery Strategy identifies that it will take a balanced approach to addressing the factors of decline that are within human control, including harvest, hatchery, habitat, and hydropower. The underlying assumption is that impacts to anadromous fish or their habitat or to fish and wildlife conservation areas shall be avoided or mitigated. Fish and wildlife habitat conservation areas include both aquatic and terrestrial areas within Mason County. The approximate location and extent of critical fish and wildlife habitat areas are displayed in the Washington Department of Fish & Wildlife's (WDFW) Priority Habitat and Species (PHS) Program database. The following categories are used in classifying critical areas:

- (1) Commercial and recreational shellfish areas;
- (2) Kelp and eelgrass beds; herring, sand lance, and smelt spawning areas;
- (3) Naturally occurring lakes and ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat;
- (4) Streams;

- (5) Saltwater Shorelines, and Lakes 20 Acres and Greater in Surface Area;
- (6) Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
- (7) State Department of Natural Resources natural area preserves and natural resource conservation areas;
- (8) Areas with which federal or state endangered, threatened and sensitive species of fish and wildlife have a primary association. Those species known to be found in Mason County shall be listed in the Resource Ordinance. Protection of species habitats is determined by the state or federal listing, and their actual presence near the site subject to review. Other listed and protected species may be found in Mason County, which are not listed.
- (9) Other areas that contain habitats and species of local importance (which include juvenile salmonid migration areas) as also listed. Species of local importance may include, but are not limited to, state candidate and monitor species.

Aquatic Areas

Mason County includes three principal river systems and numerous lakes, small rivers, and streams. The Skokomish and Hamma Hamma rivers are swiftly flowing, deeply incised rivers that originate high in the Olympic Mountains and empty into Hood Canal. The East and Middle Forks of the Satsop River originate in the Olympic Mountains, converge at the southwestern corner of the County and flow southward into the Chehalis River. All of the eastern part of the County is drained by smaller streams which flow only short distances before reaching outlets to Puget Sound. Many of the small streams, as well as the larger systems, support significant fisheries, including anadromous fish. Other surface waters are made up of numerous lakes and wetland areas, some of which include Cushman, Mason, Nahwatzel, Lost, Isabella, Island, Cranberry, Limerick and Spencer lakes.

The waters and shorelines of Mason County are an important resource. In addition to their natural beauty, and cultural value, they provide the base for a sizable shellfish industry, aquaculture, fish and wildlife habitat.

Water systems are classified by the Washington Department of Natural Resources (WAC 222-16-030) and Table 17 provides a general description of water type classifications currently in use.

Table 17. Classification of Water Bodies of Mason County

Type	Description
Type "S" = Shoreline	Streams and waterbodies that are designated "shorelines of the state" as defined in RCW 90.58.030. (formerly type 1)
Type "F" = Fish	Streams and waterbodies that are known to be used by fish, or meet the physical criteria to be potentially used by fish. Fish streams may or may not have flowing water all year; they may be perennial or seasonal. (formerly type 2 or 3)
Type "Np" = Non-Fish	Streams that have flow year round and may have spatially intermittent dry reaches downstream of perennial flow. Type Np streams do not meet the physical criteria of a Type F stream. This also includes streams that have been proven not to contain fish using methods described in Forest Practices Board Manual Section 13. (formerly type 4)
Type "Ns" = Non-Fish Seasonal	Streams that do not have surface flow during at least some portion of the year, and do not meet the physical criteria of a Type F stream. (formerly type 5)

Terrestrial Areas

All development activities have the potential to impact native plant and animal species. Terrestrial Management Areas are those areas where the presence of state endangered or state threatened terrestrial species have been identified. The Mason County Critical

Area Ordinance specifies that all development in these areas shall be consistent with State and Federal law.

See the Mason County Planning Map Library available on the Mason County Website for a series of maps referenced throughout the Comprehensive Plan.

There are also a number of publicly and privately managed natural areas in Mason County that have been designated as preserves or refuges. These areas are important for fish and wildlife habitat, scenic vistas, protection of sensitive plant species, and preservation of open space.

