

DRAFT

GUEMES ISLAND SUB-AREA PLAN



Guemes Island Planning Advisory Committee
July 2007 DRAFT

DRAFT

GUEMES ISLAND SUB-AREA PLAN

A Component of the Skagit County Comprehensive Plan

July 2007

Skagit County Board of Commissioners

Sharon Dillon, Chair
Don Munks
Ken Dahlstedt

Skagit County Planning and Development Services

Gary Christensen, Director
Jeroldine Hallberg

Guemes Island Planning Advisory Committee

Joost Businger, chair	Gary Curtis	Howard Pellett
Roz Glasser, vice-chair	Marianne Kooiman	Fred Sievers
Allen Bush, Jr.	Jim O'Neil	Connie Snell

Table of Contents

1	Introduction	1
	Guemes Island	
	Goal and Vision Statement	
	History	
	The Growth Management Act and Sub-Area Planning	
	The Guemes Island Sub-Area Planning Process	
	Early Community Commitment	
	Current Public Participation in the Sub-Area Planning	
	Acknowledgements	
2	Land Use Element	10
	Introduction	
	Rural Character Definition	
	Rural Area Designation	
	Current Conditions	
	Future Growth	
	Education	
	Policy Recommendations	
3	Natural Resource Conservation Element	23
	Introduction	
	Current Conditions and Issues	
	Future Conditions and Issues	
	Education	
	Policy Recommendations	
4	Environment Element	26
	Introduction	
	Current Conditions and Issues	
	Future Conditions and Issues	
	Education	
	Map Modifications	
	Policy Recommendations	

5	Shorelines Element	45
	Introduction	
	Current Conditions and Issues	
	Future Conditions and Issues	
	Policy Recommendations	
6	Transportation Element	66
	Introduction	
	Current Conditions and Issues	
	Future Conditions and Issues	
	Policy Recommendations	
7	Implementation	85
	Introduction	
	Plan Implementation	
	Recommendations	
	References	87

Appendices (available at the Guemes Island Library)

Appendix A	Written Survey Results
Appendix B	Rapid Shoreline Inventory Report
Appendix C	Resolution 20040393; recognizing the Ferry Committee and establishing the Ferry Roundtable
Appendix D	Crossing Over Report
Appendix E	Resolution 20030074; Guemes Island Ferry Schedule and Fare Task Force
Appendix F	2004 Fare and Schedule Proposed Package
Appendix G	Resolution 20040051; Approval Task Force Recommendations
Appendix H	Plan Policy Recommendations by Lead Entity
Appendix I	Shoreline Master Program Element. Draft November, 2005

Figures and Tables

1.1	USGS topographic map	9
2.1	Present and potential development on Guemes Island	14
2.2	Parks, open space, and conservation lands	19
2.3	Zoning map – land use designations	20
2.4	Location of buildings and growth chart	21
2.5	Distribution of local and non-local property owners	22
4.1	Land cover	35
4.2	Wetlands	36
4.3	Hydrology	37
4.4	NWI wetlands and hydric soils	38
4.5	Extent and thickness of Vashon aquifer	39
4.6	Well chloride levels	40
4.7	Well drilling permit areas	41
4.8	Public water systems	42
4.9	Tsunami inundation areas	43
4.10	Soil erosion areas.....	44
5.1	Rapid shoreline inventory.....	56
5.2	Current shoreline environmental designations on Guemes Island.....	57
5.3	Current shoreline designations.....	58
5.4	Shoreline public access.....	59
5.5	Current shoreline development standards.....	60
5.6	Shoreline modifications.....	61
5.7	Proposed shoreline designations.....	62
5.8	Descriptions of proposed shoreline designations	63
5.9	Recommended shoreline residential development standards.....	64
5.10	Rapid shoreline inventory recommendations	65
5.11	Side yard setback illustration	65
6.1	Transportation levels of service standards.....	79
6.2	Ferry ridership from 1980 projected to 2015.....	80
6.3	Road designations.....	81
6.4	Road signage.....	82
6.5	Road Map.....	83
6.6	Ferry parking plan.....	84

1. Introduction

Guemes Island

Guemes Island is situated in the northern part of Puget Sound (Figure 1.1). The island is roughly triangular in shape and covers about 8 square miles or approximately 5100 acres. It is separated from Anacortes on Fidalgo Island by the Guemes Channel and is served by the Skagit County public ferry service from Anacortes ferry dock at 6th Avenue and I Street.

The 2000 U.S. Census counted 563 residents on Guemes Island, including 69 children under 18 years of age. Currently the Guemes Precinct lists 584 registered voters. This number includes a few people from other islands and many people who are not full-time Guemes residents. The island has experienced significant growth in recent years. This has led to concerns about growth-related impacts upon the qualities that make the island such a desirable place to live. Since groundwater is the main source of potable water on Guemes Island, protection of quantity and quality of the groundwater is a primary concern.

Goal and Vision Statement

The overall goal of this sub-area plan is to allow growth that will conserve the island's groundwater resources, rural character and sense of community. Rural character is understood to include both the amenities of the natural environment – the open spaces, views, wooded areas and wildlife – and the lack of urban-scale development. The term applies to the non-visual aspects of rural life on the island, the self-sufficiency, sense of community and mix of land-uses as well as the visual appearance of Guemes Island.

The intent is to make planning and sustainability internally derived and to reflect that goal in the sub-area plan. This ongoing process will use an integrated assessment of social, economic and environmental factors. By combining these features, useful ways of approaching highly complex issues can be found.

Today, Guemes Island is a rural neighborhood of mostly small-scale homes. Islanders embrace values reflecting a strong sense of community, neighborliness, an unhurried pace of life, respect for privacy, awareness of history, stewardship for land and shore, creativity, and an independent spirit.

We envision a future wherein these community values will be retained:

- Uncrowded country roads where walking and bicycling riding are safe;
- A network of healthy, accessible shorelines and wetlands, open fields, wild thickets and forests, all supporting abundant wildlife;
- A mix of rural densities that preserves maximum open space and maintains the scale and character of current island homes;
- Sustainable growth as permitted by use of the island's aquifer and other natural resources, and by social and economic factors.

Most importantly, we see a future where sustainable growth and direction will continue to happen by building on active community involvement.

This vision has been captured by Gary Davis, a local island poet:

Welcome

As you walk here step gently
enjoy the young raven in the ancient
fir tree that shades the cattail marsh
just up from the beach

Sense the harmony of the islanders
as they go about with an
unhurried pace, a kind wave of the
hand for all passers by

Admire the quiet. Breathe the peace
we all try to preserve for each other

and do no harm here
to our place...to our home

Gary Davis

History

Spanish explorers reported the first European sighting of the island in 1792 and named it after Señor Don Juan Vicente de Guemes.

Guemes Island was home to many Samish People who have been living on and using the island for as long as we can know. They continue to have a presence on the island. Guemes was one of the places where Samish people built huge winter houses, made from horizontal cedar planks split from living or downed trees and attached to a post and beam framework. The interior of such a Coast Salish longhouse had posts spaced along the outer walls and had a row of center posts inside the structure. Post were carved or painted in designs inspired by the owner's guardian spirit. Many families lived together in a house through the winter.

One such house was known as the Guemes House and was the central structure in what was called the New Guemes Village. The house has a well-documented history, dating from the homestead applications in 1876 by Bob Kitholano and Sam Watchoat for two plats on the west side of Guemes Island. The house, built across the dividing line of the two plats, was constructed in the traditional manner. According to several sources, this longhouse was one of the last traditional structures built in the late 1880s. The

interior was divided into partitions for living quarters for the nine resident families. The longhouse functioned as a potlatch house as well.

The potlatch, banned from Indian reservations, continued to function over several decades at the Guemes Longhouse. One description in the *Puget Sound Mail* newspaper tells of hundreds of people coming by canoe and staying for several days of feasting and festivities. Although the Indian agents at the reservations tried to prohibit reservation residents from attending potlatches, many eluded the agents and traveled by canoe to the Guemes Village.

The last recorded Samish tribal potlatch was in 1917. The New Guemes Village fell into disrepair and was reportedly sold for tax liability in that era. White settlement had begun on Guemes in the 1860s, following the American Civil War. James Mathews, Sr. was the first to settle permanently in 1862, building a house on Deadman's Bay, now South Shore Road. Here he raised a family and brought the first cattle, sheep and poultry to the island where previously the Samish had raised wool-bearing dogs.

By 1877 the Woodcock and Mangan families had arrived at what is now the ferry landing and established a store and post office before there was any commercial activity across the channel in what is now Anacortes. Other early settlers included Allen Kittles, H.P. O'Brient, William Payne, Lucius Blackinton, John Edens and John and Sol Shriver. James Mathews Jr., and Lucius Blackinton both married native women and raised large families.

The first schoolhouse, a log structure, was built on the South Shore in 1873. It was moved to the center of the island on land donated by William Edens in 1885. Edens also donated land for the cemetery in 1904. Most communication was by rowboat or hired steamboat until W.C. Pyle established the first private ferry to Guemes in 1890. Telephone service came to the island in 1908. By that time, 100 families lived on the island. The first newspaper, the weekly *Guemes Tillikum* was first published in 1912, and rural mail delivery soon followed.

The Community Hall and Community Church were both established in 1914 on land donated by Jack Kidd. Both buildings were constructed with island funds and volunteer labor. The privately owned and operated car ferry Guemes began running in 1917 to service the Sloan Shipyard which enjoyed about a year ramping up to build ships for the World War I effort before going bankrupt at the end of the war. Electricity did not come to Guemes until 1949.

By 1960, the population of Guemes Island was an estimated 216 people. After a decade of slow growth, between 1960 and 1970, the population growth accelerated. By 1975 the estimated population was 289 people. Skagit County had been running the ferry system since 1965. In 1978 it replaced the 9-vehicle ferry Almar with the newer and larger capacity vessel Guemes, which is still in service today, thereby more than doubling its capacity. At that time, the Guemes Island Property Owners Association (GIPOA) was formed to address issues facing all property owners and residents on the island. Ferry

issues had always been of great importance to the islanders, and in 1980 a Ferry Committee was formed at the request of Commissioner Jerry Mansfield. He wanted the ferry business to be handled by one representative group rather than by numerous individuals and organizations. Its mission is to coordinate ferry-related issues among ferry users, the Skagit County Public Works Department and the Skagit County Board of Commissioners. Both GIPOA and the Ferry Committee have remained active to this day.

A number of small stores, several located near the ferry dock, served the community through the years. After a 5-year struggle to get the property rezoned, Anderson's General Store opened in June of 1998. The store is located at Mangan's Landing, a stone's throw from the first store built on Guemes in the late 1800s. It provides people with the option to buy provisions and gasoline on the island.

The old-time tradition on Guemes for the community to take care of its own affairs has been maintained through time, as exemplified by the Murray Read Pavilion, built recently with funds raised on the island and constructed with volunteer labor at the Guemes Island Schoolhouse Park. The pavilion was dedicated on July 4, 2004.

The Growth Management Act and Sub-Area Planning

The 1990 Washington State Growth Management Act (GMA), Substitute House Bill 2929, directs the counties to encourage the involvement of citizens in the planning process and to ensure coordination between communities and jurisdictions to reconcile conflicts [Section 2 (11)]. The GMA provides for sub-area plans, which have to be consistent with the County's comprehensive plan. Sub-area plans are detailed land-use plans for smaller geographic areas [Section 8 (2)].

The Skagit County-Wide Regional Comprehensive Plan Policies (1992) states that Skagit County shall utilize broad-based Citizen Advisory Committees to participate and assist in the development of the Comprehensive Plan Elements, sub-area plans and functional plans [Planning Goal 11, Citizen Participation (11.6)].

The Skagit County Comprehensive Plan of 2000 calls for Guemes Island to be a "Rural Area of More Detailed Planning." Guemes is suitable for sub-area planning because it is an island with distinct physical boundaries whose rural character continues to be shaped by its dependence on a ferry for access and on groundwater for drinking water. The community plan for Guemes shall address rural commercial uses and locations, sole-source aquifer issues, shoreline environs, ferry service, open space and natural resource lands, and provisions for maintaining rural character and lifestyles. Consideration should be given to the community's previously drafted sub-area plan for the island [4A-7.15(e)].

The Guemes Island Sub-Area Planning Process

In 1991, after the GMA had been enacted, the residents and property owners of Guemes Island community elected thirteen members for a Guemes Island Planning Advisory Committee (GIPAC) to formulate a basis for a Sub-Area Plan. The GIPAC presented its

draft proposal of the “Guemes Island Policy Recommendations for Comprehensive Plans as mandated in SHB 2929” to the Skagit County Commissioners. Unfortunately this sub-area planning effort was premature as the Skagit County Comprehensive Plan was still under development at that time.

Based on Skagit County Comprehensive Plan [4A-7.15(e)], islanders decided the time had come to develop a plan for sustainable growth on Guemes Island. At a public meeting in 2002, the island’s community elected a new GIPAC to draft a sub-area plan. The Skagit County Commissioners recognized GIPAC as the Community-Based Representative for purposes of obtaining funds and initiating a Sub-Area Plan for Guemes Island (Resolution 20030037).

Subsequently GIPAC developed a Work Program, which was adopted by the Skagit County Board of Commissioners on January 24, 2005, by Resolution 20050025.

In 2005 GIPAC received a grant from the Washington Department of Ecology (WDOE) to hire a consultant to develop a Guemes Island Component of the Skagit County Shoreline Master Program. John Owens from MAKERS Architecture and Urban Design produced a draft document that provided GIPAC with material to select and adapt for inclusion in the Guemes Island Sub-Area Plan.

Early Community Commitment

Past activities show a high level of commitment of the Guemes Island Community:

Aluminum Smelter. In 1966 the Northwest Aluminum Company, a subsidiary of Bell Intercontinental Corporation, was interested in building an aluminum smelter on Guemes Island because of its proximity to shipping and cheap power. The proposed 720-acre site stretched from South Shore Road to Edens Road in the Valley. Skagit County and economically depressed Anacortes favored this opportunity, so the county commissioners hastily rezoned part of the island to heavy industry. Guemes Islanders, organized as the “Save the San Juans” group, hired Seattle lawyer John Erlichman, who pursued the legality of this rezone, and eventually appealed to the State Supreme Court. Northwest Aluminum bowed out under public pressure and the prospect of a long legal fight even before the Supreme Court ruled in 1969 that the rezone was a violation (See Washington Supreme Court Decision).

Nori Seaweed. In October of 1987, the American Sea Vegetable Company applied for shoreline development and conditional use permits for a proposed seaweed farm off North Beach, around Jack Island, initially of 700-acres of sea bottom, later reduced to about 360 acres for the exclusive cultivation of Nori seaweed. The proposal met with stiff opposition from Guemes Islanders and also from crab fishermen, as the project would have eliminated one of their most productive areas. The citizen’s group, Save the San Juans, revived to fight the project on the grounds of freedom of navigation and the protection of Jack Island, a Nature Conservancy preserve, and gathered 3000 signatures on a petition opposing the project. This process went on for several years. In the year

1990 the company lost its major financial backer and reorganized. Skagit County delayed action on the permit applications, partly because of public pressure. In the end the company withdrew its plans.

Guemes Island Environmental Trust. In July, 1988, the Naval Air Station-Whidbey Island shifted its ground controlled approach training flights over Guemes Island by placing a radar point at Cap Sante and routing A-6 air traffic around it. In response to the severe noise impact generated by these flights, the islanders organized the Guemes Island Environmental Trust (GIET) in April of 1989 to address this problem. After several years of discussions between GIET representatives and the Navy Commander and many protest calls and letters from the islanders, the radar point was removed in early 1991.

Roadside Maintenance. In 1989 GIET obtained a 5-year moratorium from Skagit County regarding the use of toxic herbicides to control the roadside vegetation. A method of Integrated Vegetation Management was adopted, which relies on mowing and grading and limits the use of herbicides to specific areas. This moratorium has been extended indefinitely.

Groundwater Study. In 1991 GIET, under sponsorship of the Skagit Conservation District, applied to the WDOE for a grant through the Centennial Clean Water Fund for an initial groundwater study of the island. The request was granted and the U. S. Geological Survey (USGS) completed a two-year study, funded jointly by USGS and WDOE. The report was published in 1995.

Sole Source Aquifer Designation. In 1994, the Guemes Island Property Owners Association applied to the Environmental Protection Agency (EPA) for designation of Guemes Island's aquifer system as a Sole Source Aquifer; this was granted in 1997. This designation is based on the condition that at least 50 percent of the islanders obtain their drinking water from the groundwater.

Community Emergency Response Team. In 1996, a Community Emergency Response Team (CERT) was organized to assist the fire department in responding to any type of disaster on the island. Neighborhood volunteer leaders check on all households in their designated area. If telephone systems fail, a radio communications network is activated to report damages and people's needs to the Guemes Island Fire Hall communications center. The Guemes Island Church and the Community Center are both designated American Red Cross emergency shelters.

Current Public Participation in the Sub-Area Planning

In addition to the GIPAC's meetings, which were posted on www.linetime.org and open to the public, and a number of public meetings, several additional opportunities for public participation were made available.

Visual Planning Survey. On May 2, 2004, a group of students from the Huxley College Planning Studio of the Western Washington University conducted a Visual Planning

Survey. Sixty members of the Guemes Community attended the public workshop. The respondents preferred images of smaller roads, single-family houses set back from public streets, small-scale commercial land uses, scenic open spaces and farmland with traditional structures. The results of the study are reported in the “Guemes Island: Preserving Rural Elements and Enhancing Conservation Opportunities.” A number of recommendations to preserve the rural character of the island are included in the report.

Written Survey. The Guemes Island written survey was modeled on the Lummi Island survey of 2002. After an extensive review process by twenty island residents the survey was mailed out to about 800 households of island residents and off-island property owners in July of 2004. We received a return rate of 46 percent. This excellent return validates the results.

The responses reflected a broad spectrum of opinions. Generally, aspects of the physical environment and the rural character of the island were rated very important by many respondents. Neighborliness and sense of safety received high marks as well.

One question concerns “the trade-offs between individual property rights and the community’s right to preserve its character.” People were asked to mark on a scale of 1 to 10, where 1 is “development rights most important” and 10 is “preservation is most important,” which number best characterized their value. More than half of the respondents (56%) marked numbers 8-10, whereas 9% marked numbers 1-3. This indicates a very high appreciation of a rural community.

In addition to the survey itself, many people sent in comments and suggestions, which were all tabulated and give a broad perspective on the diversity of the island’s population. Preliminary results of the written survey were presented at a public meeting on September 25, 2004. (*Appendix A: written survey results*)

Rapid Shoreline Inventory. The Skagit County Marine Resource Committee (MRC) was established by Resolution #17433 in May, 1999. It is funded through grants from the Northwest Straits Commission. People for Puget Sound (PPS) is a non-profit citizen’s group working to protect and restore the health of Puget Sound and the Northwest Straits. This group obtained a grant from the Skagit County MRC to conduct a Rapid Shoreline Inventory (RSI) of shorelines of Guemes Island in 2005, where landowners granted permission. During the summer of 2006 PPS in cooperation with members of the Skagit MRC trained volunteers on Guemes and inventoried 6.45 miles of shorelines. The results augmented the knowledge and understanding of the importance of shoreline features to support marine life and pointed at areas of concern. This information is relevant to the Shoreline Management Element. (*Appendix B: RSI Report*)

The Beach Survey Results were presented at a public meeting on October 16, 2005.

AIA Workshop. Late 2005, GIPAC submitted a proposal for a service grant from the American Institute of Architects (AIA) Center for Communities by Design and Guemes Island was selected to receive technical assistance under their Sustainable Design

Assessment Team (SDAT) program in 2006. A three-day workshop was held June 20-22, 2006, which included two public meetings and a number of intensive roundtable discussions, each table having an AIA technical expert as its facilitator. Because of the pivotal importance of water on the island, the acronym WATER was chosen to represent the five roundtables: Wildlife; Shorelines and Open Space; Aquifer; Transportation/Ferry; Energy Resources; and Rural Community Character. Many county staff and other experts from the Skagit County Planning Commission, the City of Anacortes and the Skagit County PUD participated in the roundtable discussions. The public meeting concluding the workshop had an unprecedented attendance of an estimated 150 people.

In the AIA Final Report, the Sustainable Design Assessment Team discussed the challenges the Guemes Island Community faces in maintaining the rural character of the island while accommodating additional growth. One of the key recommendations is to implement where possible non-regulatory and incentive programs rather than imposing new regulations.

The issues, conclusions and recommendations discussed in the final report validate the path the island community wishes to follow, thereby upholding the objectives of the sub-area plan.

