

CHAPTER 4 LAND USE ANALYSIS

The Shoreline Management Act (SMA) policies provide for protection of shoreline ecological functions while allowing for “all reasonable and appropriate uses.” To clarify what is meant by “all reasonable and appropriate uses”, the SMA states:

Alterations of the natural condition of the shorelines of the state, in those limited instances when authorized, shall be given priority for single family residences and their appurtenant structures, ports, shoreline recreational uses including but not limited to parks, marinas, piers, and other improvements facilitating public access to shorelines of the state, industrial and commercial developments which are particularly dependent on their location on or use of the shorelines of the state and other development that will provide an opportunity for substantial numbers of the people to enjoy the shorelines of the state (RCW 90.58.020).

This chapter focuses on anticipated trends and projected demand for shoreline uses and potential use conflicts. Potential conflicts in this context are focused on competing objectives or planning priorities inherent in the overall SMA policy intent (e.g., preference for water-dependent uses, public access, and ecological protection and restoration). Potential conflicts may also address conflicts between SMA policy objectives and other interests or regulatory requirements affecting shoreline resources.

4.1 Trends and Future Demand

Island County has been a rapidly growing part of the Puget Sound region. Much of this growth has been driven by the in-migration of people from other areas. In the 1940s and 1960s, with the establishment of Naval Air Station Whidbey Island (NASWI), the County’s population expanded dramatically (average 80 percent increase over each of those decades). Another significant increase occurred between 1970 and 1980 (83 percent) with expansion of the Everett Boeing plant within commuting distance of the county (Island County, 1998).

Recently the County’s population has grown at a slower rate. Between 2000 and 2010, the County’s population grew from 71,558 to 78,506, an increase of approximately 10 percent substantially slower than Washington State’s overall growth rate for this period of 14 percent (OFM, 2010).

Island County’s three incorporated areas encompass approximately 32 percent of the residents of the County (Oak Harbor-22,075; Coupeville-1,831; and Langley-1,035) (Map 11 in Appendix A). Langley also has a small designated urban growth area (UGA). There are also several small unincorporated communities with suburban densities. The community of Freeland is not incorporated but has been designated by the County as a Non-Municipal Urban Growth Area in 2007. The community of Clinton is located at the Washington State Ferries terminal near the southern end of Whidbey Island. In addition to these, the County has designated numerous areas as rural areas of more intensive development, where smaller lots and more intensive residential development have been allowed.

Most of the recent growth in Island County has been in unincorporated areas. The desire to live along shorelines has led to residential growth being concentrated near water bodies. As undeveloped shoreline land has become scarce, interior rural parts of the county have been divided into small farms, woodlots, and residential development on large parcels (Island County, 1998).

The County used the year 2020 for comprehensive growth planning, and based its plans on population estimates from the Washington State Office of Financial Management (OFM). The Island County 1998 Capital Facilities Plan estimated countywide population in 2020 would be 118,800, approximately 51 percent greater than the 2010 population of 78,506 (Island County 1998, US Census 2010). However, OFM has since revised the 2020 population estimate for Island County downwards to 94,275, a 20 percent increase from 2010 (OFM 2011). The OFM 2030 estimate for Island County is 100,985, a 28 percent increase over the 2010 census population.

The County predicted that 70 percent of the population increase through 2020 would be located in unincorporated areas (Island County, 1998). This prediction has been roughly true from 2000 to 2010, during which time 65 percent of the population growth has occurred in the unincorporated areas of the County. Put another way, slightly more of the growth has occurred within incorporated areas than was expected.

Approximately 76 percent of the population of the County lives on Whidbey Island (OFM, 2010a), which is roughly proportional to the land area of Whidbey Island relative to Camano Island. Based on this development pattern, the pattern of past permits, the availability of land, and the relative accessibility of each island to employment centers off-island, development rates on each of the islands is likely to remain about equal over time.

In recent years, the number of housing units in the County has grown at a faster rate than the population. For example from 2000 to 2010, the number of housing units grew by approximately 24 percent, over double the rate of population growth (OFM, 2011). This is probably mainly reflective of an aging population with smaller household sizes, a pattern that is common throughout the state but possibly more pronounced in Island County. The population of people 65 and older has increased by approximately 41 percent from the year 2000 to 2008 (Island County Assessor, 2010), and constituted approximately 15 percent of the Island County population at that time (OFM, 2009).