The Washington State Department of Natural Resources manages three Natural Area Preserves in Mason County. They include 17 acres at Oak Patch Lake, 28 acres on Skookum Inlet, and a 56-acre site on Totten Inlet. The Washington State Department of Fish and Wildlife manages a number of properties in the County, including the 172-acre Skokomish River Tidelands Wildlife Area and the 122-acre Union River Wildlife Area.

Mason County also includes a number of properties managed by the Hood Canal Land Trust (HCLT). HCLT is a non-profit organization that either owns properties outright or manages them under the terms of conservation easements. Key HCLT sites include the Klingall and Jimmy Bryan Wetland Preserves, 88 acres on the north side of Lynch Cove and 140 acres along the Union River under a conservation easement.

The impacts of development to habitat include the replacement of woodlands, pastures and other undeveloped areas with buildings, roads, parking lots, landscaping, and other structures. Depending on the location, density and intensity of uses, this may result in the removal and displacement of habitat and cause some wildlife

species to relocate to other areas. Since most habitats are currently assumed to be at or near their carrying capacity, displaced animals may perish.

Loss of wetlands, riparian areas and adjacent fields may affect the overall number and variety of wildlife and waterfowl. Loss of riparian vegetation could also affect migrating or nesting areas. Plant and animal species can also be affected by erosion and sedimentation of streams, coastal waters, and wetlands. Shoreline and related over-water development can harm valuable kelp and eelgrass beds.

In addition to the critical areas protections adopted by the county, the comprehensive plan promotes urban development in the County's Urban Growth Areas and rural development in the rural areas. The comprehensive plan also provides for permanent open space and designated resource areas to promote the protection, preservation, and enhancement of fish and wildlife habitat.

Critical Aquifer Recharge Areas

The State of Washington's definition of aquifer recharge areas for GMA planning purposes focuses on existing areas of supply which are vulnerable to contamination. Critical Aquifer Recharge Areas

"Areas with a critical recharging effect on aquifers used for potable water, including areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water, or is susceptible to reduced recharge." (WAC 365-190-030).

Groundwater exists in underground layers of porous rock or soil called *aquifers*. Water stored in aquifers reaches the ground surface through springs, wells, or by seepage into surface water features, including wetlands. Surface waters replenish, "recharge", aquifers through seepage from streams, lakes, and wetlands, and from precipitation that percolates through soil or rock.

Potable water means water suitable for drinking. Groundwater provides virtually all of Mason County's potable water. Protecting aquifers and aquifer recharge areas, therefore, is critical to maintaining Mason County's water supply. Aquifers exist throughout the County. The groundwater supplying most of the County's water is obtained from the aquifers running through the coarser and more permeable glacial and fluvial sedimentary deposits. The older, undifferentiated sedimentary deposits provide large quantities of water for industrial and municipal wells. Bedrock forms the bottom of the groundwater layer although fractures and joints in the relatively impermeable rocks may yield small quantities of water.

Precipitation provides the primary source of recharge for Mason County's groundwater. Precipitation within the County averages 64 inches annually. It increases rapidly towards the Olympic Mountains where, at Lake Cushman, precipitation is in excess of 100 inches per year. Water levels in wells are typically within 125 feet of the land surface. The quality of groundwater in an aquifer is inextricably linked to its recharge area. Approximately 24,970 acres have been mapped as Critical Aquifer Recharge Areas in Mason County. **See the Mason County Planning Map Library available on the Mason County Website for a series of maps referenced throughout the Comprehensive Plan including Critical Aquifer Recharge Areas.**

All Critical Aquifer Recharge Areas in Mason County are classified as Extremely Susceptible, Highly Susceptible, Moderately Susceptible, or Low Susceptibility as defined by the County's Resource Ordinance.