Acknowledgements

At various times Richard Hein, Bob Henderson, Victor Garcia, Willie McWatters, Tim Rosenhan, and Matt Simons, also served on the GIPAC, while Jaime Diamond, Hal Forsey, Joan Palmer, Anne Passarelli and others served on sub-committees. Rebecca Paskind and Paul Beaudet shared their technical expertise with the statistical analysis of the written survey. Anne Jacketts edited the draft document.

In addition, many members of the Guemes Island community gave their time and effort to the formulation of the Guemes Island Sub-Area Plan by reviewing draft documents, by participating in the surveys, the Rapid Shoreline Inventory, and the AIA Workshop, and by attending public meetings.



Figure 1.1 USGS Topographic Map of Guemes Island

2. Land Use Element

Introduction

The Land Use Element provides information and policy guidance specific to the Guemes Island Subarea. This element is intended to supplement the adopted Skagit County Comprehensive Plan's existing goals and policies. It includes a description of the island land pattern for residential and agricultural, forestry, and commercial uses. The element analyzes the possible future land use conditions with build-out residential density (units per acre) and with a range of other uses that the County zoning code could permit on the island.

Through the Growth Management Act (GMA) Washington State requires counties to designate land as either urban or rural. Making this distinction is very important since the GMA seeks to avoid the unreasonable costs and inefficiencies of providing urban type services to rural areas. To implement this requirement, Skagit County developed a set of County Wide Planning Policies (CWPP) that define which areas receive urban level services, such as sewers and water, and which areas do not.

In the 2000 Skagit County Comprehensive Plan, Skagit County designated Guemes Island as a rural area in accordance with the County Wide Planning Program (CWPP) that states: all growth outside the urban growth boundary shall be rural in nature as defined in the Rural Element, not requiring urban governmental service, except in those limited circumstances shown to be necessary to the satisfaction of both the County and the affected city to protect basic public health, safety and the environment, and when such services are financially supportable at rural densities and do not permit urban development. [CWPP 1.8]

Rural Character Definition

The Growth Management Act [at RCW 36.70A.030] defines Rural Character as the patterns of land use and development established by a county in the rural element of its comprehensive plan:

- (a) In which open space, the natural landscape, and vegetation predominate over the built environment;
- (b) That foster traditional rural lifestyles, rural-based economies, and opportunities to both live and work in rural areas;
- (c) That provide visual landscapes that are traditionally found in rural areas and communities;
- (d) That are compatible with the use of the land by wildlife and for fish and wildlife habitat;

- (e) That reduce the inappropriate conversion of undeveloped land into sprawling, low-density development;
- (f) That generally do not require the extension of urban governmental services; and
- (g) That are consistent with the protection of natural surface water flows and ground water and surface water recharge and discharge areas.

Two surveys were conducted leading up to the preparation of this Sub-Area Plan that specifically looked at the issue of rural character on Guemes Island. The first of these was a *Visual Preference Survey* prepared by planning students from Western Washington University (2004). The second was the *Guemes Island Planning Survey* conducted in 2004 by GIPAC. Respondents to the *Visual Preference Survey* indicated very strong preferences for landscapes and roads with open spaces and woods, modest “non-suburban style” housing set naturally into the environment with farms and vistas, and an absence of suburban “amenities” and/or urban services. (1991 Draft Guemes Island Sub Area Plan & 2006 AIA Report)

Rural Area Designation. According to the Skagit County Comprehensive Plan, the Rural Area designation is intended to provide a variety of rural residential land use densities while maintaining overall lower than urban densities at rural service levels, encourage rural activities such as farming, forestry, and aquatic resources, and retain rural character and open space. Designating Rural Areas minimizes service demands and costs on county government, preserves historic and cultural structures and rural landscapes, and protects designated natural resource lands and identified critical areas. Rural Areas also provide a choice in living environments, through a mix of large lots, conservation and resource development (CaRD) land divisions.

Limited Areas of more Intensive Rural Development (LAMIRDs). These limited areas include the infill, development, or re-development of existing commercial, industrial, residential, or mixed-use areas, whether characterized as shoreline development, villages, hamlets, rural activity centers, or crossroads development. [RCW 36.70A-070(5)(d)]

Open Space. Skagit County recognized two major categories of Open Space: public and private.

Public Open Space areas include publicly owned lands that are dedicated or reserved for public use or enjoyment or for protection of environmentally sensitive areas. If these are of regional or statewide importance, such lands are designated on the Comprehensive Plan Map. [SCCP 4A-8.1]

Private Open Space includes privately owned land that is set aside by the operation of the Critical Areas Ordinance, or by voluntary conservation. Through the use of techniques such as donation of conservation easements, selling of development rights, or outright donation of the land itself, development of these lands is limited or precluded in

perpetuity. Private land trusts include the Skagit Land Trust, the San Juan Preservation Trust, and the Nature Conservancy. [SCCP 4A-8.2] (See Figure 2.2)

Current Use Open Space Taxation Program includes private land, utilized for agricultural, timber and open space uses. Lands enrolled in this taxation program are taxed based on their current usage. If property owners take one or more acres out of this program for development purposes, a tax lot is created for taxation purposes only. [SCCP 4A-8.3]

With respect to Land Use, this sub-area plan is also linked to several other important planning documents, including the Skagit County Comprehensive Plan and the Skagit County Code.

The Skagit County Shoreline Management Master Program is part of the Skagit County Code as a separate document. It is based on the recognition that shorelines are limited and irreplaceable resources that serve and support a broad range of activity. Management of these resources is necessary to allow continued use and conservation for future generations. The provisions apply to the shorelands, which are the upland areas extending 200 feet landward from the ordinary high water mark. See our Shoreline Element for more details.

Critical Areas Ordinance. Guemes Island is subject to the Critical Areas Ordinance, which closely evaluates new development within 200 feet of the shoreline. In addition, the Critical Areas Ordinance protects and conserves wetlands, aquifer recharge areas, flood and geological hazard areas and fish and wildlife conservation areas that exist within this subarea. (See Environment Element)

Critical areas are present throughout the sub-area; however, their exact location cannot be mapped accurately enough for regulatory purposes. Maps are useful primarily as indicators of the distribution and extent of critical areas. Wherever possible, maps will be used as part of the screening process for evaluating individual permit applications. Although a number of map resources are utilized, regulatory measures such as buffer requirements are based upon the identification of critical areas during the permit and development authorization process, or other County approvals. Critical areas will be designated by definition and then classified through site assessments so that they can be identified and protected, using scientifically based criteria. The use of site assessments to confirm the actual presence and classification of critical areas is central to the management approach of Skagit County.

The Critical Areas Ordinance allows staff of the Planning and Development Services Department to provide site visits, preliminary reviews, and pre-application meetings to assist in the identification of critical areas. In addition, performance based alternatives have been built into this process to allow flexibility in compliance with dimensional requirements. In the event that hardships and grievances occur, this Critical Areas ordinance contains provisions to allow for reasonable use exceptions, variances and appeals. Skagit County will work with the landowner in the management of critical areas.

Incentives will play an increasing role in enlisting landowner participation in conservation programs. Local, state and federal governments should continue to work toward the consolidation and coordination of regulatory requirements.

The Interim Seawater Intrusion Policy. Seawater intrusion affects some public and private water wells on Guemes Island. Fresh water, being less dense than seawater, will float as a lens on top of seawater. The lens of freshwater is thinnest at the coastal edges and thickens landward. Fluctuations occur depending on seasonal rainfall (aquifer recharge), soil characteristics and tidal movement. Over-pumping sensitive areas, which are under the influence of seawater intrusion, will further degrade the aquifers and pull in more seawater. Guemes Island is subject to the Interim Seawater Intrusion Policy mitigation requirements for any new development within ½ mile of its shoreline.

Sole Source Aquifer Designation The U.S. Environmental Protection Agency (EPA) has determined that the Guemes Island aquifer system is the sole or principal source of drinking water, and which, if contaminated, would create a significant hazard to public health. (See Environment Element)

Current Conditions and Issues

According to Skagit County assessor's data released on May 1, 2005, Guemes Island comprises approximately 0.5% of Skagit County's total land area, and approximately 1% of the county's total population. Guemes Island has three major zones covering 5,102 acres. (See Table 2.1 and Zoning Map, Figure 2.3) These major zones are Rural Resource-Natural Resource Lands (RR-nrl), Rural Reserve (RRv) and Rural Intermediate (RI). Some small areas are zoned as Rural Center (RC), Rural Business (RB) and Small-scale Recreation and Tourism (SRT). Currently no LAMIRDS have been designated. Guemes Island fulfills Skagit County's Comprehensive Plan criteria and complies with its designation as a Rural Area. Many parcels are pre-existing, non-conforming parcels and may be smaller than the zoning allows. These sub-standard lots, if legally recorded prior to June 1, 1997, are legal lots of record and have the potential of being developed.

Major Zones:

1. The Rural Resource-Natural Resource Lands (RR-nrl) zone contains 492 acres, with an allowable density of 1 dwelling per 40 acres.
2. The Rural Reserve (RRv) zone contains 3,888 acres, with an allowable density of 1 dwelling per 10 acres.
3. The Rural Intermediate (RI) zone contains 722 acres, with an allowable density of 1 dwelling per 2.5 acres.

These three zones cover more than 99% of the land area and include

- Natural Resource lands that contain or support agriculture or forestry use
- Single Family Residences (SFR)

- Open Space areas
- Cottage Industry/ Small Scale Business
- Home-Based Business

Other Land Use Zones

- Rural Center (RC) 4 acres
- Small Scale Recreation and Tourism (SRT) 16 acres
- Rural Business (RB) 14 acres

The distribution of these zones are illustrated in Figure 2.3.

Future Growth and Issues

The Guemes Island Sub-area Plan Land Use Element is intended to anticipate future needs of the island community and provide solutions and strategies for their resolution. Growth-triggers, keyed to environmental, social and economic measures, can be developed to quantify the level of growth.

As of May 2005 there were 1,532 parcels on Guemes Island and 627 had homes on them. With current zoning rules and future land division there is a possibility of increasing the total number of developed parcels to 1584 with an increase of 957 additional homes.

**Table 2.1
Present and Potential Development on Guemes Island.**

Skagit County Assessor May-05	Existing Parcels		Existing Development		Potential Development Totals		
	Parcels	Acres	Homes	Acres	New Homes	Addition through Division	Max Homes
Rural Resource	15	492	1	40	14	0	15
Rural Reserve, P.C.*	39	308	7	135	2	0	9
Rural Reserve	556	3580	192	820	394	31	617
Rural Intermediate	922	722	427	319	495	21	943
Totals	1532	5102	627	1314	905	52	1584

*P.C., parks and conservation easements

These numbers are based on recent county information. Assuming that no further subdivision is allowed, changes may occur by putting land in conservation easements, park development and lot aggregation. Figure 2.4 shows the location of the present buildings on the island and a graph of the history of the number of buildings. Figure 2.5 shows the land distribution between local and non-local owners.

The present population of the island is estimated to be around 800 permanent residents. In the summertime the population may be over 2000 from part time residents and visitors. To estimate what the potential is for the maximum population on the island, it is necessary also to estimate how many accessory dwelling units will be allowed. One accessory dwelling (ADU) is permitted as accessory to an existing single-family dwelling provided that some requirements are met, see [SCC 14.16.710]. These dwellings cannot be sold separately but they may be rented out and thus will have an effect on the island population.

The Rural Intermediate zone will shoulder the majority of the island's future growth with the potential of 495 new homes being built. The purpose of the Rural Intermediate district is to provide land for residential living in a rural environment, thereby taking priority over resource land uses. Site-planning with long-term open space retention and critical area protection is encouraged. As suggested in SCC14.04 CaRDs are the preferred development pattern within this district. This statement and the island's future growth potential present a conflict between the Critical Areas Ordinance and the undeveloped parcels in the Rural Intermediate Zone. This zone contains the greatest risk of adverse environmental effect upon critical areas because much of it is located near the shoreline. Therefore these areas are regulated by the Critical Areas Ordinance, the Shoreline Master Plan, and the Interim Seawater Policy. (See also Shoreline Element)

In the Rural Reserve Zone there is a growth potential of 427 new homes. The purpose of the Rural Reserve district is to allow low-density development and to preserve the open space character of those areas not designated as resource lands. Lands in this zoning district are transitional areas between resource lands and non-resource lands for those uses that require moderate acreage. Long-term open spaces and critical area protection are established using Conservation and Resource Development (CaRD) as the preferred development pattern. Future growth in the Rural Reserve zone will have less of an impact on Guemes Island's Critical Areas and have less potential for Seawater Intrusion as these undeveloped Rural Reserve parcels tend to be further inland. Greater open space retention may be available when this zone is developed.

A CaRD is a method of single-family residential land development characterized by legal building lots or envelopes that are much smaller than typical of the zone, leaving open space for agriculture, forestry, continuity of ecological functions characteristic of the property, and preservation of rural character. This results in reduced impervious surface area and lowered costs of development and maintenance. Certain requirements of the zone may be modified to encourage these purposes when using the CaRD process (SCC 14.18.310). Land division using CaRD is permitted and encouraged on Guemes Island as long as there is no density bonus resulting from such land divisions. This is due to Guemes Island's Sole Source Aquifer designation and the unknown capacity of its fresh water supply.

Skagit County's Comprehensive Plan encourages development right transfers, permanent conservation easements and outright ownership through private land trust organizations as a way of maintaining Rural Open Space.

Property values on the island have increased substantially in the past 20 years and continue to do so. A major consequence of this trend is that residents with a low income may not be able to afford to continue living on the island because of increased property taxes. Low-income elderly residents may qualify for tax breaks, however this is not available to the young low-income population. It is desirable to find a solution for this problem to maintain a diverse population on the island.

Education

Provide Open Space Education illustrating the use of Skagit County's Open Space Taxation Program, conservation easements and the selling or gifting of development rights.

An island-wide critical areas education program should be developed to alert the Guemes Island community to the functions and hazards associated with critical areas.

Policy Recommendations

2.1 Changes to Rural Area designations should occur through the community development planning process (sub-area and joint planning) by evaluating the following: existing lots of record and zoning; geological characteristics; environmental constraints; unique land forms; proximity to designated natural resource lands, and identified critical areas; adequate capacity to maintain existing rural level of service facilities and utilities to support development as established in relevant capital facility plans; and compatibility with adjoining land uses. [SCCP 4A-7.8]

Amendment Any and all changes to Rural Area Designations shall occur through the Guemes Island community development planning process. The Guemes Island Advisory Committee will make recommendations following public review and comment to any future planning and development changes to include hearing examiner special use decisions and variances.

2.2 Private Open Space is privately owned land that has been or will be set aside by the operation of the Critical Areas Ordinance, by voluntary conservation, or by land conservation easements. [4A-8.2]

Added Emphasis The use of conservation easements or other measures shall be encouraged for the protection of critical areas.

2.3 Policy 4A-8.3 The Current Use Open Space Taxation Program includes properties utilized for agricultural, timber and open space uses as provided in RCW 84.34. **Added Emphasis** Property owners shall be encouraged to enroll in the Current Use Open Space Taxation Program.

- 2.4 Provision [SCC 14.18.310 (2)] There shall be no density bonus for CaRD developments in areas designated as a “sole source aquifer,” except where the source of water is from a public water system whose source is outside the designated area or from an approved alternative water system pursuant to [SCC12.48].
Amendment: There shall be no density bonus for CaRD developments on Guemes Island except where the source of water is not from the aquifer.
- 2.5 [Draft June, 2006 SCCP 3B-1.2] The GMA establishes three basic types of LAMIRD. The first is authorized by RCW 36.70A.070(5)(d)(i) and consists of commercial, industrial, residential, or mixed-use areas that were in existence on July 1, 1990, and that are surrounded by logical outer boundaries. The Skagit County rural land use designations created and placed on the Comprehensive Plan/Zoning Map using these criteria are: (b) Rural Intermediate
Amendment: There shall be no LAMIRD in the Rural Intermediate Zone on Guemes Island.
- 2.6 Provision [June, 2006 draft SCC 14.24.320 (1)] Except as provided in subsection (4), the level of study for a site assessment that will be required of applicant by the Administrative Official for a given development will be based on an initial project review by the Skagit County Planning and Development Services Department that **may** also include staff from the Health Department, and a County Staff Hydrogeologist.
Amendment: Because Guemes Island is designated as a Category I Critical Recharge Area, all applications for single-family residential building permits, including Accessory Dwelling Units and Accessory Buildings as well as residential short plats, shall comply with the Site Assessment Requirements as outlined in [June, 2006 draft SCC 14.24.320 (2), and (3)]. Initial project review by the Skagit County Planning and Development Services Department **will** include staff from the County Health Department and a County Staff Hydrogeologist to evaluate likely impacts to groundwater quality or quantity.
- 2.7 Provision [SCC 14.16.710] Requirements for Accessory Dwelling Units. One accessory dwelling unit is permitted as accessory to an existing single-family dwelling.
Amendment: However, Accessory Dwelling Units shall not be allowed in areas if the water source exceeds 25 ppm chlorides. Also, the well capacity must exceed the minimum of 800 gallons per day. Accessory buildings may be allowed in these areas on the condition that they will not be served by groundwater.
- 2.8 Skagit County shall limit the total number of building permits for new residential dwellings, for additions exceeding 25 percent of the existing square footage and for ADU’s to twenty per year. This recommendation is based on a maximum build-out in fifty years.

2.9 Dimensional Standards for RI and RRv lots:

For RI, the maximum building height shall be 30 feet with a ten foot height limit at the side-yard setbacks, sloping 45° to 30 feet height.

For RI and RRv, side-yard setbacks shall total 30 percent of the average width of the lot with an eight foot minimum setback and a 30 foot maximum setback.

Setbacks shall apply to multiple buildings. For shoreline residential development standards, see Table 5.9. [SCC 14.16.300 (5) and 14.16.320 (5)]

2.10 Policy: Skagit County should find a solution for the problem that younger low-income property owners on Guemes Island might not be able to continue living on the island because of increases in property taxes.