The growth in homes may also be driven by growth in recreational or seasonal homes. Homes used as recreational or seasonal residences comprised 9.6 percent of all housing units in the county in 2000, and in 2009 were estimated at about 9.4 percent of all housing units in the county. For comparison, statewide 2.5 percent of homes are used as recreational or seasonal residences. It is likely that shorelines have a higher than average percentage of recreational or seasonal residences, and that this pattern will continue in the future.

Median household income in Island County has remained very close to the statewide median household income since the mid-1990s (OFM, 2009).

If the most recent OFM population projections were to hold true, the increase in county population would be about 16,000 people by 2020. If the predicted pattern of development holds true, this would mean an additional 11,000 residents in unincorporated Island County. Only a limited number of these new residents will be able to locate on shorelines. This growth and the general aging of the population have implications for the types of shoreline development that can be expected, and possibly changing public access needs for the future.

4.1.1 Shoreline Development and Trends

European settlement on Whidbey and Camano Islands began in earnest in 1850 with the Oregon Donation Land Act. Settlers filed claims and began farming and logging on the islands. The shorelines were also used for commerce. An early trading post was located at Penn Cove. Utsalady on Camano Island was the site of a large sawmill and shipyard until the late 1800s. Most of the County was quickly logged, and few areas of old growth timber remain. The U.S. government developed military defenses along the shorelines of Whidbey Island at Fort Casey in the early 1900s, and at Fort Ebey during World War II (History Link, 2010).

Today, resource-based industries such as logging, fishing, and agriculture continue on a small scale in the county, constituting approximately 1 percent of employment (OFM, 2009). There is still a strong military presence, with the NASWI occupying shoreline areas north and east of Oak Harbor (Map 1 in Appendix A). The government sector, including military, amounts to approximately 38 percent of employment in the county (OFM, 2009) Residential development is prominent along the shorelines (Map 12 in Appendix A) and there are a number of public parks, including six state parks on the shorelines.

Development of the shorelines has changed shoreline habitats and ecosystem processes. For example, residential property owners desiring to protect their lands from erosion have installed bulkheads or other types of armoring along the shore (Map 13 in Appendix A). Property owners often clear vegetation to harvest timber, improve views of the water, to build or expand structures, protect against fire or falling trees, or for other purposes. There have been no thorough studies of how much shoreline has been modified by vegetation clearing; it is known that virtually all of the shoreline that was forested has been logged off at least once, with the exception of remnant old growth forest in Deception Pass State Park and possibly a few other small areas. While forests have regenerated on many shorelines, a rough estimate from viewing aerial photography is that more than half of the shoreline area of Island County is cleared of native riparian vegetation.

Another trend that has been observed anecdotally is the conversion of small seasonally-occupied cabins to larger full-time residences. There are a number of new residences that can be observed around the county that fit this pattern, although, the exact numbers are not available. The effects of these expansions can include increased impervious area and vegetation clearing, and in some cases views of the shoreline from nearby residences have been impacted as well.

Development can reduce the quality of shoreline habitats for fish and wildlife, and eliminate sources of sediment that once supplied substrate for nearby beaches. Failing septic systems in some residential areas can contribute pollutants to marine shorelines, affecting shellfish and other resources. Docks, piers, and marinas have been built to provide access to the water, both in

rural residential areas and cities such as Oak Harbor and Coupeville (Map 14 in Appendix A). These overwater structures can negatively affect habitat for fish and disrupt sediment processes that can affect other species as well.

4.1.2 Demand for Water-dependent Uses

The most prevalent water-dependent use in county is moorage. Moorage is generally private and associated with single family homes. Single family docks and piers are generally sparse on marine shorelines but there are concentrations in three areas: Sandy Hook and Lagoon Point on Whidbey Island, and the Camano Island Country Club. Docks are also common on most of the lakes. Moorage buoys are common around Camano Island, and in a few areas of eastern Whidbey Island, with more concentrated buoy moorage in Honeymoon Bay and Holmes Harbor. Marina space outside of incorporated areas is limited to three facilities in Cornet Bay at the north end of Whidbey Island. There are also numerous public and private boat launch ramps on both Camano and Whidbey Island.