Urban development has two potential impacts on groundwater resources: 1) increases in impervious surfaces reduce the volume of precipitation available to recharge groundwater, and 2) urban development may introduce pollutants into the groundwater system. When groundwater recharge is reduced, groundwater supplies may be depleted. In many instances, this is coupled with withdrawals of groundwater in excess of recharge capacity. Potential long-term impacts include reduced capacity of water wells, reduced flows in groundwater-fed streams, and depletion of water supplies to lakes or wetlands.

Pollutants can be introduced into the groundwater system through a variety of means. They include failing septic systems, agricultural chemicals and animal waste, urban runoff, solid waste disposal, and leaking underground storage tanks.

Frequently Flooded Areas

The Frequently Flooded Areas, or Flood Hazard Areas, of Mason County are subject to periodic inundation which can result in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare. These flood losses could be exacerbated by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately

floodproofed, elevated, or otherwise protected from flood damage also contribute to the flood loss. Mason County has prepared this flood damage prevention ordinance to implement comprehensive flood damage reduction measures that are necessary for public health safety and welfare and that allow property owners to protect their property.

Flooding in Mason County generally occurs from November through April. The greatest cause of flooding is heavy rainfall combined with snow melt. A special flood risk zone has been established for the zones A and A2 floodplain of the Skokomish River, Vance Creek and tributaries. This special flood risk zone is designated as a floodway and the entire floodway is designated an avulsion risk area. Construction of a new structure or an expansion of the square foot area of an existing structure is prohibited in this designated floodway.

The Skokomish River Valley floods several times annually. In recent history there have been large flood events in 1955, 1972, 1990, 2003, and 2007. Many homes, pastures and personal property were damaged in those years as well as lesser damage on a more frequent basis. Flooding on the Tahuya River and Goldsborough Creek have been known to cause some damage, whereas the Union River tends to have high flows, but minimal overbank flooding.

Flooding of marine shorelines is caused by a number of factors, which can occur individually or in combination. They include extreme high tides, waves generated by winds, tsunamis of distant origin, and locally generated seismic waves or boils. Wind-driven waves, superimposed on extreme high tides, represent the most common form of coastal flooding in Mason County.

Floodways, floodplains and coastal flood areas are identified by the Mason County Federal Flood Insurance Study FEMA maps.

The comprehensive plan is intended to provide for the protection of Frequently Flooded Areas by concentrating urban development on the least amount of land, considering the suitability of the land for development through the use of performance standards, and by providing for significant open space and resource use areas in development within the Rural Area.

The *County-Wide Planning Policies* call for Mason County and the City of Shelton to protect all types of Critical Areas.

C. Protecting Natural, Historic and Cultural Resources

Natural resources abound in Mason County and provide the foundation for the County's economy. While timber has played the dominant role, other natural resources including agricultural lands and minerals, have also fostered economic development within the County.

Forest Lands

Without question, timber is the foundation upon which Mason County's economy is built. Forest Products continue to be Mason County's premier natural resource industry. The early explorers marveled at the vast timber expanse in the region, describing it as "thick as fur on a dog's back." For 140 years, Mason County's extensive forests have supplied logs, lumber, building components, pulp, and other products to national and international markets.

Long Term Commercial Forest lands and Forest Products represent the primary land uses throughout Mason County and within each of its seven watersheds. The Rural Element of Mason County's Comprehensive Plan shows that there are approximately 300,000 acres of Long Term Commercial Forest and 13,500 acres of In-holding lands in Mason County. These figures do not include federal and tribal lands. Long Term Commercial Forest lands and Forestry play an even greater role in the County's land use, due to the acreage that the U.S. Forest Service maintains as well as lands forested by both the Skokomish and Squaxin Island Tribes.

Mason County currently has an abundance of forested lands with long term commercial significance. Although continued population growth will place additional demands on forest resources, these are not expected to significantly affect the County's forest resources during the 20 year planning period.

Impacts associated with forestry operations include erosion and sedimentation, noise from machinery and vehicles, fugitive dust, and the visual impacts of harvested areas. The state Department of Natural Resources is responsible for regulating these impacts. The comprehensive plan concentrates urban development on the least amount of land. It also provides for permanent open space and resource use areas in development allowed within the Rural Areas.