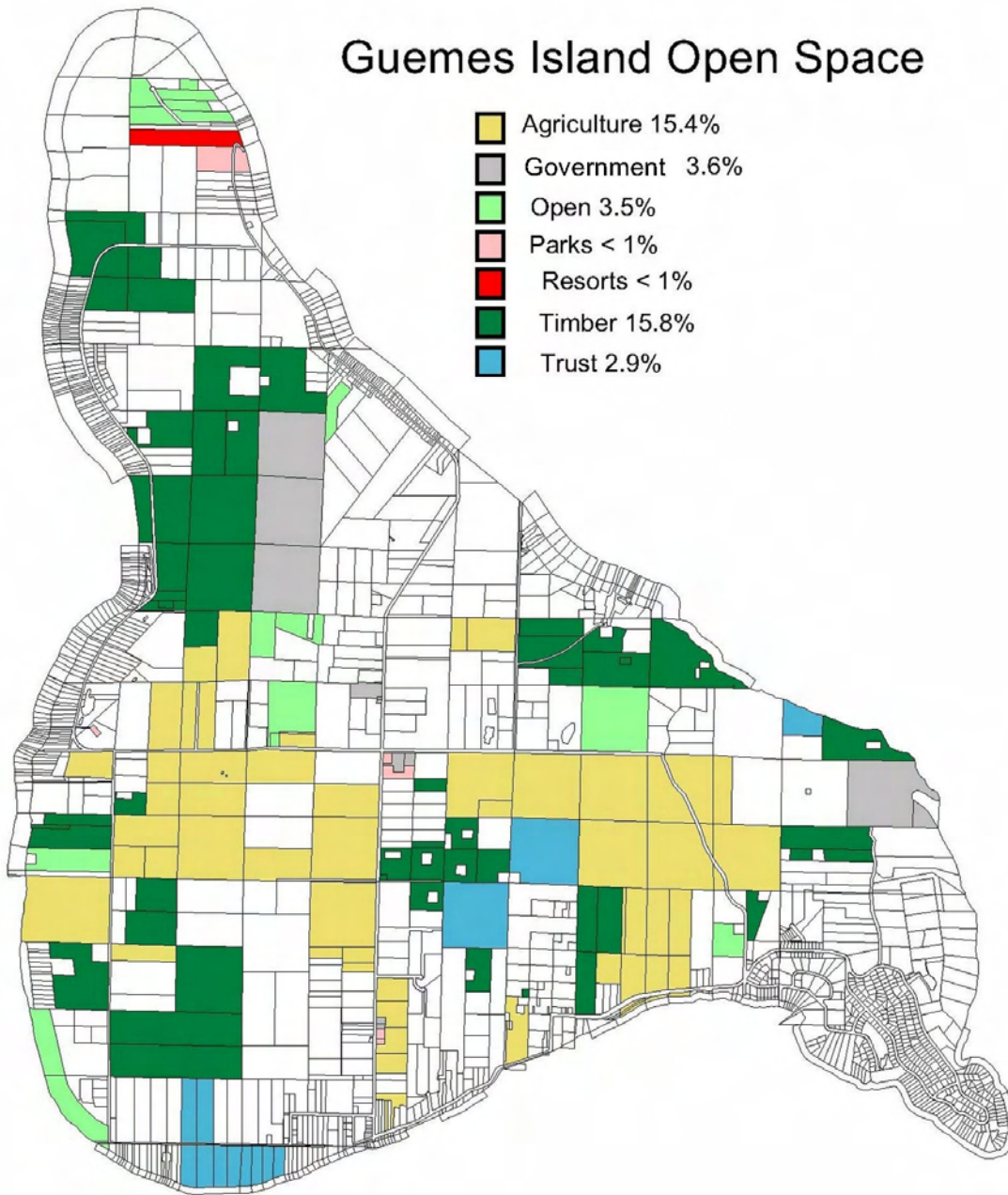


Figure 2.2 Parks, Open Space, and Conservation Lands

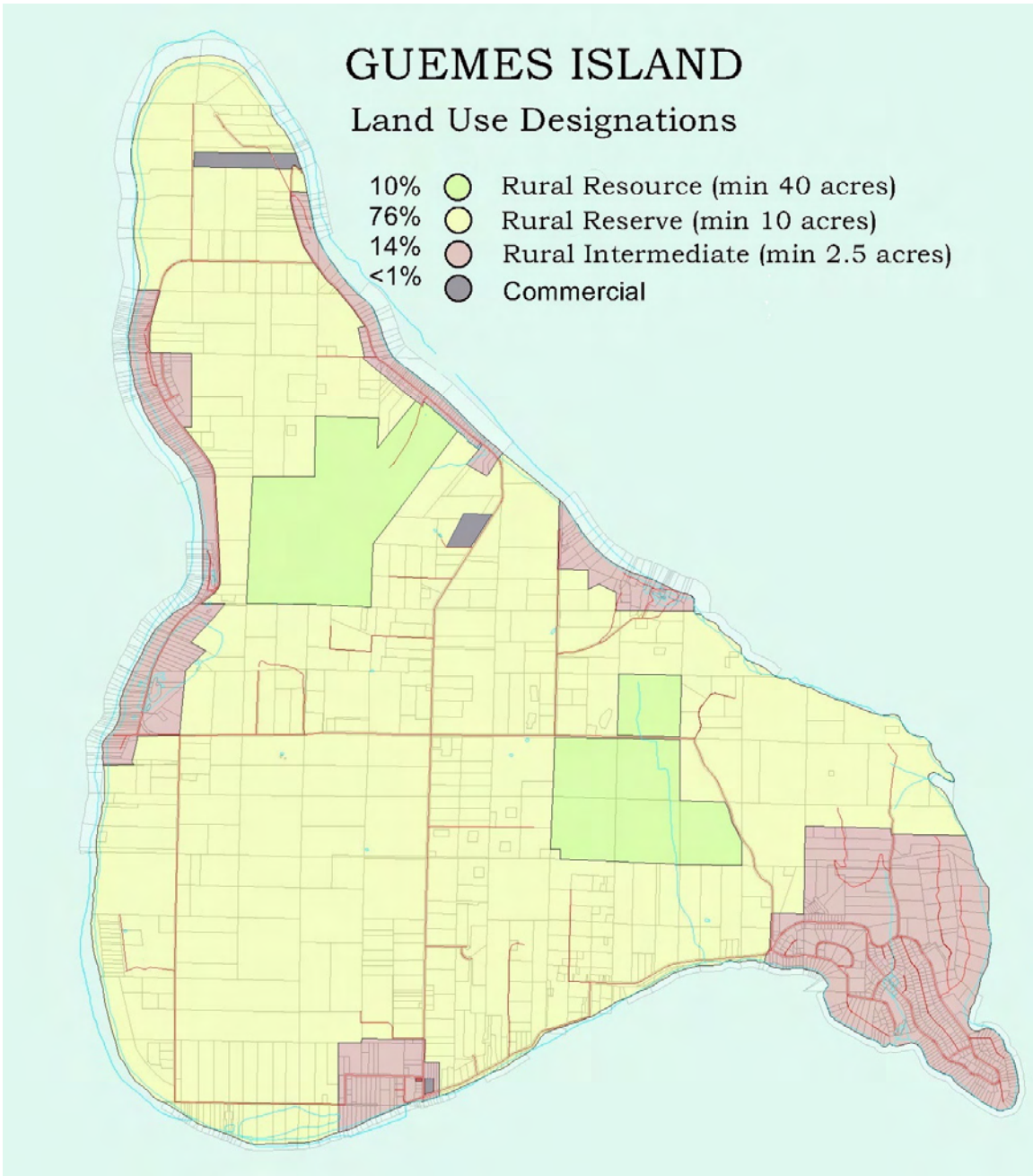


Figure 2.3 Zoning - Land Use Designations

BUILDINGS ON GUEMES ISLAND

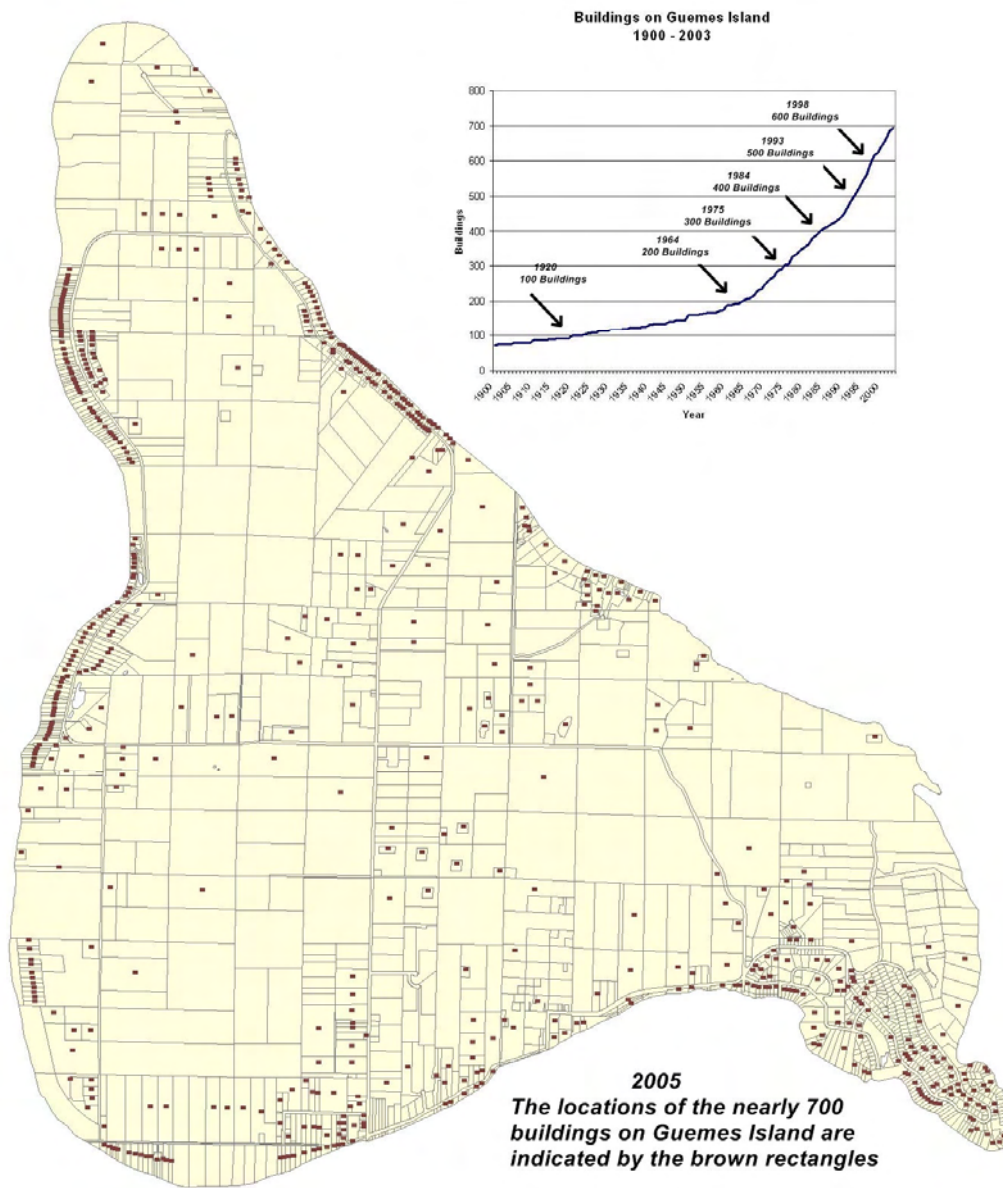


Figure 2.4 Buildings with Growth Chart.

Skagit County Assessor Data

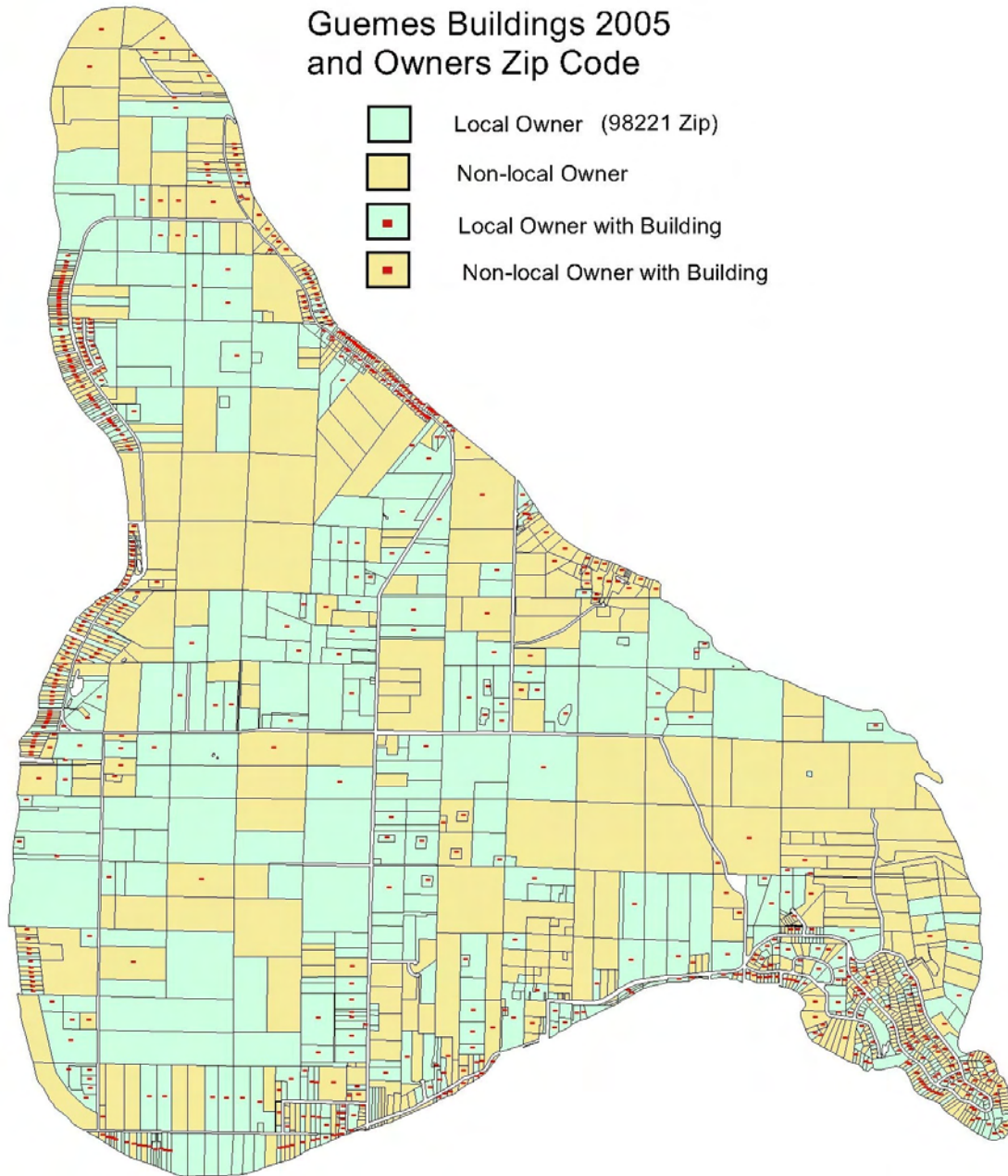


Figure 2.5 Distribution of Local and Non-Local Owners

3. Natural Resource Conservation Element

Introduction

Natural Resource Lands (NRL) have an important role in preserving the rural character of Guemes Island. Under the Skagit County Comprehensive Plan (SCCP), the NRL include three primary types of land-based natural resources: agriculture, forest, and mineral. The larger tracts of NRL lands may be zoned Agricultural-NRL, and Industrial- or Secondary Forest-NRL, while smaller acreage with characteristics of both agricultural and forest capability are zoned Rural Resource-NRL. Mineral NRL are designated as a Mineral Resource Overlay. On Guemes Island, the NRL are limited to Rural Resource-NRL.

The Natural Resource Conservation Element is intended to complement the Land Use Element by defining the purpose and intent of land-use policies to guide long-range planning, programs, and regulations with the objective to conserve the Natural Resource Lands. The element provides information on the current and future conditions of the NRL on Guemes Island and makes recommendations to supplement the policies of the SCCP and the Skagit County Code (SCC).

Therefore, the purpose of this element is to:

- Preserve the rural environment of Guemes Island.
- Support the primary and preferred uses of growing, harvesting and processing of natural resources and their products.
- Minimize residential development in resource lands.
- Provide opportunities for agricultural and forest activities.
- Provide opportunities for timber activities.
- Protect Guemes' natural resources for future generations.

Current Conditions and Issues

Guemes Island contains approximately 500 acres designated as Rural Resource Lands (RRL). The Department of Natural Resources (DNR) owns 120 acres of these lands as forested School Trust Lands. Islanders use the trails on this tract for recreational activities. The remainder of the RRL is a mixture of agriculture, forest, wetland and drainage channels (Figure 2.2). Of the privately-owned RRL, 315 acres are currently classified under the Open Space Taxation Program: almost 78 acres are in Open Space; another 80 acres in Timber Open Space; and 157 acres in Farm and Agriculture Open Space.

The acreage zoned Rural Resource Lands on Guemes amounts to 10 percent of the total acreage on the island, while the 15 parcels so designated make up only 1 percent of the total number of parcels. No mineral resources have been documented for Guemes Island,

although Down Under Guemes has historically been a low-production sand-and-gravel mine since 1967.

The EPA has designated Guemes Island as a Sole Source Aquifer (SSA; see Environment Element for details of this designation). Because of its SSA status, Skagit County does give special consideration to the island in cases of Conservation and Reserve Development (CaRD) subdivisions, where density bonuses are not allowed except where the source of water is outside of the SSA-designated area. [SCC14.18.310 (2)] (See Land Use Element for details of the CaRD process)

Some of the Rural Resource Land parcels may be significant aquifer recharge areas and several serve an important function in the regulation of surface water run-off.

Future Considerations and Issues

As the County re-assesses the need to accommodate future growth, the possibility exists that the zoning of the natural resource lands might be changed or that a higher density might be allowed under the present zoning. In addition, a number of uses that are currently allowed in the RRL under Permitted Uses and Hearing Examiner Special Uses might pose a threat to the aquifer or would conflict with the peaceful nature of the island.

As trees are harvested from forested areas, the Forest Practices Act (FPA) requires replanting of trees. However, the FPA does not require replanting with mixed species, which should be encouraged to create diverse habitats on the island.

Although many of the Rural Resource Lands parcels are enrolled in the County Open Space Taxation Program, this program does not protect the lands on a permanent basis. Property owners should be encouraged to permanently protect their lands.

Agriculture and forestry resource production are important elements of the island community. In order to support sustainable living on the island, it is desirable to encourage such activity. In doing so, the rural character of the island landscape and the diversity of the community would be maintained.

Education

- Island organizations should work closely with private land trust organizations to encourage natural-resource land-owners to permanently protect these lands through sale of development rights, estate planning, and conservation easements or through land donations.

Policy Recommendations

The following recommendations are intended to supplement the policies of the Natural Resources Conservation Element of the SCCP or SCC. The Land Use Element also includes recommendations that affect uses in the Rural Resource Lands.

- 3.1 No increase in density shall be permitted in a CaRD sub-division on RRL. [SCCP: 5C-1.2 (a)] and [SCC: 14.18.310(2)]
- 3.2 Property owners shall be encouraged to place a conservation easement on their Rural Resource Lands designed to encourage long-term forestry and agricultural land conservation. [SCCP: 5C-1.2(a)]
- 3.3 Commercial land-based aquaculture and related development shall be a Hearing Examiner Special Use instead of a Permitted Use. [SCC: 14.16.430(2)©]
- 3.4 The County shall encourage the use of mixed native forest species, suitable for the site, in reforestation. [SCC: 14.16.430 (2)(f)]

4. Environment Element

Introduction

The Environment Element provides the policy basis for the protection and regulation of the critical areas on Guemes Island. The critical areas contain wetlands; aquifer recharge areas; frequently flooded areas; geologically hazardous areas; and fish and wildlife habitat conservation areas. Some of the areas, such as geological hazards, are critical because of the hazard they represent to people. Others, such as fish and wildlife habitats, are critical because of their public value. Air quality, although not identified as critical area under the GMA, is included in this element. The policy recommendations are intended to achieve the following objectives in supplementing the Skagit County Comprehensive Plan (SCCP):

- Preserve the rural character of Guemes Island for future generations
- Protect the environment from adverse effects of development
- Enhance the environmental quality of Critical Areas and wildlife corridors
- Protect the quantity and quality of ground water
- Protect the air quality over Guemes Island

Current Conditions and Issues

Guemes Island's natural features contribute greatly to the well-being and enjoyment of both residents and island visitors. A mixture of woodlands, wetlands, pastures, and open vistas are components of the island's physical environment (Figure 4.1). Responses to the Guemes Island Planning Survey indicate that these features rate very highly. Aspects of the rural character rated as very important are air and water quality; quiet; rural landscape; a sense of privacy; and a comfortable pace of life.

Air Quality. Guemes Island is located down-wind from the March's Point Refineries during the winter months, making air pollution a significant concern during that windy season. Information from the refineries and the Northwest Air Pollution Authority is needed to inform islanders of the levels of air pollution.

Wetlands. A general inventory of the wetlands on Guemes Island is shown on Figures 4.2, 4.3, and 4.4. An extensive wetland complex is found in the valley near the eastern end of Edens Road. It runs from north to south and serves an important function in regulating surface water run-off through Cayou Creek into the Guemes Channel. It may also contribute to the recharge of the groundwater and allow infiltration of potentially contaminated run-off into the underlying aquifer complex. Other wetlands include Veal Pond just north of the western end of Edens Road and the wetland at North Beach. Run-off from these two wetlands flows through drainage channels and tide-gates to the Bellingham Channel and Padilla Bay, respectively.

Aquifer Recharge Areas. The ground-water resource of Guemes Island is the principal source of fresh water used by the permanent and seasonal residents. In 1997 the Environmental Protection Agency (EPA) designated the Guemes Island Aquifer System as a Sole Source Aquifer. The Double Bluff aquifer complex, which generally is located at or below sea level, is the most extensive water-bearing unit and many of the wells are completed in this unit. It underlies all but the rocky eastern part of the island. The Vashon aquifer complex, located above the Double Bluff aquifer, does occur in two separate areas rather than under the entire island and is variable in thickness and productivity (Figure 4.5).