Commercial, tribal, and recreational shellfish harvest is common in many areas of the county (See Map 15). Other than in Penn Cove, there are few permitted structures, racks, or floats associated with this use.

Small port facilities are located in Coupeville, Langley, and Oak Harbor and provide marina and temporary moorage space. There has been no recent study of demand for additional marina space. In 1980, the US Army Corps of Engineers surveyed the demand throughout Puget Sound and foresaw growth in demand for pleasure craft moorage, and identified locations where moorage might feasibly be provided. Island County was, at the time, an area that was expected to see a large increase in demand for short term and long term moorage. However, the supply has not increased as much as the projected demand suggested. It is not known to what degree this was due to a lack of demand, or other reasons.

Ferry docks operated by Washington State are located at in unincorporated areas at Keystone and Clinton, and there are no plans to expand these facilities.

4.1.3 Residential Development

Residential land uses are dominant along Island County's shoreline planning areas, currently occupying 40 percent of the shoreline (Map 12 in Appendix A). Approximately half of the shoreline in Island County is zoned Rural with a minimum lot size of 5 acres (Table 4-1, Map 11 in Appendix A). However, County code allows for smaller lots to be created in Rural areas under certain conditions, such as where there are existing single-family residences. Rural Residential zoning (14 percent of the shoreline) allows for smaller lot sizes (0.3 to 2.5 acres) in specific Residential Areas of More Intensive Rural Development (Island County Code Chapter 17.03 – Zoning).

Table 4-1. Summary of Island County shoreline areas in specific zoning designations

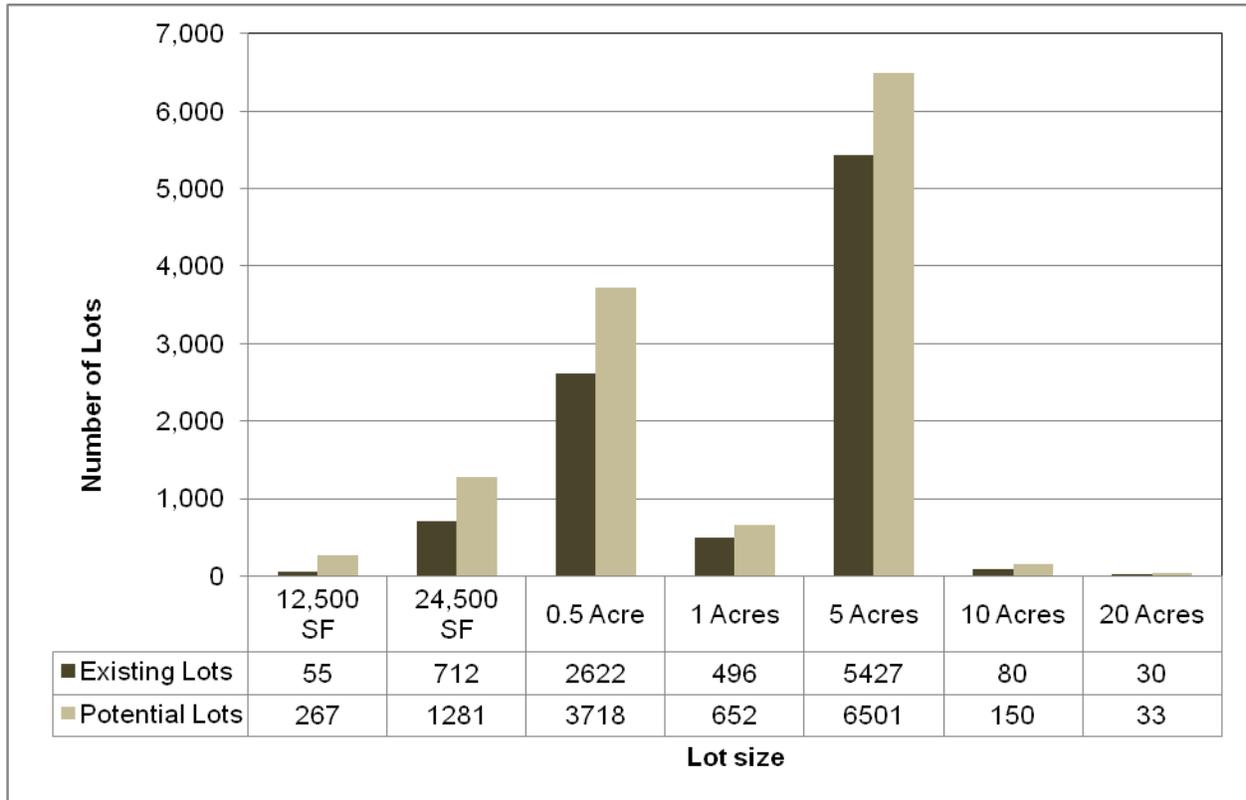
Zoning Designation	Percent of Shoreline
Rural	48.7
Rural Residential	14.2
Rural Agriculture	6.3
Parks	6.0
Commercial Agriculture	3.2
Federal	2.7
Rural Forest	1.0
Light Manufacturing	0.30
Rural Center	0.27
Rural Village	0.06
Airport	0.03