Historic Resources

As Mason County continues to grow, it is important that the history of Mason County be preserved. The state and federal governments have developed inventories of those sites and facilities that have special historical importance. Some of the sites are formally listed on an historical register, which provides some tax and other advantages to their owners for preserving their historic attributes. Native American tribes also have sites identified of cultural or

historical significance. The County intends to cooperate with the state agencies and the area tribes to protect historically and culturally important areas. The Countywide Planning Policies include policies guiding the county in the protection of these areas with support and oversight by the County's Historic Preservation Committee.

See the Mason County Planning Map Library available on the Mason County Website for a series of maps reference throughout the Comprehensive Plan including a map of Public and Historic Lands and Facilities identifying historic sites throughout Mason County.

Agriculture

The State of Washington's GMA guidelines define agricultural land as land primarily devoted to the commercial production of horticultural, viticultural, floricultural, dairy, apiary, vegetable, or animal products or of berries, grain, hay, straw, turf, seed, Christmas trees, or livestock, and that has long term commercial significance for agricultural production. Long term commercial significance includes the growing capacity, productivity, and soil composition of the land for long term commercial production, while considering the land's proximity to population areas, and the possibility of more intense uses of the land.

Agricultural practices have taken place in Mason County since the early days of logging. The clear-cutting practices of those early logging companies opened a considerable amount of County land to agriculture, particularly to dairying and cattle raising. Crop production was limited to the growing of hay, berries and potatoes. In the eastern part of the County where the weather was milder, extensive vineyards and fruit orchards were planted. Despite its rich

agricultural history, however, Mason County is not well-endowed with the resources necessary to create a strong competitive advantage for agricultural production. Consequently, agriculture's current role in Mason County's economy is relatively minor.

In 1993, there were 320 farms in operation in the County covering approximately 21,640 acres or nearly 4 percent of Mason County land area. In 2016, that acreage has declined to about 8,000 acres a loss of over 60 percent. Continued population and housing growth in Mason County is likely to increase land use conflicts between urban uses and remaining agricultural uses. As land values rise, the potential economic returns will likely increase the pressure on owners to sell or develop their properties.

Much of the agricultural land within the County is located in the rural areas, outside the UGA's.

In order to better conserve agricultural lands of long-term commercial significance, Mason County designated Agricultural Resource Lands in its Resource Ordinance. The amendments also provided for continuing protections for lands in agricultural use, but not qualified as lands of long-term commercial significance.

Aquaculture

Mason County is the largest producer of shellfish in Washington State and Washington is the top shellfish producing state in the nation. Mason County has seen an increase in shellfish farms and revenue from shellfish sales of 25 percent between 2013 and 2005, based on the US Aquaculture Census.

Shellfish farms are significant contributors to Mason County's. Shellfish farming is the second largest employer in Mason County, Washington with over 70 farms generating \$32 million in revenue annually. Shellfish also do their part to reduce the trade deficit. Shellfish grown in Mason County are exported around the world, bringing in millions of dollars from foreign countries each year directly benefitting our local economy as well as federal and state economies.

Shellfish production requires a healthy, functioning ecosystem to provide safe water quality and appropriate quantities of phytoplankton for food. Scientific research indicates well-managed shellfish farming can improve water quality, species diversity, and habitat complexity.

In order to better support shellfish production, Mason County has adopted its Shoreline Master Program and Resource Ordinance. These policy documents provide for continuing protections for aquaculture lands and the watersheds that feed into these lands.

Fish, crustaceans, mollusks, and other aquatic products which are caught or harvested by the public from non-controlled waters or beds are considered wild caught and are not included as aquaculture. Mason County has 25 public access beaches for shellfish harvesting and maintaining and enhancing this access remains a priority.