Recharge of fresh water to the ground-water system is primarily from infiltration of precipitation. Most of the recharge occurs in the wet winter months from November through February, when the precipitation greatly exceeds evapo-transpiration. Recharge from septic-fields and irrigation is relatively small. Precipitation recharges through all permeable surfaces on the island except where groundwater is discharging, such as from springs. Some areas contribute more to the recharge than others, depending on the vertical hydraulic conductivity of the underlying geological units (penetration to the lower strata). It is not known what percentage of the recharge water reaches the Double Bluff and Vashon aquifer complexes (USGS report), and therefore it is not known what the carrying capacity is of the groundwater system. Recharge areas are at risk for contamination of the groundwater from the land surface

Seawater Intrusion. The potential for seawater intrusion is great for many of the wells that were drilled in areas near the shore. Seawater intrusion is one important factor that can render groundwater unfit for consumption. A topographical map (Figure 1.1) shows that the Veal Pond and the wetland at North Beach are connected by a low stretch of land, close to sea level. The tip of Guemes Island north of this stretch is the area most susceptible to seawater intrusion. From a combination of water well reports and accurate land elevation measurements for wells that have been completed in the Double Bluff aquifer in this area, it is known that the head of fresh water in the wells is very shallow, between 0.5 and 1 ft above mean sea level. Although some seawater intrusion was found in wells in the Vashon aquifer, it generally is not a problem for wells completed in this unit because most of it is situated above sea level (Figure 4.6).

In 1995 the Skagit County Board of Commissioners/Health adopted an Interim Seawater Intrusion Policy that regulates new wells in coastal locations whenever a landowner requests a building permit or a land division. This policy has not yet been incorporated in the Skagit County Code and thus only has educational value. The Skagit County Health Department Map indicates those areas with seawater intrusion where well drillers need to apply to the Health Department prior to drilling (Figure 4.7).

About twenty public water systems serve local communities on the island. These range from Class B systems with up to 15 connections to the Class A Holiday Hideaway Water Company, which currently has 134 connections and has been approved for a total of 267

connections. This system has wellhead protection areas designated for their two well fields (Figure 4.8).

Due to severe seawater intrusion into its two wells, one West Shore system is now served by a reverse osmosis (R.O.) system, owned and operated by the Skagit Public Utility District. This system uses seawater as its intake and discharges the saline effluent away from the shore into the channel. For seawater, the recovery of potable water may be up to 30 per cent. Several private property owners have installed individual R.O systems, which are not regulated. They use well-water as their source, which has an only slightly higher recovery rate. Therefore, they cause additional stress on the aquifer.

Guemes Island has been designated as a Category I Aquifer Recharge Area. These areas are so designated because of the need to provide special protection due to specific pre-existing land uses, or because the County, State or Federal Government has determined the aquifer needs protection from future land use that poses a risk to the quality or quantity of the aquifer. [SCC 14.24.310 (1) (a)]

Category I includes areas served by groundwater which have been designated as a “Sole Source Aquifer Area” under the Federal Safe Drinking Water Act; areas identified by the County as “Seawater Intrusion Areas”; and areas designated as “Wellhead Protection Areas” pursuant to WAC 246-290-135(4) and the groundwater contribution area in WAC 246-291-100(2)(e). [SCC 14.24.310 (Aquifer recharge area designations)]

Frequently Flooded Areas. The shoreline area west of Veal Pond and the North Beach area northeast of the wetland are susceptible to flooding during winter storm conditions combined with high tides. These two areas are indicated on Figure 4.9, which also shows several smaller areas around the island susceptible to coastal flooding.

During heavy rain, Cayou Creek and its wetland overflows the culvert under Edens Road, ¾ miles east of Guemes Island Road, creating a hazard for motorists during these periods. See also the Transportation Element for other roads prone to flooding. Currently there is no drainage plan for Guemes Island.

Geologically Hazardous Areas. Soil Erosion-Potential Areas are shown on Figure 4.10. The yellow bluff near Kelly’s Point and the shoreline extending north towards Edens Road are feeder bluffs that can slough off substantial material during fierce westerly storms. Likewise, the sheer bluffs along South Shore Road are erosion-prone. Not shown on this map are the high sand bluffs running in a southeasterly direction from North Beach. In addition to the unstable shoreline bluffs, steep slopes are present on the two rocky hills at the eastern part of the island.

Coastal areas are subjective to Tsunami Inundation (Figure 4.9). Major earthquakes with a magnitude of 9 or higher, involving the Cascadian Subduction Zone, have occurred in the Puget Sound Region with an average frequency of about 500 years. Lesser events on the Seattle Fault will also have seismic and tsunami effects on Guemes Island but have not yet been evaluated. The most recent Cascadia Event took place in the year 1700.

When the Cascadia event reoccurs, peak ground accelerations in the Guemes Island area can be expected to be on the order of 15% gravity with a shaking duration of 5 to 6 minutes. The resulting tsunami can be expected to occur within 2½ hours. The height of the tsunami swell as it travels around the island will be 10 to 12 feet. Areas with offshore shallows, such as North Beach, will likely experience higher breaking waves.

The Pacific Tsunami Warning System follows earthquakes magnitude 7 or more with tsunami potential. When necessary, they issue a tsunami warning to the Skagit County Emergency Management and to the Emergency Alert System (EAS). EAS would generate warnings by radio and television. The County Emergency Management would alert the Guemes Island Fire Department that would in turn alert the Community Emergency Response Team (CERT). The island organizations would implement the evacuation of the coastal population. No Tsunami Hazard Zone signs have been posted on Guemes Island. Active geological faults have not been mapped.

Fish and Wildlife Habitat Conservation Areas. The Critical Areas Ordinance (CAO) designates Habitat Conservation Areas (HCA) based on specific criteria that include areas with which endangered, threatened, and sensitive species have a primary association. The county has currently designated all shoreline areas of the island HCA because of their fragile nature and importance in supporting marine-dependent life.

Other areas with a high value for wildlife habitat and plant communities include Square Harbor Wildlife Preserve, owned by the Washington Department of Fish and Wildlife. It was purchased with funds from the Washington Wildlife and Recreation Coalition and thus is protected in perpetuity. It is a haven for raptors and many other bird species. The pileated woodpecker, a State Candidate Species of concern, is frequently seen in the woods. In addition, a small wetland with dead cedar snags is used as a bald eagle night roost, which is an important winter habitat.

The Peach Preserve, also known as the Demopoulos Marsh, is owned by the San Juan Preservation Trust. It also is protected in perpetuity. The preserve features 2,100 ft of shoreline and contains a wetland south of South Shore Drive between the road and the beach. Herons roost in trees north of this wetland. The preserve also includes 19.2 acres of mature secondary forest north of South Shore Road.

Threatened Species. The bald eagle is designated as a State Threatened Species. Since 2001, the Washington Department of Fish and Wildlife (DFW) no longer performs an annual survey of nest sites, but an undated map shows 14 nest sites, some of which are probably alternate nests for one nesting pair. The peregrine falcon is no longer considered endangered or threatened in Washington, but at present has the status of State Sensitive; Guemes Island has been host to a falcon scrape in various locations over the years. According to several local bird watchers, the Brandt's cormorant, the merlin, pileated woodpecker, Vaux's swift, and western grebe are among the State Candidate Species frequenting the island. Federally threatened juvenile Chinook salmon stay in the island's extensive eel grass and kelp beds for protection and rely on the forage fish production for their food supply.

Wildlife. Guemes Island supports many species of wildlife and plants of varied diversity and density. The intrinsic value of these species represents important historic, cultural, recreational and economic resources. These species should be enhanced for the benefit and enjoyment of everyone.

Hunting. Through the years, hunting by off-islanders has frequently led to conflicts between Guemes Islanders and hunters. At times, residents have been at risk of injury from injudicious shots close to residential development. Hunters frequently violate the regulations by trespassing on private land; hunting past the one-half hour after sunset; hunting with artificial lights; and hunting from a motor vehicle or from a public road.

Noxious Species. The following state-designated noxious weeds are of interest on Guemes Island because they have a limited distribution on the island and can still be eradicated: spartina, tansy ragwort, hawkweed, and purple loosestrife. The loosestrife has been successfully limited by biological controls. Spartina was found in one beach location. Other species, such as poison hemlock and Scotch broom, are more widely distributed on the island.

In recent years the Norway rat, also known as sewer rat, and the roof rat, or black rat, have become unwanted inhabitants of the island, causing damage to property and posing a health threat to people and their pets.

Future Conditions and Issues

Population growth on Guemes Island will require careful monitoring to ensure that the island's environmental quality does not suffer deterioration. With the increase in population, residents can expect an increase in noise and light pollution. Areas presently zoned as Rural Intermediate may include lots subject to geologic or flood hazards. The density of development permitted in these areas may result in increased sea-water intrusion and/or contamination of the groundwater system by failing septic systems. Recent legislation (2006, H.B. 1458) requires the local board of health to conduct quality assurance of the on-site sewage certification program and make sure the systems are in compliance with RCW 43.20.050. Septic systems should be repaired and upgraded where necessary to protect surface and groundwater quality.

Much of this development is expected to occur in some of the most fragile environments, including shorelines and wildlife corridors. Protection of these resources and preservation of wildlife, including shoreline, marine and endangered species, is critical to the island's environmental quality. Further discussion of shoreline areas may be found in the Shoreline Master Program.

In case of a Cascadia earthquake, major structural damage will occur to older buildings that have not been adequately constructed and anchored. Properly built wood frame structures should be more resistant. The resulting tsunami will cause extensive damage to buildings and roads in low-lying areas along north and west beaches. The north part of the island will likely be isolated until roads can be cleared and repaired. Ferry service will most likely be disrupted, so Guemes Island residents will probably need to fend for

themselves until regular transportation, power and communication services are restored. Lower magnitude earthquake events will have less severe effects. The Guemes Island Fire Department and CERT should blend into a closer unit so that adequate response time will be available to evacuate low-lying areas.

Increasing development on the island will have other less obvious effects on the environment. These may include loss of trees as lots are cleared, greater prevalence of opportunistic noxious weeds, birds like crows and starlings on cleared land, and more impervious surfaces that increase storm-water runoff and reduce aquifer recharge. The problems with rats in our community will very likely increase unless checked.

Extended ferry hours make it easier for hunters to come across during weekdays and hunting violations will likely increase. With the increase in population, conflicts between islanders and hunters and the risks to the Guemes residents will increase as well unless safe and legal hunting practices are enforced.

With mounting pressure on the refineries across the Guemes Channel to increase production, the risk of residents being exposed to air pollution from that source may also increase. However, with technological improvements at the refineries this risk may actually decrease.

Education

- Guemes Island residents should be strongly encouraged not to water their lawns and gardens with well water. Rainwater catchment systems provide a viable alternative. People shall be encouraged to install water meters in order to track their water usage and detect leaks when the usage rises above the norm.
- Island organizations should cooperate with the County in developing and distributing educational programs to encourage people to minimize destruction of the native vegetation during development of their property and to re-vegetate with native plants that, once established, require a minimum of water and care. [SCCP 13A-2.1]
- The island community should work with existing land trust organizations to assist willing landowners to protect lands, valuable for aquifer recharge areas and wildlife, in perpetuity. [SCC 14.24.180 (1)(b)]

Recommendations: Map Modifications

The County needs to modify the following maps in the Guemes Island Shorezone Map Atlas:

- Wetlands – Figures 4.2 and 4.4.
 - The wetland complex in the valley, intersected by Edens Road, is physically separated from the pond along Seaway Hollow by a ridge, as can be seen on a USGS topographical map (Figure 1.1).
 - The low area between Veal pond and the North Beach wetland should be evaluated to determine whether there is a continuous wetland complex. See USGS topographical map (Figure 1.1).

- Soil Erosion-Potential Areas- Figure 4.10.
 - The partially unconsolidated, partially consolidated sections of shoreline from North Beach in southeasterly direction around the rocky part of the island should be corrected to correspond with Skagit County Potential Landslide and Erosion Areas.
- Tsunami Inundation – Figure 4.9.
 - This map needs to have an overlay with contour lines and parcel lines.

Policy Recommendations

The following recommendations are intended to supplement the policies in the Environment Element of the SCCP.

Air quality

- 4.1** The Northwest Air Pollution Authority (NWAPA) should monitor air quality over the island. (SCCP Introduction)

Aquifer Recharge Areas

- 4.2** Potential prime aquifer recharge areas on the island need to be identified and evaluated. [SCCP 13A-1.2 (b) and SCCP13A-5.1 (g,h)]
- 4.3** The Skagit County Interim Seawater Intrusion Policy, adopted by the Board of Commissioners/Health by Resolution #15570, shall be updated by the Skagit County Department of Health and incorporated in SCC Chapter 12.48. [SCCP 13A-5.1 (i)].
- 4.4** The preliminary groundwater budget, as presented by the USGS in the 1995 report, needs to be further evaluated, and the issue of groundwater availability needs to be addressed. [13A-1.2 (b) and 13A-5.1 (g,h)].

Frequently Flooded Areas

- 4.5** A drainage plan for Guemes Island shall be developed to reduce flood damage and to allow proper conveyance of flood flows. [SCCP 13A-5.1(j)]
- 4.6** Property owners and residents, living on property that is subject to flooding, should be informed of this threat and provided with information on ways to protect their property. These people should be included in the tsunami warning system. [SCCP 13A-5.1(j)]

Geological Hazardous Areas

- 4.7** Removal of vegetation in landslide hazard, erosion hazard and coastal bluff hazard areas, shall be minimized. Replanting should maximize the use of native trees, shrubs, and ground cover that is compatible with the existing surrounding vegetation, meets the objectives of erosion prevention and site stabilization, and does not require permanent irrigation for long-term survival. [SCC 14.24.430 (1) (g)], [G.I. SMP Chap.6 10.c.(1) (b) and (1) (e)]

- 4.8 Low-lying areas within the inundation zones should be posted with Tsunami Hazard Zone signs.
- 4.9 Emergency shelters need to be posted as “EMERGENCY SHELTER” with a list of potential hazards such as: tsunami, earthquake, or storm.
- 4.10 The County shall verify that emergency shelters have adequate seismic resistance.
- 4.11 Emergency shelters need to have the ability to maintain function with loss of grid power and public communication service.

Fish and Wildlife Habitat Conservation Areas

- 4.12 Skagit County should coordinate with the WDOE and WDFW to identify and evaluate potential sites suitable for the Fish and Wildlife Habitat Conservation Area designation.

Noxious Species

- 4.13 The County Noxious Weed Inspector shall provide information to and work with island organizations to control noxious weeds on the island.
- 4.14 The County Health Department should work with island organizations to provide information on methods to minimize impacts from rats.

Protection and Conservation Measures

- 4.15 Seawater Intrusion Mitigation. Mitigation for a single-family residence shall be in conformance with the “Interim Seawater Intrusion Policy” which needs to be updated and incorporated into SCC Chapter 12.48. [SCC 14.24.350 (2)]
- 4.16 Building permits in areas susceptible to seawater intrusion shall be conditional upon the restriction of ground water to use in the home only. [SCC 14.24.350 (5)(iv)]
- 4.17 Water meters shall be required for all new development and encouraged for all existing residences, in order for people to track their water usage and detect leaks. Skagit County shall implement a rebate program for the purchase and installation of individual water meters.
- 4.18 Land elevation shall be determined prior to the drilling of a new water well in order to provide necessary information about the depth to mean sea level.
- 4.19 The County/Health shall evaluate the presence of failing septic systems and the source of nitrate contamination of the groundwater.
- 4.20 Sole Source Aquifer Mitigation. There shall be no density bonus for CaRD developments on Guemes Island, except when the source of water is from a public water system whose source is other than groundwater. [SCC 14.24.350 (3)]
- 4.21 The County shall ensure that open space set aside by CaRD subdivision is permanently protected. [SCCP: 5C-1.2 (a)]
- 4.22 The Planning and Development Services Critical Areas Checklist needs to include the question whether the property is located on a Sole Source Aquifer Area.
- 4.23 The County shall develop requirements for individual reverse osmosis (R.O.) systems that are consistent with requirements for public R.O. systems. Particularly, the water source and effluent discharge need to be addressed. No R.O. systems shall be allowed that use ground water from the aquifer system. A

- public well system or public R.O. system will be preferable over multiple individual R.O. systems [SCC13A-5.3 ©]
- 4.24 The County and island organizations should encourage islanders to use native vegetation on their property by making them easily available. [SCCP 3A-5.1 (q)]
- 4.25 Integrated Vegetation Management (IVM) approaches, with emphasis on mechanical control techniques (mowing and grading), shall be used on the public rights-of-way). All available control actions, such as biological means, shall be considered. Some selective herbicide applications may be used near intersections and traffic signs, where sight distance and visibility is of critical importance, or on areas with isolated populations of noxious weeds. [SCCP 10A-4.1]
- 4.26 Artificial lighting shall use full cut-off fixtures so that direct light from high intensity lamps will not result in glare. Lighting shall be directed away from adjoining properties so that not more than 1-foot candles of illumination leaves the property boundaries. [SCC 14.16.840 (3)].
- 4.27 On-site sound levels are not to exceed levels established by noise control regulations by the Department of Labor and Industries. Maximum permissible environmental noise levels to be emitted to adjacent properties are not to exceed levels of the environmental designations for noise abatement (EDNA) as established by the Washington Department of Ecology. [SCC 14.16.840 (5)]
- 4.28 Waterworks, an island organization, will work towards research and education of the islanders with respect to water use and discharge.

Public Information and Incentives

- 4.29 All public notices affecting Guemes Island shall be posted in the Skagit Valley Herald. Additionally, the County shall notify the Evening Star and or other widely read island media. [CCP13A-1.6]
- 4.30 The County/Health and other departments should cooperate with island organizations to provide islanders with information on the Sole Source Aquifer System; groundwater recharge; and groundwater and surface water quality issues; care of private wells and septic systems; conservation of water usage. Islanders shall be encouraged to be water resource stewards through participation in decision-making, volunteer activities and educational programs. [SCCP 13A-2.1(b)]
- 4.31 The County shall encourage private participation in water conservation, including best management practices and reuse of water by installation of gray water systems, such as bog filtration. [SCCP 13A-3.4(a)]
- 4.32 The County and island organizations should encourage property owners to protect critical areas and open space by participating in incentive programs like the County Open Space Taxation Program. [SCC14.24.180 (1)(a)]
- 4.33 Hunting on Guemes Island should be reviewed regularly by the Washington State Department of Fish and Wildlife in cooperation with island citizens to insure safety of residents and hunters alike. In addition, wildlife populations should be closely monitored and inventoried in the same cooperative manner in order to manage wildlife resources.