Source: Island County 2010

Figure 4-1 shows a summary of existing and potential residential lots in Island County shorelines. There are approximately 9,422 existing lots that are at least partially within the shoreline, of which approximately 1,060 (11%) are considered vacant (Island County Assessor 2011). Approximately 58 percent of shoreline residential parcels are 5 to 10 acres in size, and 28 percent are one-half to 1 acre in size.

The potential for new lots was estimated by examining existing and required minimum lot sizes in each zone, and assuming subdivision was possible up to the zoning limit on density. The analysis did not discount for wetlands, steep slopes, or other critical areas or buffers because zoning provisions allow for clustering to protect these types of resources, and as such it would be require site-specific analysis to determine the actual capacity for creating lots outside of required buffers and critical areas. The analysis, therefore, likely overstates the potential number of lots to some degree. The analysis found that 524 lots had the potential to be subdivided under current zoning. The total number of potential lots is approximately 3,200 more than exist at present, with approximately one-third of the potential lots in the 0.5-acre size and one-third in the 5-acre size.

Figure 4-1. Summary of existing and potential residential shoreline lots by parcel size



Based on past development patterns, and the current zoning and comprehensive plan, the predominant demand for use of Island County shorelines will likely continue to be for residential use. The availability of potable water and the ability to provide onsite septic treatment will be factors in the level of future residential development that can occur on the shorelines.

Under GMA, sewer systems may only be extended within urban growth boundaries and designated areas of higher intensity use. New or expanding development outside of urban areas must provide on-site septic treatment. On-site septic systems requirements have become more stringent over time due to failing and overtaxed systems and the effects they have on water quality and public health. While septic system requirements limit the feasibility of developing some shoreline lots, the high and rising value of shoreline property suggest that new technologies may be developed and employed in order to overcome this limitation on land use.

Potable water supply for shoreline development is limited in several ways. Wells must be separated adequately from septic systems, must produce water that is not contaminated with salt water, and must be adequate in supply so that withdrawal will not adversely affect other wells in the vicinity. Again, while these limitations restrict the feasibility of development of some lots, technology such as rainwater harvest and reuse of grey water could become feasible as the value of shoreline property increases over time.

4.1.4 Parks and Recreation

There are six state parks in the shorelines of Island County, and numerous County parks shown on Map 16. Sixty-five public access locations with improved access were identified in a 2005 update to a book called *Getting to the Water's Edge on Whidbey and Camano Islands*, based on research shorelines for all types of public access points. Research for that book also identified numerous unimproved and informal access points that are not shown on Map 16, and preliminary work in the inventory shows that many street ends are not included in that data set. This data gap has been noted in public outreach for the SMP update and additional data is expected to be added as it becomes available.