The shellfish industry across the state of Washington, including business owners in Mason County, have developed recommendations to support shellfish (Washington Shellfish Initiative):

1. Establish a state shellfish aquaculture coordinator
2. Create a centralized mapping and data tracking portal
3. Develop consistent, practicable, and effective best management practices
4. Address overall permit timeliness
5. Continue outreach to growers
6. Provide technical assistance to local government
7. Assess permit compliance
8. Reduce redundancies and improve interagency coordination
9. Devote funding to support shellfish aquaculture permitting
10. Designate a lead state agency to manage shellfish aquaculture

Voluntary Stewardship Program

In 2012, Mason County elected by a vote of the Commission to opt in to the Voluntary Stewardship Program as established under Ruckelshaus Process Bill and codified in RCW 36.70A.700. This program is intended to promote local plans that protect and enhance critical areas within areas where agricultural activities are conducted, while maintaining and improving the long-term viability of agriculture in the state of Washington and reducing the conversion of farmland to other uses. These plans establish voluntary incentive programs that encourage good riparian and ecosystem stewardship, protect water quality and fish habitat, and discourage the cessation of agricultural activities.

In 2015 Mason County entered into a contractual agreement with the Washington State Conservation Commission to receive funding for the Voluntary Stewardship Program Workplan Development to be complete by 2017.

Mineral Resource Lands

The State of Washington's GMA guidelines define mineral resource lands as lands primarily devoted to the extraction of minerals, or that have known or potential long term significance for the extraction of minerals. Minerals include gravel, sand, and valuable metallic substances.

See the Mason County Planning Map Library available on the Mason County Website for a series of maps referenced throughout the Comprehensive Plan including Mineral Resource Lands identifying locations of known and potential mineral resources. The mineral resources identified on the map are based primarily on soil types identified by the SCS in the *Mason County Soil Survey* and the Department of Ecology in the *Coastal Zone Atlas of Washington*. It should be noted that many of the soil characteristics which increase an area's potential as a source of mineral resources also increase its potential for aquifer recharge.

Mason County contains a large supply of construction aggregate (i.e., sand and gravel). There are three remaining, undeveloped, large sources of high-quality sand and gravel located in close proximity to the waters of Puget Sound, such that materials can be transported from the site by barge to water-dependent metropolitan construction aggregate markets also located on the Puget Sound tide lands. Two of these large deposits of aggregate are located in Mason County. They include the proposed Hamma Hamma site at Eldon on Hood Canal, and the permitted Johns Prairie site north of Shelton on Oakland Bay. Both Mason County sites contain a high-volume source of high-quality sand and gravel. These resources are suitable for processing into a wide variety of finished construction aggregate classes, all meeting government and ASTM (American Society for Testing and Materials) specifications.

Mason County has nineteen operating surface mines at the present time, approximately 2,220 acres considered as active permitted mines according to the Department of Natural Resources. The Resource Ordinance protects mineral resources lands for the future use of these areas for mineral resource extraction.

Continued population growth may place additional demands on local mineral resources. Impacts associated with mineral extraction include erosion and sedimentation, noise from machinery and vehicles, fugitive dust, and the visual impacts of excavated areas.

Open Space

There are three kinds of open space land: private, common use, and public open space. Private open space includes farms, forest lands, and other parcels of undeveloped land. Common use open space is land within a residential development or other development that is designated for common access by the residents of the development or by the general community. Public open space is publicly-owned land available for recreational use of the entire community. Open water areas, such as the Hood Canal or lakes, is also often considered as open space because it creates a sense of openness.

Open space land is valuable to the community for a number of reasons. It can provide recreational opportunities, it is aesthetically pleasing, it enhances the quality of life in urban areas, and it increases property values. It creates natural boundaries, which can act as greenbelts and define neighborhood identity and can protect natural resources such as groundwater recharge areas, streams, soils, tidal areas, agricultural areas, and wildlife. Open space often provides habitat areas for wildlife.

Open space land is an essential component of rural character. Without adequate open space, the land will not appear rural. Rural

character is discussed in the Rural Element of Mason County's Comprehensive Plan.

Mason County enjoys extensive open spaces. In addition to the Olympic National Park and Olympic National Forest, there are significant tracts of state owned or privately held timber. Farmlands in river valleys, particularly the Skokomish, also are open space lands. A detailed listing of park and recreation facilities in the County is presented in the Capital Facilities element of the Mason County Comprehensive Plan.