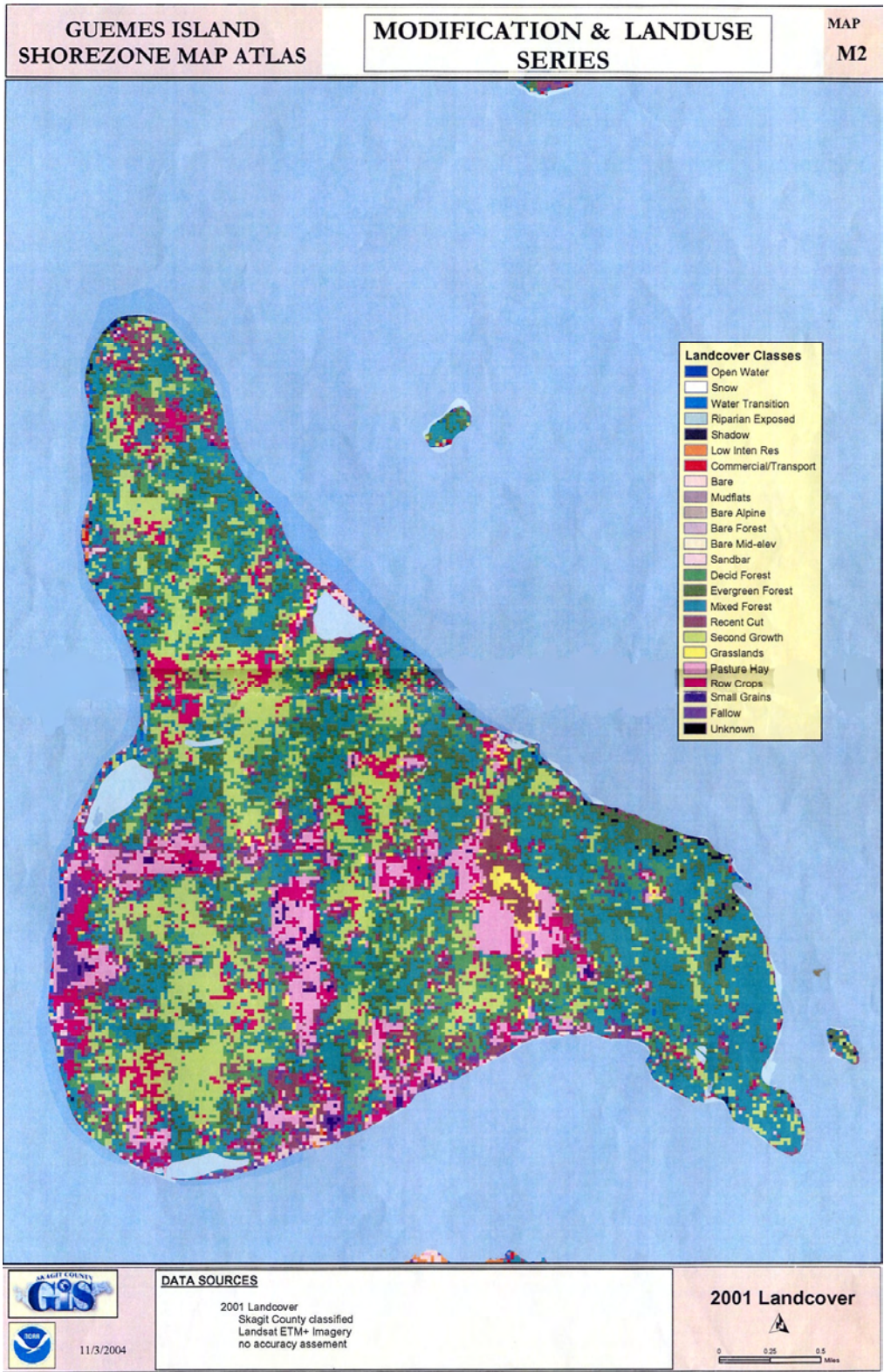


Figure 4.1 Land Cover



Figure 4.2 Wetlands



Figure 4.3 Hydrology

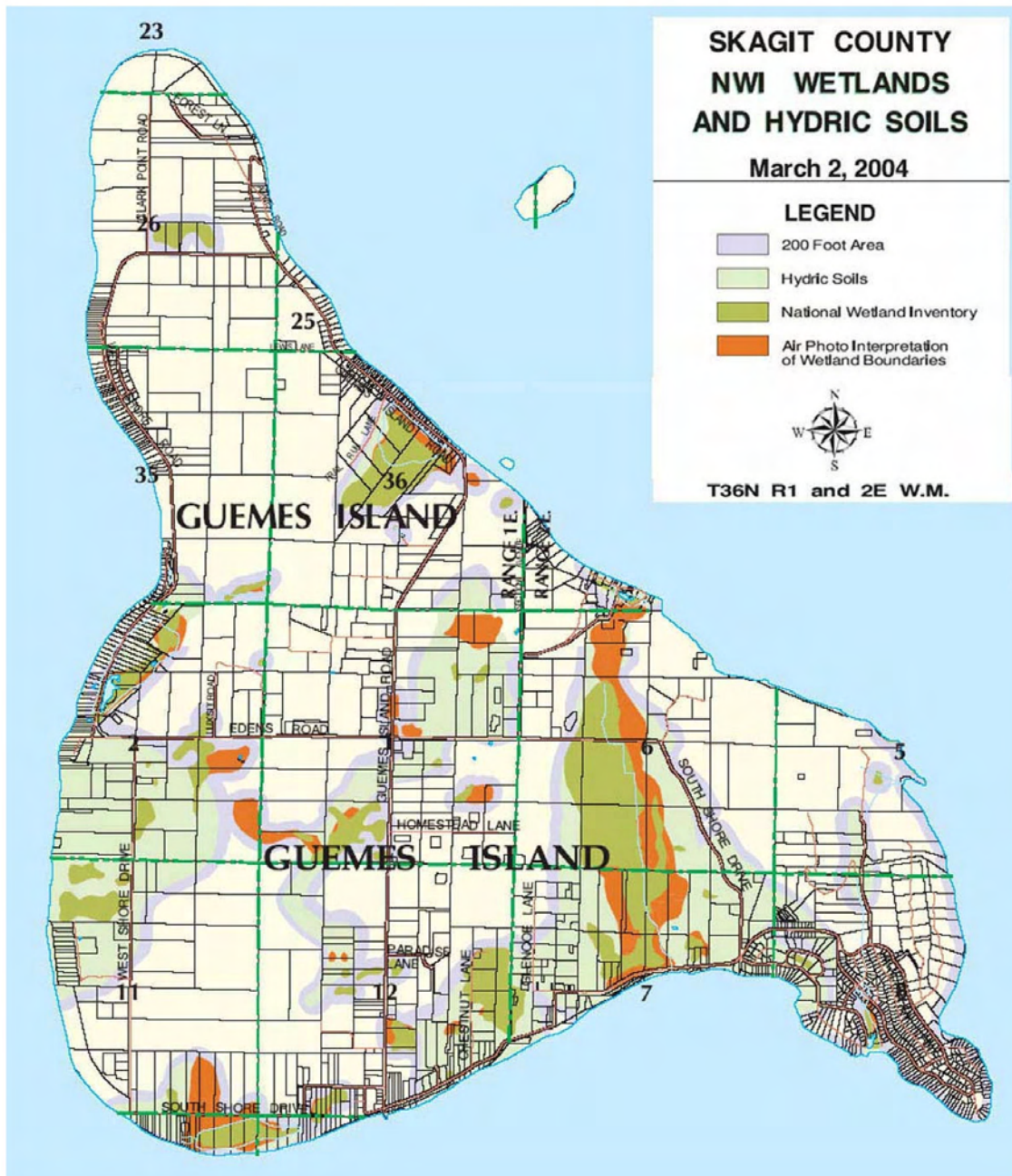


Figure 4.4 NWI Wetlands and Hydric Soils

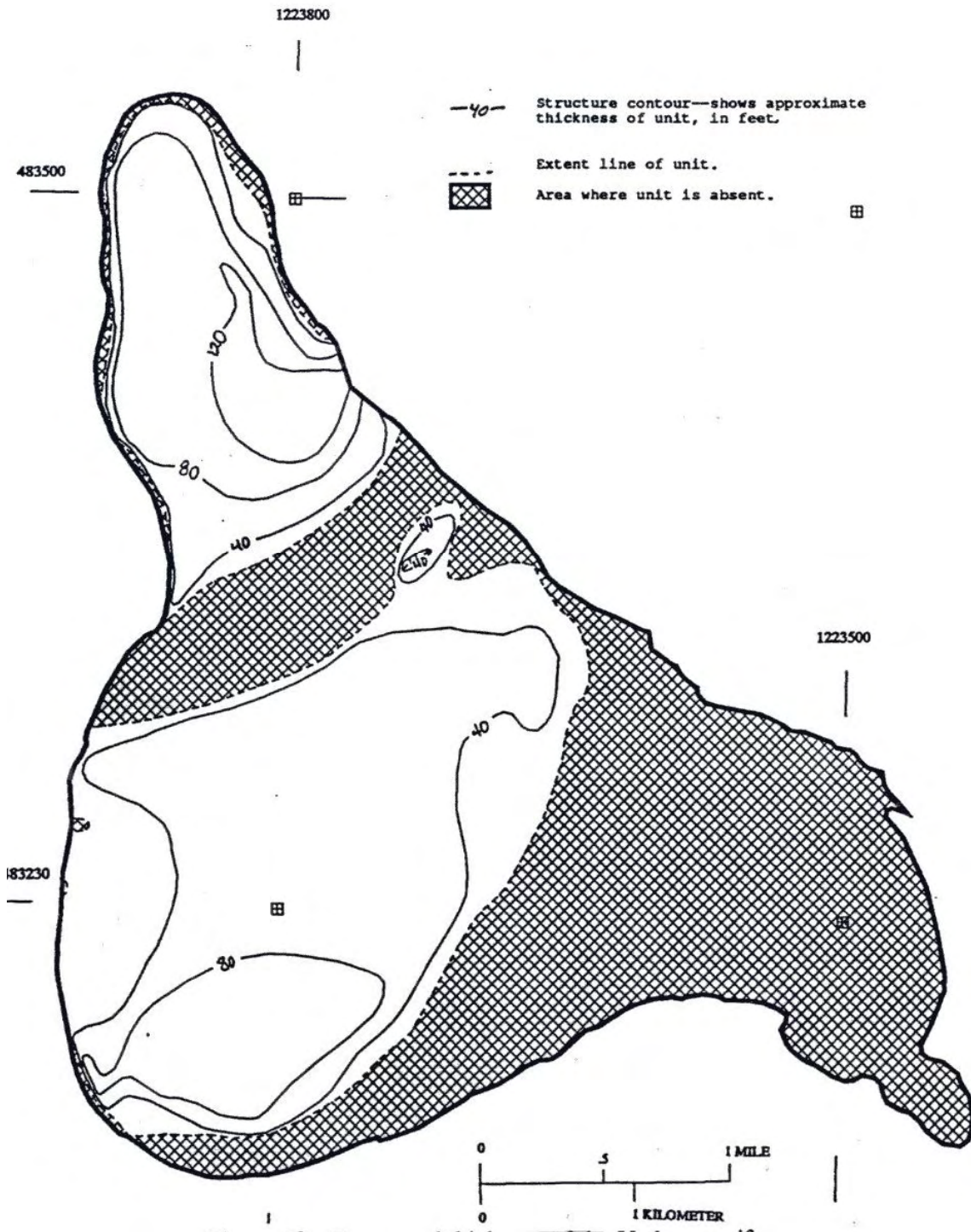


Figure 4.5 Extent and Thickness of the Vashon Aquifer *USGS 1995 Report*

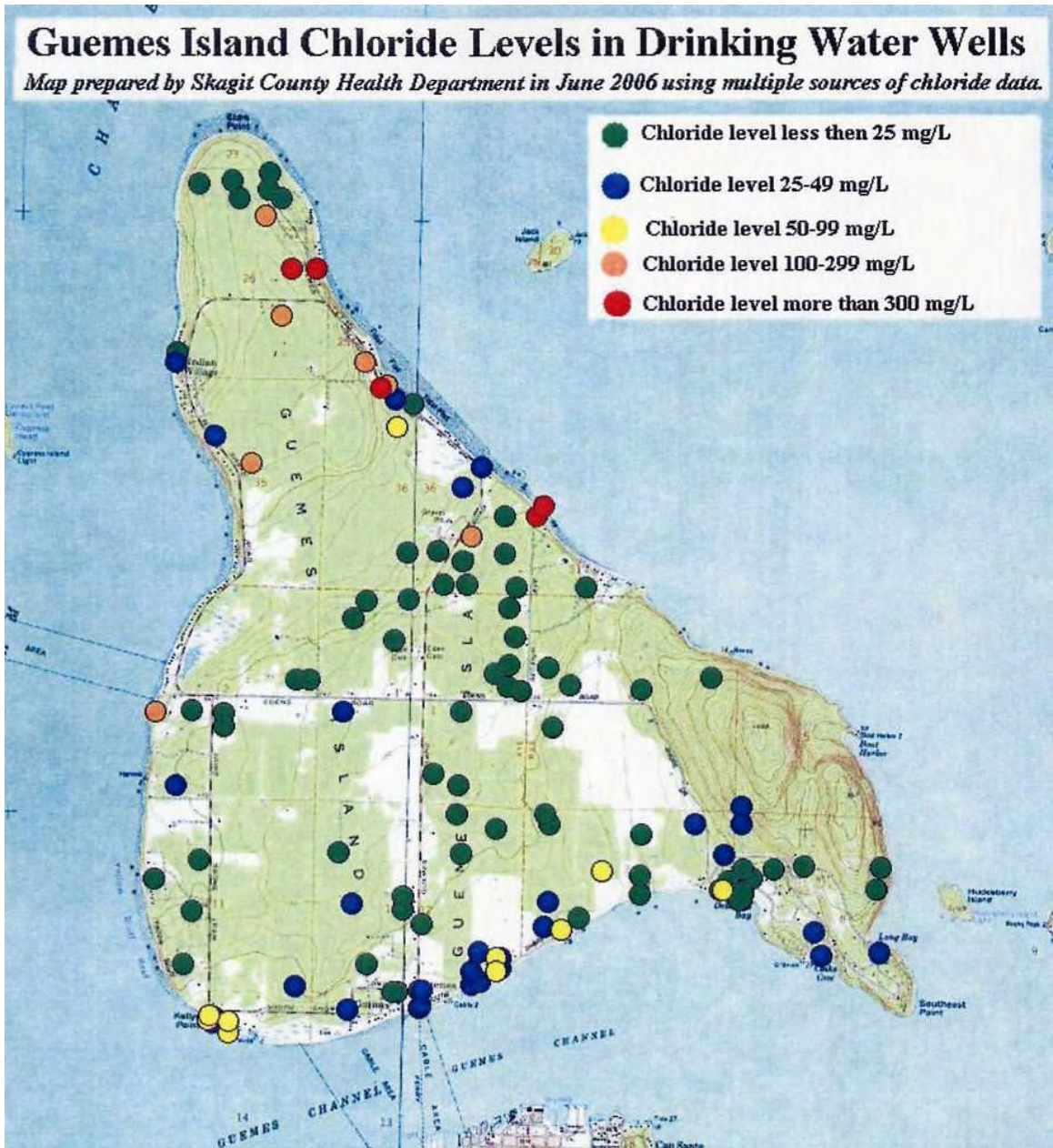
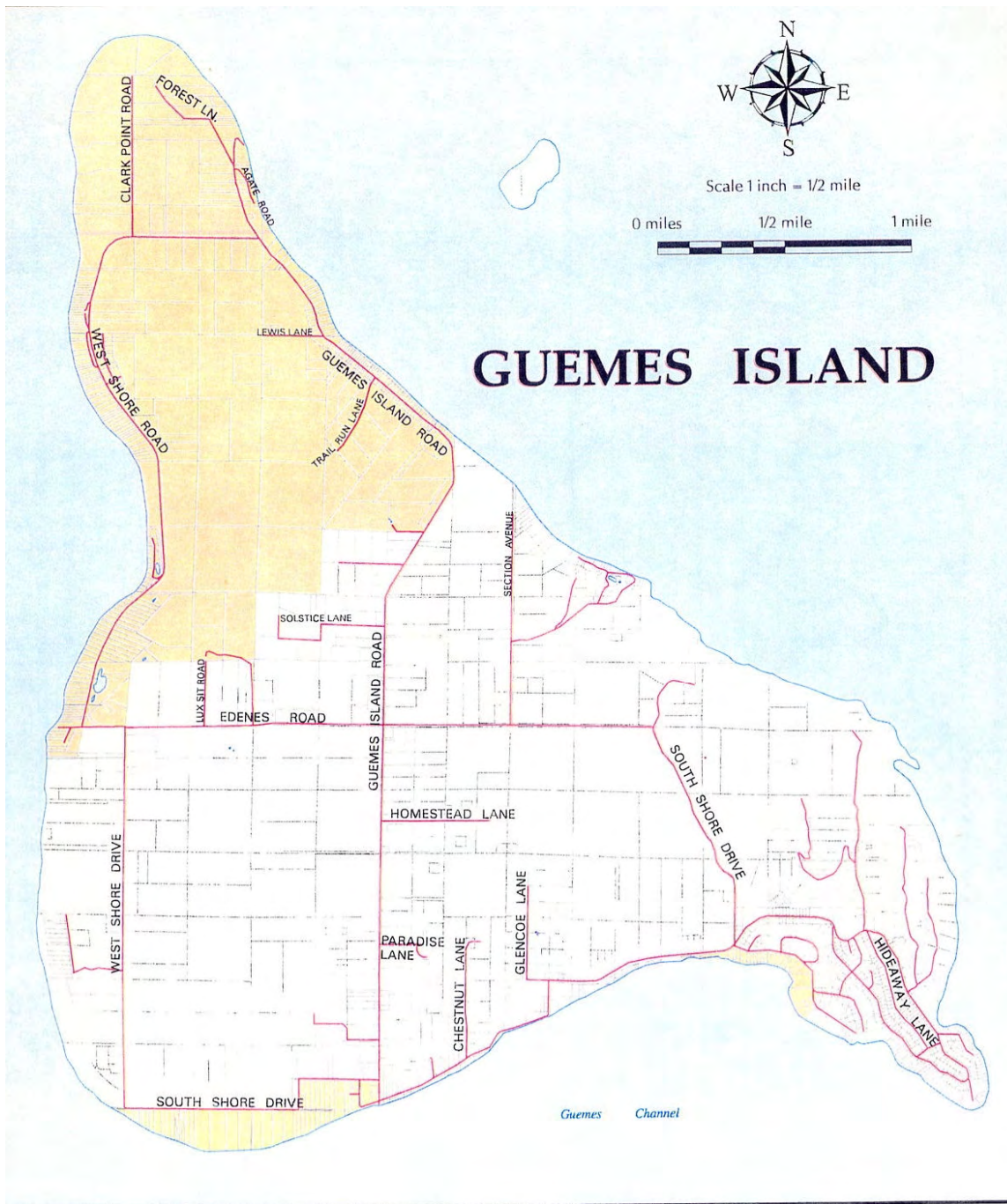


Figure 4.6 Well Chloride Levels



 **Areas Where Well Drillers Apply To The Health Dept. Before Drilling**

Figure 4.7 Well Drilling Permit Areas
Skagit County Interim Seawater Intrusion Policy



Figure 4.8 Public Water Systems

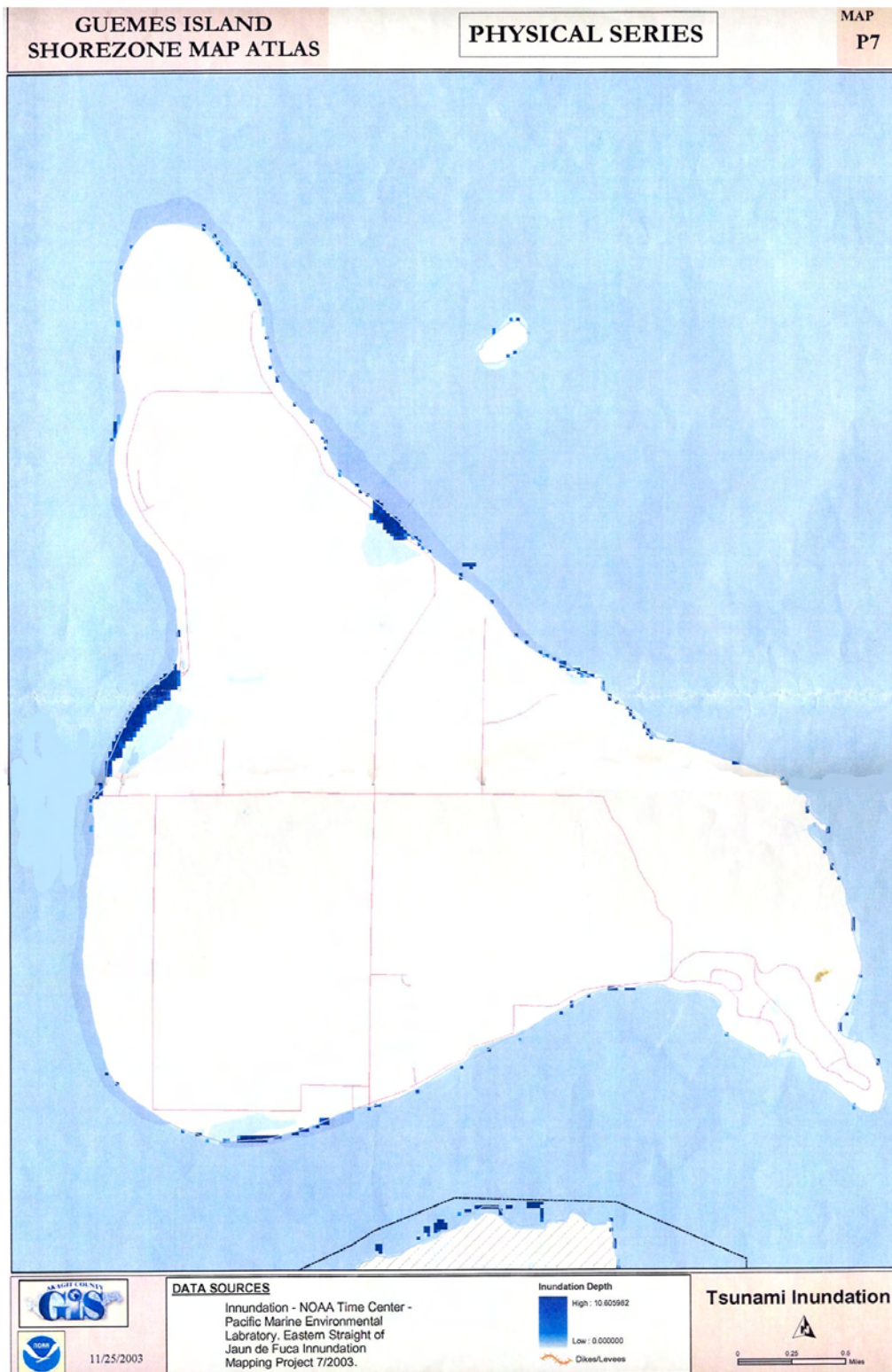


Figure 4.9 Tsunami Inundation Areas



Figure 4.10 Soil Erosion Areas

5. Shorelines Element

Introduction

The Guemes Island shoreline is a fragile ecosystem that sustains life for a wide variety of marine plants and animals. It is also subject to geologic hazards like erosion and landslides. Shorelines are easily degraded by erosion from human activities and buoy chains that can dislodge delicate inertial plants or home construction where native vegetation (habitat) is removed. At the same time, the Island's shoreline is now, and is expected to continue to be, the most highly developed area of the island.