4.2 Potential Use Conflicts

Because of the variety of activities and values that people place on the shoreline, it is not unusual that a use that benefits one person or group is seen as detrimental to another group. Such conflicts can arise even among different uses that are preferred under the SMA. For example, water-dependent uses like marinas that are important to boaters can be seen as adversely affecting scenic or habitat values that are important to other users of the shoreline. This section outlines some of the existing and expected conflicts between shoreline uses that should be addressed in the policies and regulations of the SMP.

4.2.1 Piers and Docks

Piers and docks are concentrated in a few residential areas, in port areas in the three incorporated areas, and in the marina area in Cornet Bay. Piers and docks are an important component of recreational boating, serving as permanent and temporary moorage for vessels, including both resident and visiting boaters. Piers and docks can also be disruptive to sediment movement and intertidal habitat, and moorage of boats can adversely affect water quality if best management practices (such as use of pump-outs, provision of on-shore bathing and restroom facilities, careful handling of fuel, proper maintenance to prevent fuel and oil leaks, and use of least toxic or non-toxic soaps and other products on board) are not employed. Because of water quality issues, moorage can be a concern near aquaculture facilities.

Piers used for temporary moorage provide access to the shoreline for visiting boaters, but other boating facilities are often for private use and public access to these areas is prohibited or very limited for security reasons.

4.2.2 Shoreline Stabilization

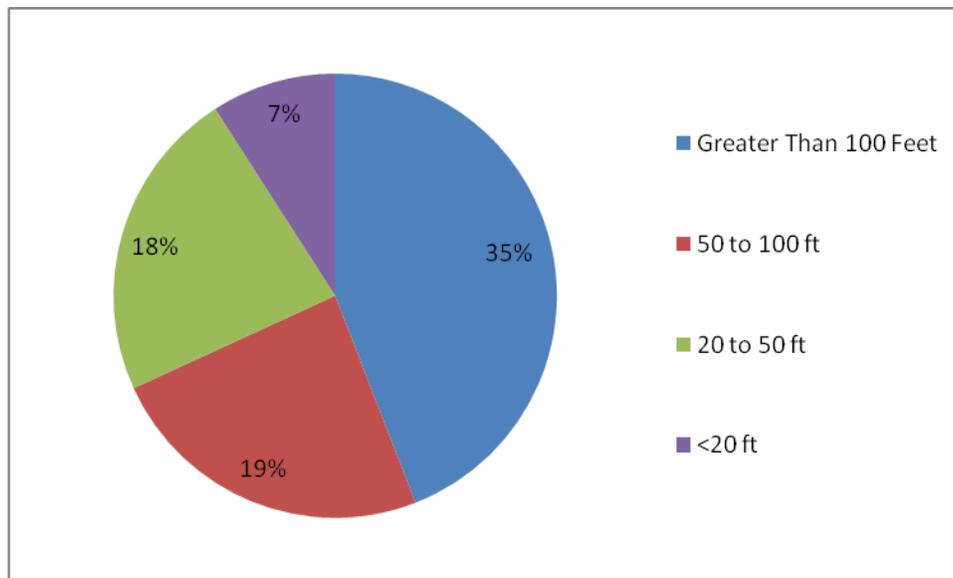
Shoreline armoring has been employed in about 16 percent of the marine shorelines of the county; Camano Island has a much higher proportion of armoring than Whidbey Island (WDNR, 2010). This does not appear to include all diking that was built to create farmland. The reasons for stabilization include supporting fill for residential and commercial development, constructing roads and utility outfalls, and protecting development from destabilization due to erosion. Shoreline stabilization can adversely affect adjacent uses and structures- eliminating the normal supply of sediment moving along marine beaches, for example, can increase erosion rates on non-stabilized shorelines. Shoreline stabilization can also conflict with habitat protection and

restoration goals because it affects both normal erosional processes and in some cases it directly eliminates or prevents the formation of critical habitats.

Natural beach formation and maintenance can be inhibited by stabilization of feeder bluffs. Island County has shorelines in several areas that have been developed above feeder bluffs and other areas that are actively eroding due to wave action and, in some areas like parts of western Whidbey Island, wind erosion as well. Not only is stabilization of these shorelines very difficult, it can jeopardize other properties and the nearshore habitat normally fed by such erosion.