See the Mason County Planning Map Library available on the Mason County Website for a series of maps referenced throughout the Comprehensive Plan including existing and planned Open Space and open space corridors in Mason County.

Projected growth in Mason County is likely to increase the pressure for conversion of existing open space to urban uses over the next 20 years. As land values rise, the potential economic returns will likely increase the pressure on owners of larger tracts of undeveloped land to sell or develop their properties.

The Comprehensive Plan provides for the preservation, protection, and enhancement of open space . It does this by directing substantial population and housing growth into Urban Growth Areas. Also, the comprehensive plan provides for incentives to cluster development, as well as requiring the preservation of open space in some situations. It should be noted that if the incentives for rural clustered development are implemented, tens of thousands of acres could be preserved as open space. Both techniques are intended to preserve open space including: Long-Term Commercial Forest lands, Agricultural Resource Lands, local parks, state parks

and other state lands, the Olympic National Park and the Olympic National Forest, land slide hazard areas and their associated buffers, flood ways, streams and their associated vegetation area, wetlands and their associated buffer areas, lands preserved as part of a clustered development plan, lands preserved as part of the designation of a master planned resort, and major utility corridors.

Additionally, cluster development policies could result in tens of thousands of acres preserved as open space across the County. Undeveloped land, non-designated forest lands and non-designated agricultural lands may also function as open space.

Master Planned Communities

Master Planning is a new tool for accommodating population growth in Mason County while protecting the resources of Mason County. It requires the implementation of additional design and performance standards for all aspects associated with development of the site, including protection of the environment and natural features, construction of utilities and roadways, and site construction. Low Impact Development (LID) techniques shall be incorporated into all Master Development Plans. LID is a land use development strategy that emphasizes protection and use of on-site natural features, integrated with engineered, small-scale hydrologic controls at the parcel and subdivision scale to manage stormwater and more closely mimic predevelopment watershed hydrologic functions.

Master Development Planning in Mason County is intended to facilitate long range, predictable and innovative development possibilities on large tracts of land. A Master Development Plan allows larger properties with unique characteristics or circumstances benefit from more detailed and thorough planning of

future development to accomplish desired land development over a multiple year and phased term. A Master Development Plan provides a common and interrelated development theme within the boundaries of the Master Development Plan, while ensuring its integration and compatibility with the surrounding community and land uses.

The intent of a Master Development Plan is to: preserve unique, fragile, and environmentally critical areas; provide efficient use of the land and infrastructure; implement low impact development techniques; promote innovative, quality design; and provide for the inclusion of on-site amenities such as open spaces, community facilities, enhanced landscaping, and recreational opportunities. Uses allowed within the Master Development Plan should be consistent overall with those uses allowed within the base land use districts, provided that a Master Development Plan may allow for more flexibility in density, the location of uses and development standards in a manner consistent with the intent of the base land use district. A Master Development Plan allows for a mixture of residential and non-residential land use development types, such as clustering of single-family residential dwellings, attached residential units, zero lot line development, public facilities, and commercial and office uses.

A Master Development Plan shall be applied through the Mason County Development Regulations and be accompanied by a Development Agreement.

Separate provisions are necessary that address unique conditions when locating a Master Development Plan within an Urban Growth Area or within lands designated rural. A Master Development Plan could also be appropriate for areas adjacent to but outside existing Urban Growth Boundaries. When a specific location is identified for

within Mason County, a Master Development Plan will be required to demonstrate consistency with the Comprehensive Plan and RCW 36.70A.35.