The Washington State Shoreline Management Act (SMA) (RCW 90.58) was enacted in 1971 to guide shoreline development in balance with protection of shoreline habitat. The State Shoreline Master Program Guidelines, as developed by the Washington Department of Ecology (WDOE) in 1972, translate the policies of RCW 90.58 into standards for regulation of shoreline uses. They help local governments to develop shoreline master programs for their communities as required by the SMA. Preparation of the Skagit County Shoreline Management Master Program was initiated by the Skagit County Planning Department and adopted in 1976. It is a shoreline comprehensive plan and zoning ordinance with a distinct environmental orientation and is customized to local circumstances. Its provisions regulate developments within 200 feet of the Ordinary High Water Mark (OHWM) of Puget Sound, wetlands associated with the Sound, and all tidelands and waters of Puget Sound. On Guemes Island, this element covers shorelines activities such as residential development, boat launches, boathouses, reverse osmosis systems, and other developments.

After the Legislature passed the Growth Management Act (GMA) in 1990, the need arose to integrate the SMA and the GMA. The GMA required the counties with a Shoreline Master Program to incorporate the goals and policies into the county's comprehensive plan. At the same time, it was becoming clear that stronger measures were needed to protect shoreline habitat due to significant declines in Chinook and other salmon species (pers. comm. 10/20/06¹). The conclusion was that both laws needed to be amended in order to make them work better together. After an arduous process, the final version of the amended SMA, started in 1999, was finally adopted in 2003.

The Skagit County Shoreline Management Master Program (SMMP) was amended in 1995 (Resolution 15819) to address hydropower. Skagit County does not plan to further update its SMMP until 2012. In addition to the outdated SMMP, the county's Critical Areas Ordinance (CAO) also regulates the environmental impacts of all shoreline development. However, neither ordinance prohibits shoreline uses such as docks, major marine aquatic operations, industrial uses, or other uses that may be inappropriate on Guemes Island. In order to develop a plan that captures the 2003 SMA updates and

¹ Tom Clingman, WA Department of Ecology

addresses inappropriate uses, Skagit County and GIPAC applied for and received a grant from the WDOE to prepare a draft Shoreline Master Program for Guemes Island (MAKERS, Guemes Island Shoreline master Program Element, Draft November 21, 2005).

The key objectives of the Shoreline Element are to:

- Preserve and enhance the natural character, resources, and ecological processes of shorelines
- Ensure that residential setbacks, lot coverage standards, height limits, and protection of shoreline vegetation are in place to avoid degrading shoreline character or ecology.
- Protect and enhance the current shoreline public access network without impacting fragile shoreline areas.
- Limit shoreline commercial development to areas currently used for commercial purposes.

Current Shoreline Conditions and Issues

Of the 627 island residences, more than half (346) are on shorelines. Most of these homes are either in the Rural Intermediate or Rural Reserve zone (Figure 2.3, Land Use). The removal of native shoreline vegetation and, in some cases, placement of bulkheads has degraded the ability of these shorelines to support marine-dependent wildlife. For example, trees for marine birds to nest and perch are scarce, and the wide-open character of these shorelines invites city birds like crows and pigeons at the expense of native island birds. As described in the Environment Element, excessive well pumping is locally increasing seawater intrusion into the groundwater.

Significant Habitat Areas

Under the SMA all shorelines on Guemes Island lying seaward from the line of extreme low tide are considered Shorelines of Statewide Significance [RCW 90.58.030 (2)(e)(iii)]. In addition, those shorelines associated with Padilla Bay – from Southeast Point to Clark’s Point, between the OHWM and the line of extreme low tides and also their shore lands have the same designation [RCW 90.58.030 (2)(e)(ii)(E) and vi)]. As a result, Skagit County (see Environment Element) has designated these shorelines as Habitat Conservation Areas that require special studies prior to development to ensure that the natural character of the shorelines is protected.

The 2005 Rapid Shoreline Inventory (RSI) of Guemes Island identified several areas of the shorelines with exceptional habitat value. In particular, these areas are important for their abundant eelgrass and kelp beds which support a myriad of marine species, and beaches which provide good spawning areas for crab and forage fish. Herring, surf smelt, and sand lance, in turn, feed the juvenile salmon including the threatened Chinook salmon that forage these waters.

Shorelines with high-value habitat are shown as Conservation areas in Figure 5.1. They include sites at Kelly's Point and on West Beach near Ocean Acres and Potlatch Beach that could contribute to improved marine habitat on the island. Shorelines along North Beach are important habitat for clams and Dungeness crab.

Other areas with high-value habitat include the Square Harbor Wildlife Preserve, which is owned by the Washington Department of Fish and Wildlife and protected in perpetuity. It is a haven for raptors and many other bird species and supports some marine life. The Peach Preserve, also known as the Demopoulos Marsh, is owned by the San Juan Preservation Trust and is protected in perpetuity. The section of the preserve south of South Shore Drive features a fresh-water wetland and 2,100 ft of shoreline.

Shoreline Designations

The Skagit County Shoreline Master Program assigns Guemes Island shorelines three of six possible environmental designations, or zones, to establish the nature of allowable development given the environmental sensitivity of the shoreline: Rural, Rural Residential, and Aquatic. Table 5.2 identifies the primary purpose of each designation. The three other designation: Urban for intense uses and Rural Conservancy and Natural, mainly to protect sensitive shoreline areas, were not designated here. See Figure 5.3, Current Shoreline Designations and SCCP, Chapter 16 for additional details. The allowed shoreline uses and development standards may be more stringent than the underlying land use zone to protect environmental values. In cases where there is a conflict between shoreline and zoning standards, the more restrictive applies.

Shoreline Use Activities

As mentioned above, all Guemes Island shorelines are considered critical areas and therefore proposed uses are regulated under the Critical Areas Ordinance (CAO) (SCC 14.24). Project proponents are required to provide a Critical Areas Review to identify steep and unstable slopes, fish and wildlife, and other areas of ecosystem impact. The CAO requires that projects first attempt to avoid or minimize significant adverse effects and significant ecological shoreline impacts. If this is not feasible, projects are required to minimize their impacts by limiting the degree or magnitude of the action and/or by mitigation of impacts. If these requirements cannot be met, permits will not be granted.

Shoreline uses include the suite of principal uses, such as residential or commercial and their accessory uses, including docks, buoys, etc. The combination of zoning and shoreline designations, (Figure 2.3, Zoning and Table 5.2 and Figure 5.3 describing current shoreline designations) determines the allowed uses in shoreline areas. In the past, islanders have expressed strong concerns about the adverse affects of proposed commercial marine aquaculture. Aquaculture, marinas and mining are possible uses under the current SMMP.

Parking Lots

The two shoreline public parking lots are for the ferry and Young's Park (see Figure 5.1). Enhancing the shoreline of these lots with more vegetation would improve the natural shoreline character. See Figure 6.6, Transportation for the proposed ferry parking lot configuration.

Public Access

Shoreline public access allows the general public to reach the water. The island has a number of shoreline access points around the island (see Figure 5.4, Shoreline Public Access). However, more than half of the privately owned shoreline parcels also include privately owned tidelands, which may limit beach access to the public. For this reason, where possible, it is desirable for tidelands to be held in public trust. A variety of state, federal, and private funding sources are available for the acquisition of water access. The only public boat launch is located next to the ferry dock at Mangan's Landing. Other private launches are at Cook's Cove and the Resort. (see Figure 5.1).

Residential Development

Shoreline Setbacks

Skagit County SMMP shoreline setbacks are well below what is currently recommended by the best available marine shoreline science. Table 5.5 shows the minimum setback from the Ordinary High Water Mark (OHWM) is 50 feet in the Rural Residential and Rural Environments. Research from the past 20 years, however, suggests that to protect marine dependent wildlife in shoreline areas, shoreline buffers should be much larger than the current standard. The County is now considering wider shoreline buffer areas.

Structural Footprint

Over time, many of the original beach cabins, which are on the smaller and narrower lots and dominate the island's shorelines, have been replaced by larger residences. This change directly affects the amount and quality of shoreline vegetation that can be retained. These residences are often accompanied by lawns and ornamental gardens. This type of development is more consumptive of water and other resources than smaller scale structures and native vegetation. From a larger perspective, bigger structures also undermine the island's rural character.

Another aspect of structures contributing to an appearance of bulkiness is height. As Table 5.5 shows, structures in the Rural and Rural Residential Environment can be built to 40 feet.

Shoreline Modifications

Shoreline modifications on Guemes Island include shoreline stabilization, beach restoration/enhancement, bulkheads, rip rap, fill, and piers. Bulkheads and rip rap can interfere with the normal movement of sand and gravel along the shoreline, thereby depriving some areas of this material and causing other areas to fill-in. Where sand and gravels are depleted, beach spawning forage fish that feed larger fish are unable to spawn. Similarly, bulkheads placed too far water ward cover beach where forage fish spawn, thereby reducing opportunities to increase these stocks.

Piers and docks are vulnerable to break-up by the strong currents and tides that move around the island. The 2005 RSI identified numerous bulkheads around the island (see Figure 5.6, Shoreline Modifications). The only pier on the island is the ferry dock, which is regularly inspected and professionally maintained.

Shoreline Restoration and Ecological Enhancement

The results of the 2005 Rapid Shoreline Inventory (RSI) tell us that much of the Guemes Island shoreline vegetation has been maintained substantially intact and provides excellent habitat for marine dependent life. Native vegetation provides food, nesting and perching areas, and shade to prevent beach spawning fish eggs from desiccation. Maintaining these plant assemblages of significant vegetation is so critical that development should not be allowed there unless impacts to this resource can be avoided or fully mitigated. Unfortunately, however, along many reaches of the developed shoreline, native trees, shrubs and groundcovers, have been removed and replaced with non-native plants.

The RSI report makes recommendations to encourage landowners to continue to conserve intact shoreline vegetation and restore degraded areas. The RSI shoreline restoration recommendations are described in the Recommendation section of this chapter and further detailed in the Rapid Shoreline Inventory Report (*Appendix B*).

Utilities

The principal utilities in the shoreline zone are power cables that service the island and water systems. As discussed in the Environment Element, saltwater intrusion has degraded the quality of a number of shoreline wells. The preferred alternatives are a community water system or a public reverse osmosis system, that are regularly monitored for quality. Individual reverse osmosis (R.O.) systems are not a desirable option since they are not regulated and tend to use their contaminated well water as a source, thereby further stressing the groundwater system.

Future Shoreline Conditions and Issues

At full build-out, more than 100 additional homes are expected on the island's shorelines, for a total of nearly 450 residences housing some 800 people. This is up to one-third of the island's future population. This increased population will place more stress on shoreline resources. New homeowners will desire to remove shoreline vegetation to fully capture views, while new homes would increasingly diminish rural character. With this in mind, significant efforts will be needed to encourage landowners to reestablish native shoreline vegetation and minimize development impacts on this resource. At the same time, pressure for more public access to shorelines is likely to grow, underscoring the need for additional access to tidelands. Where shorelines overlay shallow aquifers, landowners may increasingly choose private reverse osmosis systems and further contaminate the groundwater near the shoreline. (See seawater intrusion discussion in Environment Element – Section 4)

The proposed shoreline designations and development policies for Guemes Island incorporate new shoreline environment designation categories established by recent changes in the Shoreline Management Act. These environments apply to the same 200 foot area from the OHWM as the existing designations. Like the current designations, they assign appropriate land use controls; however, the policies place greater emphasis on protecting and restoring natural shorelines and native vegetation than the current designation described in Table 5.2.

The five environments are High Intensity, Shoreline Residential, Rural Conservancy, Natural, and Aquatic. Figure 5.7 shows the proposed distribution of these designations and Table 5.8 describes the purpose and general location of each. They generally correspond to the underlying zone and ecological values of their shorelines. For example, the Shoreline Residential designation, which permits the highest rural density, follows shorelines in the Rural Intermediate zone (Figure 2.3, Land Use) on West Beach (north of Edens Road), North Beach, and Holiday Hideaway where shoreline degradation is considerable. The Rural Conservancy designation, intended for lower densities, is aligned with shorelines in the Rural Reserve zone and lower densities occurring at Clark Point, on West Beach (south of Edens Road) and along the shorelines of much of the southern half of the island where ecological functions are more intact. The High Intensity and Natural Environment, which overlie the Rural Reserve zone, however, follow the function of the site. The High Intensity Environment at Mangan's Landing is intended for marine transportation, thus it accommodates ferry operations, while the Natural Environment, which permits only minimal development is confined to the island's most ecologically intact shorelines of Demopolis Marsh, Square Harbor, and the Lervick shoreline. The principal emphasis of the Aquatic Environment applies to all waters and seabed water ward of the OHWM.

The nature of future development, especially on sub-standard lots in the Shoreline Residential is a major concern as vacant lots and small existing homes are replaced with

large new residences. Therefore, further restrictions on height, lot coverage, and setbacks are needed to ensure that such structures are more proportionate to lot size. Table 5.9 and Figure 4.10 describe the proposed development standards for shoreline development in all designations. Other shoreline development standards will be proposed for public review upon adoption of this plan.

Shoreline Recommendations

The following policy recommendations are intended to supplement the Skagit County Comprehensive Plan and the Shoreline Management Master Program as they apply to Guemes Island.

General Policies Applying to All Shoreline Uses and Activities

- 5.1 Ensure that restrictions on shoreline uses do not unduly infringe upon the rights of private ownership.
- 5.2 Guemes Island marine shorelines below extreme low tide are designated Shorelines of State-Wide Significance (SSWS). In addition, the shorelines associated with Padilla Bay, from Southeast Point to Clark Point, between the OHWM and the lines of extreme low tides have the same designation. These SSWS are of value to the entire state and should be protected and managed to comply with RCW 90.58.020. In order of preference, these are the priorities:
 - a. Recognize and protect the state-wide interest over local interest
 - b. Preserve the natural character, resources and ecology of the shore
 - c. Prefer long-term over short-term benefit
 - d. Increase public access to publicly owned areas of the shorelines
- 5.3 Projects that cause significant ecological impacts are not allowed unless mitigated to avoid or reduce damage to ecosystem-wide processes and ecological functions.
- 5.4 The County will set mitigation requirements or permit conditions based on impacts identified. Avoidance of impacts by means such as relocating or redesigning the proposed development will be applied first. Lower priority measures will be applied only after higher priority measures are demonstrated as not feasible or not applicable.
- 5.5 Protect and enhance the natural ecology of Guemes Island shorelines as a designated Skagit County Habitat Conservation Area, including areas where endangered, threatened and sensitive species have primary association, all public and private tidelands suitable for shellfish harvest, kelp and eel grass beds, herring and smelt spawning areas, areas where salmon species have primary association, State Natural Area Preserves and Natural Resource Areas; and other aquatic areas. Special consideration should be given to the east and northeast shorelines

of the island as important and irreplaceable parts of the Padilla Bay ecosystem.

- 5.6 Encourage educational projects and programs that foster a greater appreciation of the importance of shoreline management, environmental conservation and local history.

Specific Shoreline Use and Activity Policies

Aquaculture

- 5.7 Commercial aquaculture shall not be permitted in any environment of Guemes Island because of its potential to significantly degrade ecological functions over the long term.

Archaeological and Historic Resources

- 5.8 Protect and preserve important archaeological, historical, and cultural sites located in shore lands of the State for educational, scientific, and enjoyment uses of the general public.

Mining

- 5.9 Mining and associated activities shall not be permitted within SMA jurisdiction on Guemes Island.

Parking

- 5.10 Locate and design parking lots to minimize adverse impacts including those related to storm runoff, water quality, visual qualities, public access and vegetation, and public maintenance.

Public Access

- 5.11 Consider access to public waters in the review of all private and public developments (including land division).
- 5.12 Provide access to public waters as close as possible to the water's edge without causing significant ecological impacts.
- 5.13 Pursue opportunities for public access for recreational uses on publicly owned shorelines by encouraging acquisition of additional shoreline properties from willing landowners.
- 5.14 Design access to public waters to provide for public safety and comfort and to

- minimize potential impacts to private property and individual privacy.
- 5.15 Prohibit the vacation of public access to marine waters.
- Shoreline Modifications (Including Bulkheads)**
- 5.16 Shoreline development shall be located and designed to prevent or minimize the need for shoreline modifications.
- 5.17 “Soft” shoreline stabilization using natural materials such as protective berms, beach enhancement or vegetation stabilization is strongly preferred over structural shoreline stabilization made of materials such as steel, wood, or concrete. These non-structural measures have less adverse and cumulative impacts on shore features and habitats. Proposals for structural solutions including bulkheads shall demonstrate that natural methods are unworkable.
- 5.18 Locate, design and construct bulkheads and other structural stabilizations primarily to prevent damage to existing development and minimize adverse impacts to ecological functions. New development requiring bulkheads and/or similar protection should not be allowed.
- 5.19 Shoreline modification should be discouraged on shorelines existing in their natural state.
- 5.20 The County shall take steps to assure that shoreline modifications, both individually and cumulatively, do not result in a net loss of ecological functions. This is to be achieved by giving preference to shoreline modifications that have a lesser impact on ecological functions and requiring mitigation of identified impacts resulting from shoreline modifications.

Piers and Docks

- 5.21 In general, private docks and piers should be prohibited on Guemes Island in light of extreme tidal currents around the island that damage over-the-water structures and impact ecosystem processes. However, consideration should be given to permitting public docks or piers for public access. Such structures shall be accompanied by a long-term maintenance and repair agreement that is recorded with the County Auditor.

Shoreline Residential Development

- 5.22 All shoreline residential development should protect and enhance shoreline vegetation in dedicated Vegetation Conservation Areas (VCA) – assemblages of native trees, shrubs, or groundcovers - as determined by Skagit County.

- 5.23 The County shall implement the shoreline development standards identified in Tables 5.9 and 5.10.
- 5.24 Appropriate provisions shall be made to protect groundwater supplies, including the encouragement of roof catchments systems and storage ponds.
- 5.25 Adequate provisions should be made in accordance with the CAO for erosion control, drainage systems, protection and enhancement of aquatic and wildlife habitat, geohydraulic processes, and open space.
- 5.26 Sewage disposal facilities shall be provided in accordance with the WAC and certified by the Skagit County Health Department to not adversely affect groundwater quality or supplies or marine water quality.
- 5.27 Appurtenances and accessory structures should be located landward of the principal residence.
- 5.28 For shoreline stabilization measures, refer to recommendations 5.15 - 5.19, Shoreline Modifications, above.
- 5.29 The creation of new residential lots is prohibited unless it is demonstrated that the lots are not:
 - a. Clearing or grading within the VCA
 - b. Constructing shoreline stabilization structures
 - c. Causing significant erosion or slope instability
- 5.30 Accessory dwellings shall not be permitted if the water source exceeds 25ppm chlorides, as is currently required by SCC 14.16.710, or where the well does not have a capacity of 800 gallons per day. This regulation should be amended to permit accessory buildings in these areas if they will not be served by groundwater.

Shoreline Conservation, Restoration, and Ecological Enhancement Policies

- 5.31 Shoreline management activities, including the provisions and implementation of this Shoreline Element shall be based on a comprehensive approach that considers the ecological functions currently and potentially provided by vegetation on different sections of the shoreline.
- 5.32 Where possible, shoreline restoration and/or enhancement shall use maintenance-free or low-maintenance and “soft” structural designs.
- 5.33 Restoration of degraded shorelines due to natural or man made causes shall, wherever feasible, use soil bioengineering techniques to arrest the processes of erosion, sedimentation and flooding.