A large portion of the residential development in the shoreline is concentrated in areas designated by the County Comprehensive Plan as “rural areas of more intensive development” (commonly referred to as RAIDs). Approximately 14 percent of the shorelines are classified as “modified” shoreforms, meaning the geomorphic processes have been altered, typically through armoring. Many buildings in RAIDs are also constructed closer to the OHWM than would currently be allowed. An analysis of the setbacks of structures in RAIDs showed that most have setbacks over 50 feet, but approximately 25 percent have setbacks of less than 50 feet (Figure 4-2). In areas with development close to the OHWM, it would be especially difficult and expensive to restore full habitat functions, since the structure displaces native vegetation and normal use of the property further reduces its value as riparian habitat in most cases. In addition, several RAIDs are low bank shorelines that are susceptible to flooding with sea level rise over the next 50 to 100 years.

Figure 4-2. Setbacks of Primary Structures from OHWM in RAIDs



Diked areas were typically coastal lagoons, river deltas, or associated wetlands prior to being diked and, as noted above, these critical habitat types have been substantially reduced in extent and function.

4.2.3 Public Access

Public access to the shorelines of the county is available in at least 65 locations where there are improvements and undisputed public rights of access. In other areas, informal access across private property has occurred and continues, sometimes with tacit acknowledgement by the owners and in other cases under protest. The process of sorting out legal rights for the public can be expensive and the County does not pursue all claims of public rights for legal and other reasons. These types of conflicts will likely continue as long as the demand for public access to some areas of the shoreline is not being fully met by clear and defined access points.

Public access can conflict with private property in other ways, as well. Marine areas waterward of the extreme low tide are bedlands owned by the State of Washington and managed by the Department of Natural Resources. Some of these aquatic lands are leased by the DNR for aquaculture, marinas and other aquatic uses. Tidelands are submerged lands and beaches that are exposed and submerged with the ebb and flow of the tides. Initially, at statehood, tidelands in Washington were publicly owned. Then, for more than 80 years tidelands and shorelands could be purchased from the state. In 1971, the state Legislature stopped further sale of the state's aquatic lands. Today, tidelands are a complex patchwork of private and public ownership. Maintaining signage that accurately designates public access and public tidelands is often challenging in the shoreline environment.

Over half of the tidelands in Island County are privately owned, and not all property lines are clearly understood and delineated. There are instances where private structures and landscaping have encroached on public right of ways, thereby reducing or blocking public access. Many developed beach communities in Island County were platted with the beach and tidelands in common ownership. These shoreline areas are considered "community beaches" and are available for use by the homeowners and their guests.

4.2.4 Marine Renewable Energy Facilities

There is a growing interest in the potential to harvest tidal energy, particularly in Admiralty Inlet where the current is very strong and thus could provide a dependable energy source. At this time, it is not known exactly what such an energy facility would entail, as studies are just underway to measure the characteristics of the currents and try to understand how much effect an energy facility might have on the normal function of the tides in Puget Sound. It is also not known how large such a facility would have to be, both the underwater components and the supporting facilities on land. In addition to effects on tidal flushing, habitat could be affected by electromagnetic radiation, cables crossing sensitive areas like eelgrass beds, for example. Transmission facilities could be underground or above ground, and may or may not be feasibly located outside of shoreline areas. What is known is that potential water quality, habitat, and aesthetic effects need to be studied further as this technology is developed.

4.2.5 Habitat Restoration

Habitat restoration projects are planned for several locations in the shorelines. In some cases, these projects may raise concerns for existing adjacent uses. In the area around the NVAWI airfield, birds are a hazard to planes taking off and landing. Concern has also been raised that

restoration of saltwater marshes could affect saltwater intrusion into groundwater. Restoration of riparian vegetation could result in restricting or eliminating some views of the water from private or public property. Some restoration projects would eliminate farm fields that were created by cutting off tidal flow, or require relocation or acquisition of homes. All such projects would be subject to constitutional limits on taking of property without due compensation, and other regulations that require study and disclosure of impacts prior to implementation.