Master Development Plan Policies

1. **LAND USE.** Adopt regulations to guide the location and siting of Master Development Plans within rural and urban areas, consistent with policy direction contained throughout the Comprehensive Plan. These regulations shall:
 - 1.1. Clarify that a Master Development Plan is appropriate for large contiguous areas of land under common ownership or control, with common characteristics and connectivity. Include criteria for when and where a Development Master Plan may be appropriate within rural lands and within urban growth areas.
 - 1.2. Require a Master Development Plan pursuant to RCW 36.70A.350.
 - 1.3. Require that adequate road, water, drainage, sewer and/or septic capacity exist or is planned to meet the demands of the proposed development within the Master Development Plan. Consider alternative standards for utilities and roads that address rural and urban character and utilize low impact development techniques in harmony with the unique environmental characteristics of the area.

- 1.4. Provide transportation circulation that addresses public service and emergency response requirements and the needs of pedestrians and bicyclists.
- 1.5. Encourage flexibility in design to promote a variety of housing types, densities, and affordability. Accommodate a mix of commercial, retail and residential uses, as well as opportunities for social and cultural expression while preserving the areas natural features. Individual lot sizes should vary in a Master Development Plan to promote a range of housing options and the preservation of unique and fragile environmental features and critical areas.
- 1.6. Provide levels of service compatible with the project's location, development intensity and the surrounding lands uses. Proposed Master Development Plans in rural areas shall not require urban services.
- 1.7. Allow for increased density and/or a reduction in dimensional standards within the Master Development Plan when enhanced on-site amenities are incorporated into the overall development, such as open spaces, community facilities, landscaping and buffers, recreational opportunities, and other similar amenities that benefit the community and the environment and exceed the existing minimum requirements.
- 1.8. Include a process to allow phased development within the Master Development Plan in an orderly, coordinated, and thoughtful manner. The phasing plan for the development shall demonstrate that the

various segments of the development are served by adequate public facilities and services.

- 1.9. Promote the incorporation of LID techniques in the development and management of the area within the Master Development Plan.
- 1.10. Include technical guidance on the use of LID techniques in public and private developments within the Master Development Plan. These techniques shall:
 - i. Preserve the site characteristics, including natural terrain, drainage patterns, soil structure, and native vegetation;
 - ii. Preserve the natural hydrologic cycle, including vegetative rainfall interception and evapotranspiration, and groundwater infiltration and percolation to the extent the subsurface conditions permit;
 - iii. Mimic natural rainfall capture capacity in areas of site disturbance, and ensure the protection of property and public safety in the design of overflow capacity, and
 - iv. Incorporate measures to manage stormwater within the Master Development Plan that will enhance water quality downstream.

- 1.11. Require all Master Development Plans to include specific design guidelines and development standards to ensure that the proposed development promotes community identity, has a consistent theme, and is integrated and compatible with its surroundings.

2. Water & Sewer Utilities in Master Development Plans.

Water and sewer utility infrastructure in master development plans shall be designed with quality components, and to be operated and maintained efficiently.

- 2.1 Potable water service shall be consistent with coordinated water supply plans for urban growth areas (UGAs), and provide through community-based systems for planned developments in rural areas. Such rural systems should preferably be operated and maintained by a public entity with authority to operate in the proposed area.
- 2.2 To the extent available, Master Development Plans should utilize reclaimed water supplies in addressing non-potable water demands.
- 2.3 Development within a UGA shall plan for wastewater service consistent with sewer service plans for the UGA and current development standards and the costs for capacity borne by the development.

- 2.4 Clustered development is encouraged to maximize the efficiency of wastewater service provisions, taking into account the proximity to connection outside the development.

- 2.5 Development in future phases of a Master Development Plan that will be served by wastewater collection and treatment shall be planned to facilitate future connection to a public system with attention to the location of those lines in public rights of ways or easements that will ultimately be the responsibility of the sewer service provider.

- 2.6 Development in areas not planned for future public sewer service shall provide community-based collection and treatment systems, preferably maintained by a public entity, consistent with the best available knowledge of hydrogeologic connectivity and the potential impacts to surface and groundwater resources.

- 2.7 Development shall address the storage location and collection of solid waste and recyclable materials. In UGAs, developments shall facilitate curbside collection of solid waste and recyclable materials.