- 5.34 The design and use of naturally regenerating systems for prevention and control of beach erosion is to be encouraged where
- a. The length and configuration of the beach will accommodate such systems.
 - b. Such protection is a reasonable solution to the needs of the specific site.
 - c. Beach restoration/enhancement will accomplish the following objectives.
 - d. It will recreate or enhance natural shoreline conditions and habitat and to reverse otherwise erosional conditions.
- 5.35 The restoration of native vegetation shall be a condition of all development that causes significant vegetation removal or degradation.
- 5.36 GIAC (Guemes Island Advisory Committee [see Plan Implementation]) should lead implementation of the Rapid Shoreline Inventory (RSI) recommendations to improve shoreline vegetation at the priority restoration sites. This should involve the following steps:
- a. Conduct a feasibility study to determine the willingness of landowners to participate and identify project needs and resources to complete the project and monitor the results.
 - b. Work closely with willing landowners in designing and implementing projects to ensure that views and other project concerns are accommodated and inconvenience is minimized.
 - c. Coordinate with the County, local, state and federal agencies as well as local experts for information and technical expertise
- 5.37 The following table (Table 5.11, Rapid Shoreline Inventory Recommendations) summarizes the RSI recommendations, project objectives, and desired landowner participation (see Figure 5.1, RSI Map).
- 5.38 GIAC should encourage landowners in noninventoried areas to participate in shoreline protection and restoration efforts.
- 5.39 The County should provide technical assistance to landowners who wish to participate in the restoration of shoreline areas, especially in priority areas identified in the Rapid Shoreline Inventory (*Appendix B*).

Utilities (Accessory to Residential Structures)

- 5.40 When utility lines require a shoreline location, they shall be placed underground.
- 5.41 Joint facilities such as public wells and public reverse osmosis systems are the preferred method for water supply provided overview by thorough environmental studies are performed to support the system.

Water Quality – Refer to the Environment Element

Shorelines Figures and Tables

Source: Guemes Island Rapid Shoreline Inventory Report People for Puget Sound, 2005

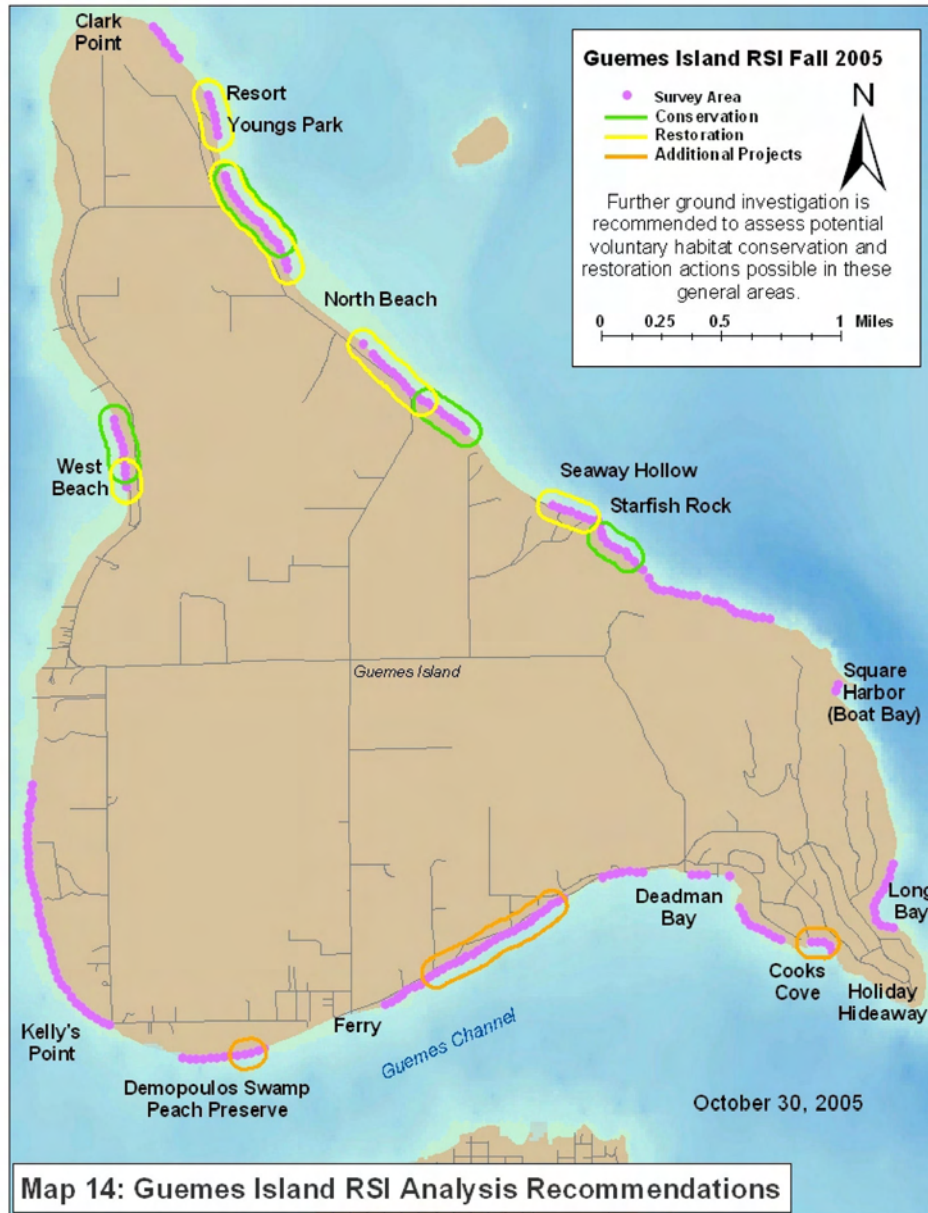


Figure 5.1 Guemes Island Rapid Shoreline Inventory

Table 5.2
Current Shoreline Environmental Designations on Guemes Island

Shoreline Environmental Designation	Purpose
Rural Residential	To provide transition area between more intense urban areas and rural areas allowing low to medium density uses and small scale shoreline alterations
Rural	To protect agricultural land from urban density expansion, regulate intensive development along undeveloped shorelines, function as a buffer between Urban and Conservancy shorelines, and maintain open spaces by permitting low to moderate density uses.
Aquatic	To encourage and protect appropriate multiple purposes of the water and prevent inappropriate waterward encroachments.

Skagit County Shoreline Master Plan Program December, 1976

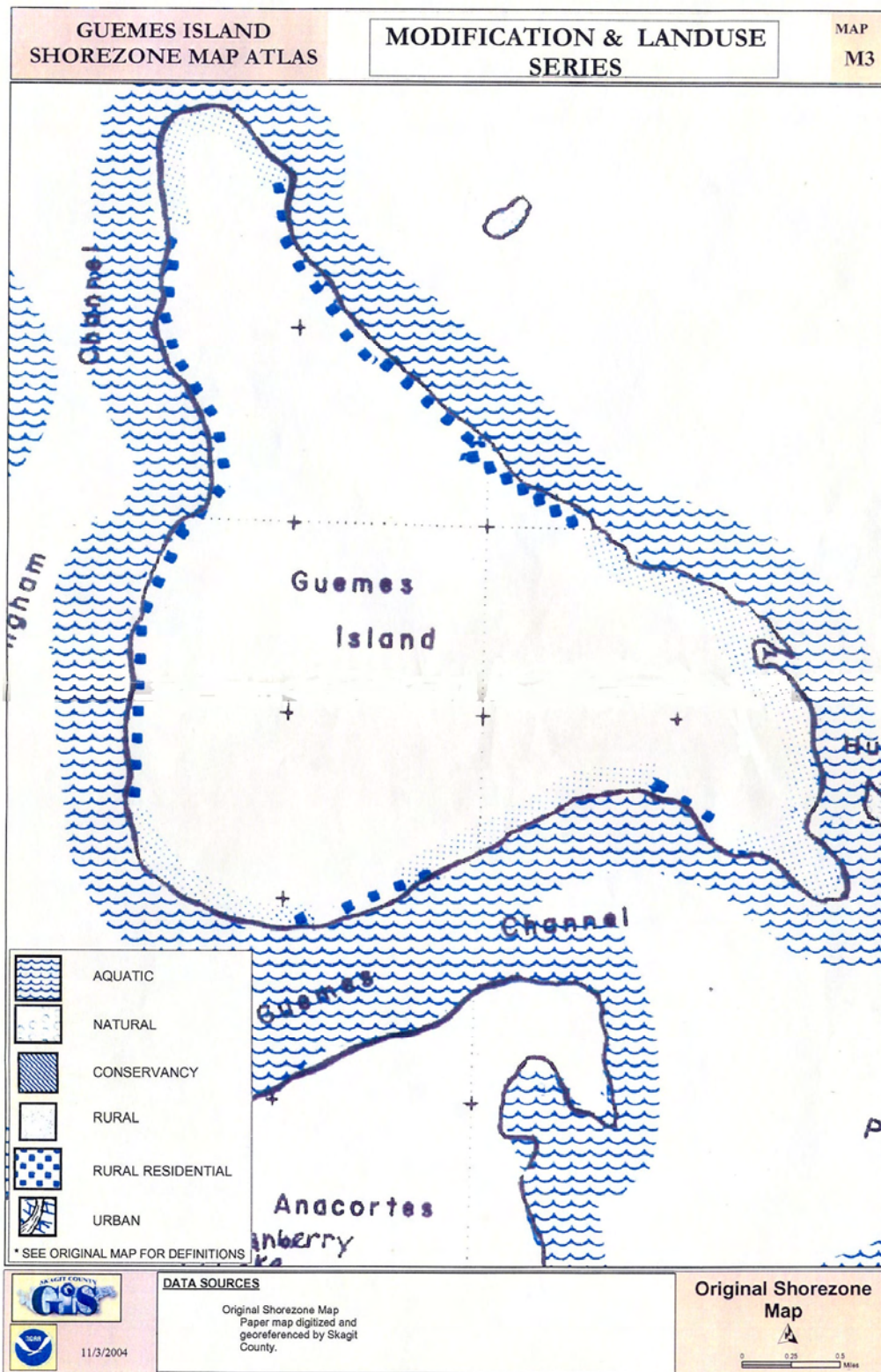


Figure 5.3 Current Shoreline Designations

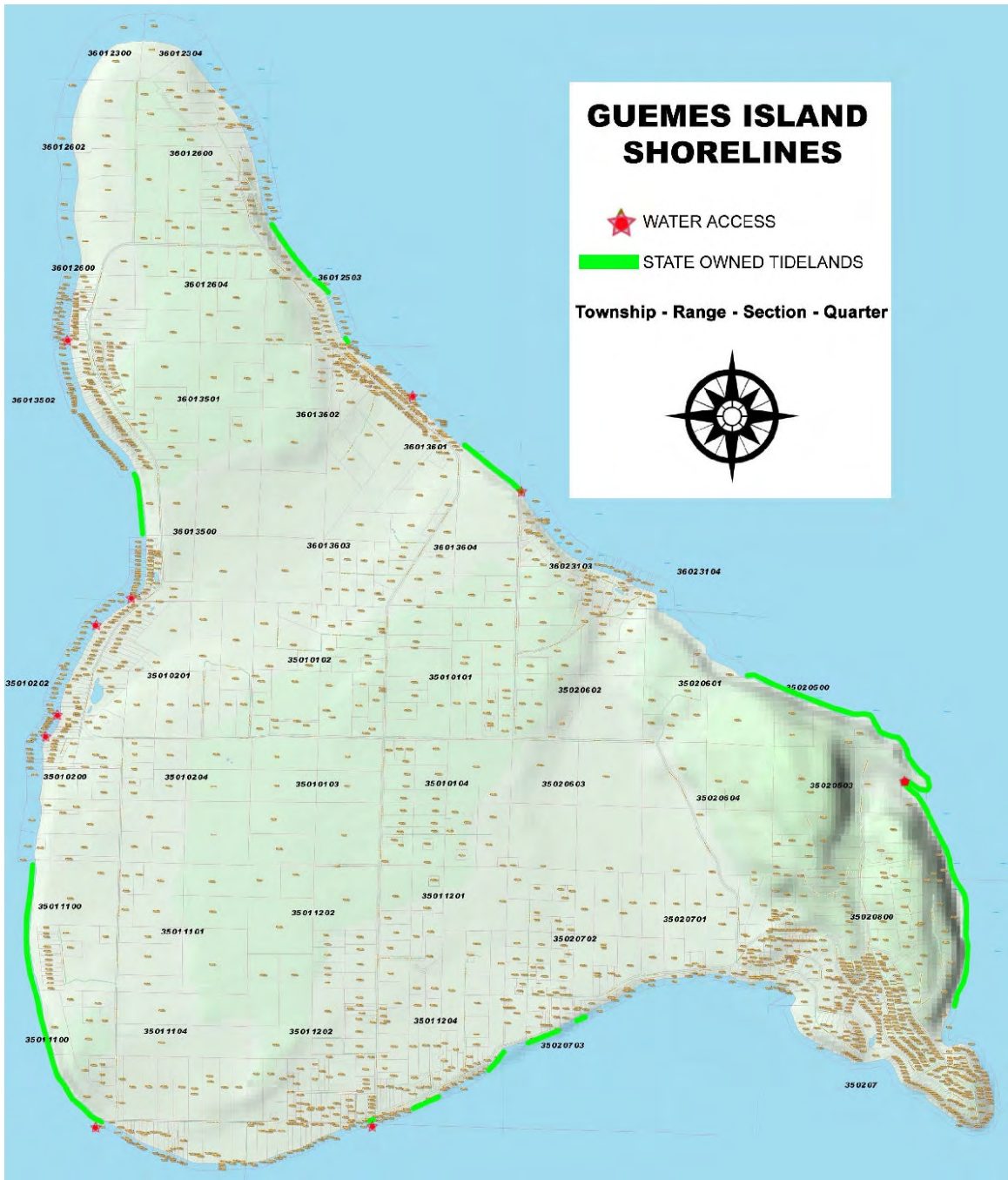


Figure 5.4 Shoreline Public Access

**Table 5.5
Current Shoreline Development Standards**

	Shoreline Environment		
	Rural Residential	Rural	Aquatic
Shore Setback	50 ft.	50 ft.	NA
Sideyard Setback	8 ft.	8 ft.	NA
Site Coverage	30%	30%	NA
Height Limit	30 – 40 ft.*	30 – 40 ft.*	NA

*Within 100 ft. of the OHWM the maximum height is 30 ft.
From 101 – 200 ft. of the OHWM the maximum height is 40 ft.

Skagit County Shoreline Master Plan Program December, 1976

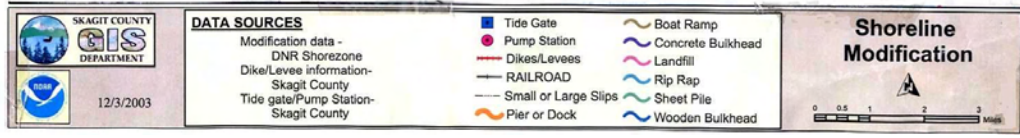
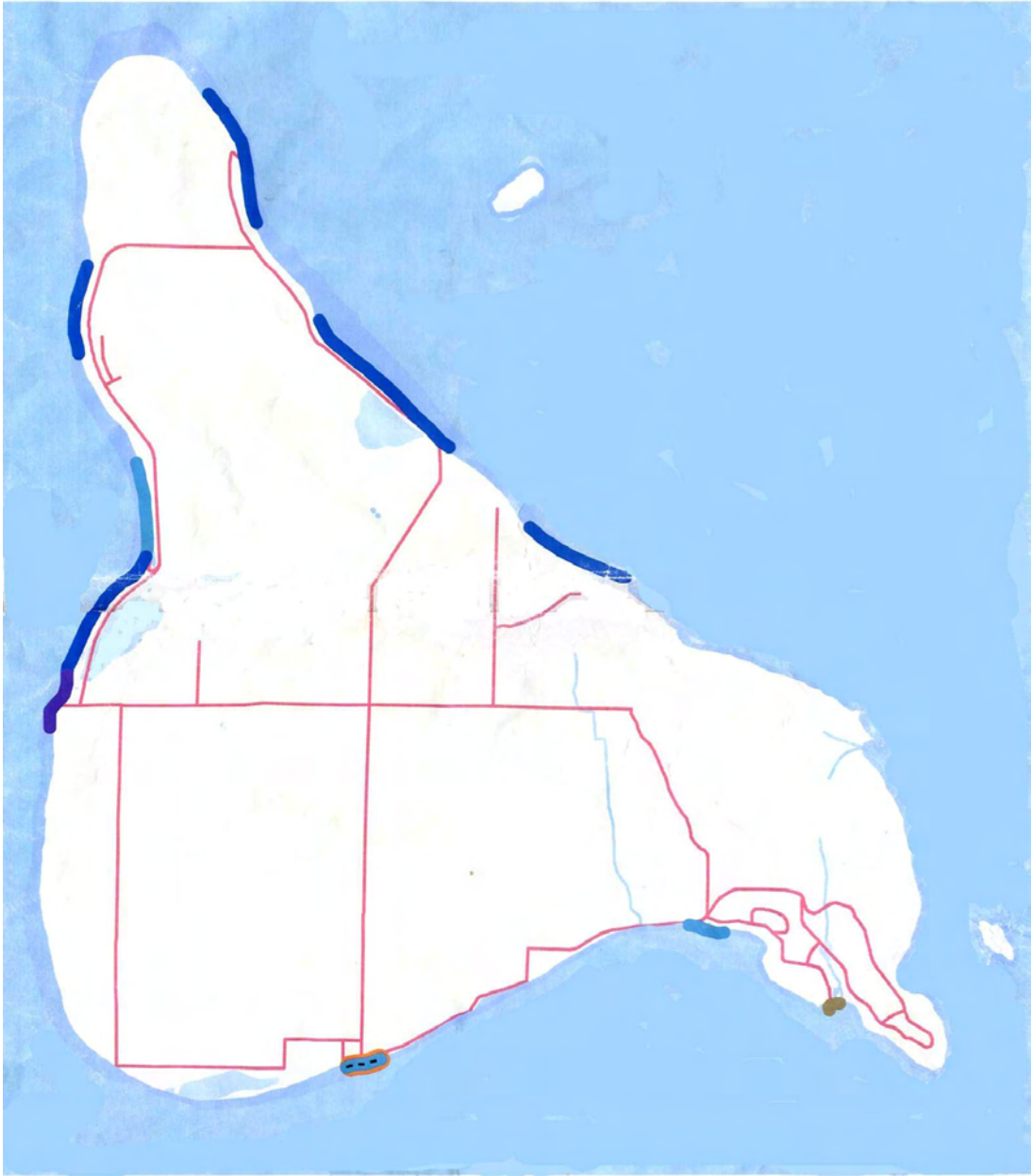


Figure 5.6 Shoreline Modifications



Figure 5.7 Proposed Shoreline Designations

**MAKERS, Draft Guemes Island Shoreline Master Program Element,
November 2005**

Table 5.8
Descriptions of Proposed Shoreline Designations

Shoreline Designation	Purpose	Location
High Intensity	To provide for water-dependent commercial, transportation, and industrial uses, while protecting and restoring ecological functions.	Mangan's Landing
Shoreline Residential	To accommodate residential development and accessory structures that comply with the SMP, to restore and enhance ecological functions, and provide appropriate public access and recreation use.	Assigned to the most highly developed shorelines of the island, including much of West Beach, North Beach, and Holiday Hideaway.
Rural Conservancy	To protect, conserve and restore ecological functions, natural resources and valuable historic and cultural areas. Appropriate for low density residential development, sustained yield forest management noncommercial aquaculture, agriculture, and other low intensity uses.	Appropriate for the low density residential development along south shore, West Beach, Clark Point and the southeast shoreline of the island.
Natural	To protect and restore shoreline that are relatively free of human influence or are intact or have minimally degraded shoreline functions intolerant of human use and require restrictions on intensities and types of uses permitted.	Demopoulos, Square Bay, Lervick shoreline, and the North Beach wetland.
Aquatic	To protect, restore, and manage the unique characteristics and resources of areas waterward of the ordinary high water mark.	Applies to all marine waters and their underlying lands waterward of the OHWM.

**MAKERS, Draft Guemes Island Shoreline Master Program Element,
November 2005**

**Table 5.9
Recommended Shoreline Residential Development Standards**

Structure Element	Recommended Standard
Height	10 feet at the side yard setbacks with a 45° sloping limit boundary to 30 feet maximum
Lot coverage	30%
Shoreline Setback	Rural Conservancy – 150 feet from OHWM Shoreline Residential – 100 feet from OHWM
Sideyard Setback	The larger of 8 feet or total of 30% of average lot width, with a minimum of 8 feet on one side
Street Setback	25 feet
Landscaping	In the shoreline setback area, a Vegetation Conservation Area with existing native plants or implementation of a residential landscape plan to restore native vegetation
Accessory structures: Height	15 feet
Accessory dwellings: Water supply	The well does not exceed 25 ppm chlorides with a minimum capacity of 800 gallons per day
Fences	Up to 3 foot high - 0 setback from property line 6 foot solid fence – 10 foot setback from property line on ROW (does not apply to agricultural wire fencing)

**Table 5.10
Rapid Shoreline Inventory Recommendations**

RSI Recommendation	Objective	Desired Landowner Participation
Shoreline Conservation Sites	Maintain natural conditions over the long-term. Restoration work is not needed in these areas.	Maintain vegetation and beach processes in their current state
Shoreline Restoration Sites	Reestablish native shoreline vegetation to support marine life.	Remove noxious weeds and establish native plants that avoid view obstruction.
Shoreline Additional Projects	Reestablish native shoreline vegetation to support marine life.	Remove noxious weeds and establish native plants that avoid view obstruction.