3. Parks & Recreational Facilities in Master Development

Plans. Improvements and phasing in a Master Development Plan shall address adequate passive and active parks and open spaces consistent with the standards in the County-Wide Parks Plan.

- 3.1 Parks and other recreational or trail facilities shall be designed and developed consistent with industry standards for quality of materials, safety and efficient operations and maintenance.
- 3.2 Master Development Plans shall include connections to future or existing open space corridors and trail connections, with internal community circulation.
- 3.3 Master Development Plans with access to surface water amenities shall incorporate access for residents and visitors outside the proposed development.

D. Protecting Water Quality and Reducing Runoff

Mason County has an abundance of marine and freshwater areas that include Puget Sound, Hood Canal, and thousands of rivers, streams, lakes, ponds, and wetlands. Surface water flows in the County result from precipitation. Precipitation occurs year round. It tends to be particularly heavy during the months of November through April, when heavy rainfall at the lower elevations combines with seasonal snowmelt in the mountains.

Mason County's drainage system for surface runoff is characterized by thousands of small tributaries which form the several hundred streams and rivers that eventually make their way into Hood Canal, Oakland Bay, Totten Inlet, Skookum Inlet and Case Inlet. Some of the larger of these rivers include the Skokomish, Union, and Tahuya Rivers.

See the Mason County Planning Map Library available on the Mason County Website for a series of maps referenced throughout the Comprehensive Plan including Water Mitigation Planning Areas.

Mason County's natural drainage system contains hundreds of lakes and ponds that further help to moderate the effects of surface water storm flows. The largest of these include: Lake Cushman, Mason Lake, Cranberry Lake, Lake Limerick, and Lake Nahwatzel.

Mason County has done a significant amount of planning related to stormwater management and water quality. The County has cooperated with the adjoining counties, tribes and the state to develop specific watershed management plans and implemented water quality protections in several significant ways. For example, the County created a clean water district and stronger on-site septic

system controls including an operations and management ordinance. Sanitary sewer systems have been constructed in the the North Bay - Case Inlet area as well as in the Belfair Urban Growth Area to improve water quality in those areas. The county also adopted the "Skokomish River Comprehensive Flood Hazard Plan" to identify means of managing flooding problems.

Mason County's management of stormwater is primarily regulatory. The Puget Sound Water Quality Management Plan requires all counties and cities within the Puget Sound drainage basin to adopt ordinances to control runoff from new development and redevelopment. The plan directs local governments to adopt the stormwater programs which include minimum requirements as developed by the Department of Ecology. The County created and adopted the Storm Water and Surface Water Utility and Stormwater Management Ordinance incorporating the minimum requirements of the most current edition of the Department of Ecology's Stormwater Manual. These address many of the stormwater concerns by requiring appropriate design and best management practices for new development or redevelopment for both water quantity and quality.

See also the Utility Element of the Mason County Comprehensive Plan for more information about stormwater management.

The City of Shelton has provisions for stormwater management in its Comprehensive Plan and city ordinances. The Capital Facilities Element and Utilities Element of the City's Plan discuss existing provisions and the need for continued joint planning between the city and the county to coordinate stormwater management in the urban growth area.

New development almost always results in the clearing of vegetative areas and increases in impervious surfaces. The purpose of the plans and ordinances discussed above is to remove or minimize the impacts that can be caused by development through implementation of Low Impact Development (LID) practices, or stormwater management techniques designed to mimic natural processes. If not appropriately designed using these LID techniques, urban development can result in the impacts of increased soil erosion and sedimentation during and after clearing; encroachment into streams and wetlands; alteration of stream courses; and loss of critical habitat. Urban development can result in nonpoint pollution of surface waters. Increased runoff from development may also increase the incidence of downstream flooding and erosion.

This Land Use Element includes policies and designated districts requiring clustering of development and preservation of open space. Both techniques reduce the amount of land disturbed by development while maintaining overall rural densities. The open space design provides additional protection to wetlands, floodways and streams.

The *Countywide Planning Policies* call for Mason County and the City of Shelton to provide for the protection of water quality and address public education, stormwater management, and watershed management.