People for Puget Sound. Guemes Island Rapid Shoreline Inventory, October 2005.

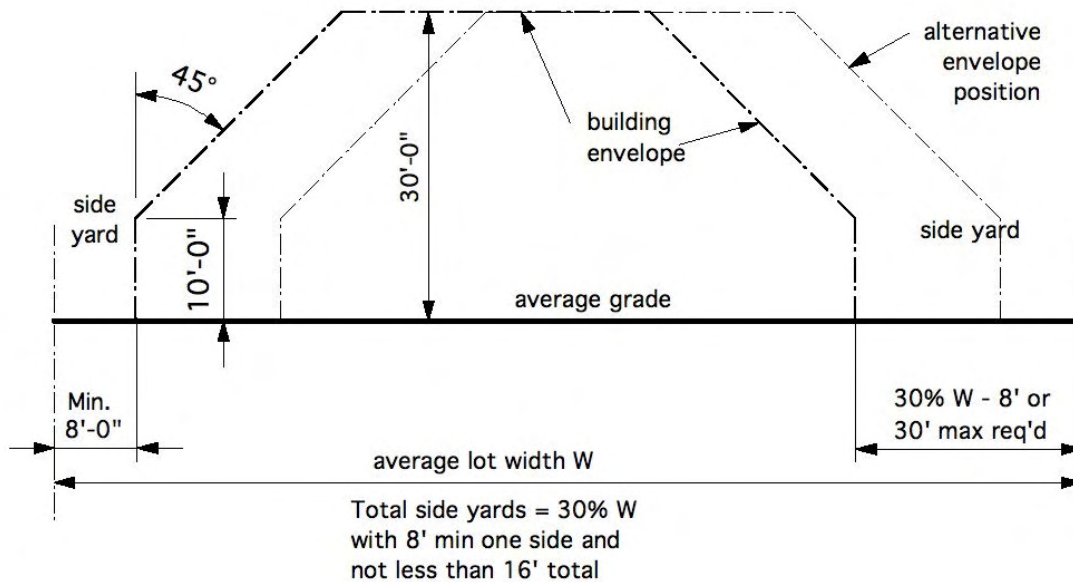


Figure 5.11 Side Yard Setbacks Illustration

6. Transportation Element

Introduction

The purpose of this element is to provide information on the transportation topics relevant to Guemes Island and to make policy and capital facility recommendations to address the issues. Three transportation issues are addressed:

- The ferry (ridership demands, parking, service outages, extended hours, and transit connections)
- Public and private road safety; and
- Non-motorized transportation (pedestrian, bicycle & equestrian movement)

This section briefly describes how the Growth Management Act (GMA) affects transportation planning, including a description of current and future transportation conditions and the recommendations. The recommendations are intended to supplement the Skagit County Comprehensive Plan that includes the Skagit County Transportation Improvement Plan (TIP), the Skagit County Guemes Island Ferry Capital Facilities Plan (Ferry CFP), and the Skagit County Capital Facilities Plan.

GMA Mandate

The GMA requires counties to designate areas of urban and rural development. The purpose of this urban/rural distinction is to avoid the inefficiencies and expense involved in providing services and facilities to low density rural areas like Guemes Island, and to protect natural resources and wildlife habitat there. Thus, transportation service standards, such as wide traffic lanes and shoulders with curbs and sidewalks are required for the higher densities and commercial/industrial development in urban designated areas. By contrast, the level of service standards for rural transportation facilities are purposely limited to the minimum necessary. Adding a higher level of service standard would encourage urban level development.

Table 6.1 shows the types of transportation services in urban areas compared to those in rural areas. These differing requirements for urban and rural areas are referred to as “Level of Service” standards, or LOS. Restricted LOS standards for road-related facilities, like sidewalks, drainage, and pavement area are quite clear for rural areas. The Washington Department of Transportation has established LOS standards that include average wait time for vehicles and walk-on passenger demand. Such standards do not exist for the Guemes Island ferry service.

Transportation Policies

The GMA establishes goals to guide the development of the transportation policies in the Skagit County Comprehensive Plan (CCP). These policies stress the following objectives for transportation systems:

- Provide facilities and services that are consistent with the land use in rural areas
- Move people (as opposed to vehicles), goods and services safely and cost-effectively
- Provide affordable transportation services for senior citizens and handicapped individuals
- Use alternatives to single occupancy vehicles, including transit, ride sharing, and bicycling to reduce system demands and costs; and
- Develop new facilities that are designed and constructed to preserve natural systems and protect critical areas

The discussion and recommendations in this chapter are guided by these policies as they apply to Guemes Island as a designated Rural Area.

Current Conditions and Issues

Ferry Conditions

Ferry Service

Ferry service is provided to Guemes Island on the MV Guemes by the Skagit County Public Works Department. The ferry provides daily service across the Guemes Channel between the County ferry dock in Anacortes at 6th Avenue and I Street, and at the south end of Guemes Island Road at Mangan’s Landing. Timely emergency service is also available during hours of operation. After hours emergency service is generally delayed since a crew must be organized on a case-by-case basis. The ferry has a capacity of 99 passengers and approximately 22 vehicles.

Ferry Committee

In recent years, islanders have expressed a desire to have better communication with the County and be more involved in making decisions about the operation of the ferry. Since 1980, several ferry committees in succession have filled this role and in 2004 the County adopted a resolution (Resolution 20040393, *Appendix C*) officially recognizing the committee, delineating its duties, and establishing the Ferry Roundtable for discussing ferry issues with the County. The purpose of the Roundtable was to provide Skagit County and Guemes Islanders (through the Ferry Committee) with “a structured process to address planning, management, and operations, needs, issues, and concerns.” In mid-2005, the County suspended the Roundtable for some 18 months before reconvening the process in January 2007.

The current committee is working on ferry operations, maintenance, fares, extended ferry hours issues, cost containment, and schedules. Several of these issues, especially future operations, fares, and the schedule, relate to the sub-area plan since they can affect island

growth and implementation of transportation policies in the CCP. Thus, they are addressed in this element. In the interest of accuracy and complete disclosure, GIPAC has sought information from the Ferry Committee and Skagit County to describe ferry-related issues in this section. However, GIPAC is solely responsible for the final recommendations.

Ridership

In 2004, total ridership on the Guemes Island ferry was about 103,000 cars and drivers, and over 90,000 additional passengers. No data on foot traffic numbers is available. As Figure 6.2 shows, the total annual ridership, including vehicles and walk-ons, was projected to increase steadily between 1980 and 2015. From 1980 to 2004 total ferry ridership increased 90%. Vehicle numbers swelled 145%, a much faster pace than walk-on passenger growth, which rose almost 80% during this period.

As an indication of the expected rapid increase in total ridership, the 1991 Guemes Island Ferry Capital Facilities Plan (Ferry CFP) projected it would grow between 28% and 38% by 2005. Instead, ridership in 2000 surpassed this projection by more than 5,000 riders. Based on current County data, however, the Ferry Committee assessment indicates that the trend toward increased vehicle ridership and lagging additional pedestrian numbers may be reversing. Vehicle use since 2006 does not appear to be increasing as projected, and may even be declining, while pedestrian numbers show a significant increase. In 2006, over 195,000 vehicles and more than 404,000 passengers used the ferry. The Skagit County's 1984 ridership demand projections differ from the current demand as calculated by the Ferry Committee. Since these calculations are the basis for determining ferry size and other factors in future ferry operations, it is essential that a full and independent analysis of ridership is completed.

Throughout 2006, vehicle loads often exceeded the ferry capacity, especially on weekday mornings when the ferry returned for unscheduled loads of the remaining vehicles. Vehicles not accommodated by the second run generally must wait for the next service. As discussed below, the congestion and parking issues from the large number of vehicles and pedestrians involved in this service have affected other activities in and around the two terminals involved.

All of these capacity issues, as well as the potential of a leveling of vehicle ridership and the impact of additional ferry service on growth, should be considered in developing LOS standards.

Parking

In response to the recent increases in vehicles, the County built a paved upper parking lot on the south side of the Anchor Cove Marina along 6th Street to add spaces to the old gravel lot. Paving and striping were needed in the lower lot to accommodate a walkway from this upper lot. The two lots currently total 100 parking spaces. With approximately 30 spaces lost to the Kiwanis Park and further spaces lost due to the walkway and

striping, the lots have not significantly increased parking availability over historic levels. Consequently, parking in the surrounding neighborhood continues to be a source of tension among residents in the 6th Street neighborhood.

To address these issues, islanders initiated a series of discussions, called Crossing Over, with the County, City of Anacortes, and 6th Street residents. This process led to a number of recommendations for the participants to implement. The recommendations focus on improving parking, transit service, neighborhood signage and public education to reduce parking pressure (*Appendix D*). These proposals are echoed in the recommendations of this element.

On the island side, prior to 2005, there was a small gravel parking lot at the ferry dock. The County has started making improvements to this lot. In 2005, the County acquired adjacent property and enlarged the existing parking lot, now accommodating approximately 100 vehicles. Discussions between islanders and the County Public Works Department on the final plan for the lot are in progress.

Service Interruptions

The County hauls the ferry out of the water for major maintenance and repairs, interrupting vehicle service for two weeks or more every two years. In addition, unscheduled repairs may cause service disruptions for extended periods. During haul-outs, the County contracts with private companies for passenger-only ferry service. If necessary, vehicles can cross to and from the island by private barge. Although these interim ferries have sufficient capacity to carry all passengers, vehicle transport is effectively eliminated with service for the elderly and disabled significantly diminished due to beach landings.

Vehicle Congestion

On the island, the summer peak period ferry line can exceed a half-mile north of Mangan's Landing, well beyond the end of the dedicated ferry lane. This causes vehicles to wait in the southbound lane of Guemes Island Road. Under these circumstances, traffic congestion and safety issues are a concern, especially when emergency vehicles have difficulty passing, as happened during the summer of 2005.

In Anacortes during the summer peak, the waiting line can extend well beyond the end of the dedicated ferry lane on 6th Street at K Avenue. The addition of a second waiting lane at the terminal, however, will reduce this back up somewhat. During these peaks, ferry traffic occupies either the parking lane or the westbound lane of 6th Street, leading to significant congestion on 6th Street that can result in a several hour wait. When coupled with the overflow of ferry parking, it is not surprising that the 6th Street neighborhood has become increasingly vocal about the effects of ferry traffic.

Transit Service

During recent ferry disruptions, the County has provided on island “dial-a-ride” van shuttle service to and from the ferry for most scheduled runs. An estimated 1,450 passengers used this service during the 2-month outage in 2005. This service is a general convenience although it has limitations for the elderly and disabled passengers. On the Anacortes side during these periods, transportation is available from the ferry to parking areas. During non-outage periods, this service is unavailable.

Skagit Transit (SKAT) service is not adequate to accommodate the transit needs of islanders going to the Anacortes business district or elsewhere in the region. Generally, there is little or no coordination between ferry operations and SKAT services. In 2005 SKAT added two morning stops at the Anacortes terminal, however, only one coordinates with a ferry run.

Fares

The County increased ferry fares by about 12% in June 2004 and increased fares again in January 2006. The purpose of the increase was to reduce the ferry operating deficit and hire a fourth crew member. The target for recovery of fares is spelled out in County Resolution #R20040054 signed by the Skagit County Commissioners February 9, 2004.

Extended Ferry Hours

On May 30, 2006, The Skagit County Board of County Commissioners approved extending the Guemes Ferry hours to weekday evenings (Skagit County Resolution #R200601840). The new schedule added Monday through Thursday evening service between 6:30 and 10:00 PM, beginning July 1, 2006. The Resolution calls for a two-year trial period with the service being evaluated after one year.

The ferry is a capital facility, not unlike a road. As discussed under the GMA Mandate, the GMA requires level of service standards for such facilities to ensure that service extensions are consistent with land use in rural designated areas. However, as also noted, while there are LOS standards for roads, such standards have not been developed for the Guemes Island Ferry.

The 2000 Countywide Planning Policies (CWPP) and its 2006 draft update are somewhat consistent in calling for consideration of several major factors in making decisions about extending transportation facilities and services. They include the GMA mandates calling for cost effectiveness and limiting facility/service extensions to Rural Areas. The 2000 Comprehensive Plan included a specific policy calling for the Skagit County Regional Transportation Planning Organization to develop LOS ferry standards for the Guemes ferry (CWPPP 9A-8.7). However that policy was not carried forward into the 2006 update of this plan. Both versions of the plan, however, identify specific policies for expanding ferry service (CWPPP 9.A-8.2, draft update 8A-5.2). The intent of these policies is to implement each in a stepwise fashion and evaluate their effectiveness over

time before implementing the next. In order of priority, these steps are: 1) encouraging walk-ons and car-pooling, 2) increasing the frequency of runs, and 3) increasing ferry capacity. Extending ferry hours is cited as a last option.

In 2001, the County hired Berk & Associates to conduct a “comprehensive review of Ferry operations in relation to planning, management and policies” and provide recommendations in these areas. In March 2003, the County Commissioners established the Guemes Island Ferry Schedule and Fare Task Force (Resolution 20030074, *Appendix E*). The Task Force included a variety of on-island and off-island residents and local government representatives. It met with Berk & Associates staff over an 18-month period to draft recommendations on the fare and schedule issues raised by the Draft Berk Report.

The Task Force submitted its recommendations (*Appendix F*) to the County Commissioners in December 2003 on a broad range of specific fare and schedule recommendations. In February 2004, the Commissioners approved the Task Force recommendations in Resolution 20040051 (*Appendix G*). The recommendations included an analysis of service demand, capacity limitations, and cost impacts of operations and the ferry schedule.

In addition to seeking cost-effective ferry service, the goal of these policies is based on the GMA premise that the extension of public services and facilities to Rural areas like Guemes Island will induce growth there or adversely affect rural resources or rural character. In his September 2006 preliminary ruling on a challenge to the extended ferry hour policy brought by the Friends of Guemes Island, Superior Court Judge Allendoerfer concluded that the potential environmental and growth impacts should have been anticipated prior to the decision to extend ferry hours. This ruling also reflects conclusions from the 1978 Skagit County EIS which stated that “Changes in ferry sizing will not have a significant effect on population, housing and land use. Ferry scheduling, however, will. Similarly, direct and indirect impacts to the existing transportation system are related more to the schedule of the proposed ferry than the size.”

Road Conditions

Public Road Network

Guemes Island has over 30 miles of roads on Guemes Island. Of this sum, approximately 21 miles have been designated by the county as public rural major collector or local access roads. Some 10 miles are private roads. (See Figure 6.3). The County classifies Guemes Island Road, West Shore Drive, and South Shore Drive as rural major collectors since their function is to serve the major residential traffic generators on the island, based on traffic flow. The primary purpose of local access roads, or “locals,” is to provide access to adjacent land. Locals include Edens Road, South Shore Road, Section Avenue, and Holiday Boulevard. These designations should be reviewed.

In 2003, the average daily traffic volume (ADT) on the island's major collectors ranged from 55 at South Shore Dr. to 630 on Guemes Island Road at the ferry dock. The ADT on all island roads is well below the County maximum of 7,000 ADT, or the volume where the road capacity is exceeded.

Edens Road between West Shore Road and Section Road now serves as a major collector, carrying traffic from various neighborhoods to Guemes Island Road. Similarly, South Shore Road is the major link from the Holiday Hideaway area to the ferry and other parts of the island.

Road Safety Issues

South Shore Road, between Guemes Island Road and Holiday Boulevard, is failing in several locations caused by significant erosion along the steep bluff above the Guemes Channel. In some locations the road is just a few inches from the receding bank. In the past, the County has provided signage for these locations, repaired the road and attempted to fill the eroded bank to extend its life. However, since the bank is considered a “feeder bluff,” it can be expected to continue to erode and “feed” the marine system with new soil.

Cayou Creek is a seasonal waterway that drains the valley bisected by Edens Road to the north. The creek passes under South Shore Road through a culvert hanging some 20 feet above the water. The gap is caused by erosion of the bluff below. The clogged and badly deteriorated culvert was installed improperly.

Approximately $\frac{3}{4}$ miles east of Guemes Island Road, Edens Road descends into a valley intersecting a wetland complex that drains the upper end of Cayou Creek. During severe storms, the water overflows onto the road due to inadequate drainage across the land south of Edens Road. Guemes Island Road at North Beach and West Shore Road at the Veal Pond are also vulnerable to flooding from strong storm surges. Tidewater Road, connecting South Shore Drive to the ferry parking lot, is a substandard one lane County Road. In warmer months, vehicles and trailers parked on its shoulders reduce its width, creating a traffic hazard for vehicles moving in opposite directions.

The County has sited numerous advisory or warning signs with recommended speeds, ranging from 10 to 25 mph throughout Guemes Island. These advisory signs can cause confusion when they are within a few feet of a 35 mph regulatory sign (see Figure 6.4).

Speeding, especially to catch the ferry, is a common practice. Speed signs are routinely ignored. This is especially true on Guemes Island Road and South Shore Road. A combination of public vigilance and education can have a positive effect on minimizing this behavior.

It is common during summer celebrations and gatherings that vehicles are parked on narrow road shoulders and encroach on traffic lanes. This can create hazards for ordinary

vehicle traffic and pedestrians. During certain occasions at the Church or Community Hall, road traffic can be limited to a single lane and may impede emergency vehicles.

During high wind conditions, numerous power lines have been severed causing dangerous driving conditions and fire hazards throughout the island. These conditions cause power outages that can last for days, inconveniencing residents and placing vulnerable populations at risk.

Private Roads

A number of existing nonconforming private roads are in poor condition and may be difficult to access by fire and other emergency vehicles. This situation creates a problem for the fire district and a danger to surrounding properties in the case of an emergency. In addition, road damage from utility-related construction is not always repaired. As part of the permit process, the County negotiates installation agreements with utility companies and property owners (SCCP 10A-1.4). However, the permits do not require the restoration of roads to their former condition.

Non-motorized Mode Conditions

Separate public paths for bicycles, pedestrians, and equestrians are not available on the island. The limited equestrian use on the island is primarily recreational. Residents regularly travel around the island by bicycle and off-island recreation bicyclists frequent island roads. Covered parking for bicycles at Mangan's Landing is inadequate.

The current County proposal to upgrade the parking area includes provisions to locate the pedestrian waiting facility to the west side of the ferry dock. However, it does not include sufficient covered bicycle racks. This is at odds with current SCCP policies and similar policies in the draft 2006 plan update that encourage bicycle and other non-motorized modes of transportation.

Current Transportation Capital Facilities Plan

The Skagit County Capital Facilities Plan (CFP) for 2003-2008 includes projects to maintain existing facilities and construct new ones. Maintenance projects include road resurfacing and striping work, which is scheduled every several years. In addition, the County mows vegetation on the shoulders, in the drainage ditches, and on the back slopes of the county roads once or twice yearly during the growing season. The Ferry CFP also includes the ferry haul out, as discussed above.

In the past, the County has attempted to re-align failing sections of South Shore Road between Guemes Island Road and Holiday Boulevard to avoid additional road failures and safety hazards. It identified an alternative route between Glencoe Lane and Paradise Lane. While a small portion of the easement for a new route has been acquired in conjunction with a development project, the County was unable to acquire another portion of the right-of way and the project was terminated. The County has since

reprioritized the project for the 2007 CFP to evaluate new road alignment and repair options.

To date, the County has almost completed improvements to the parking areas on the Anacortes side. As part of its 2007 work on the Guemes side, the County will evaluate widening Guemes Island Road to increase the standing area for the ferry line and plan for a new shelter. Other proposed improvements to the parking lot and terminal on the Guemes side are under review (see Figure 6.5).

Future Ferry Service Conditions

The County's predictions of future growth in ridership on the Guemes Island ferry are based on a combination of past trends and current conditions. This analysis uses estimates that are detailed in the Guemes Island Ferry Capital Facilities Plan (Ferry CFP) 2001-2015. As previously mentioned the difference between past projections of ferry ridership and current patterns suggest the need for a new analysis of ridership demands.

According to Figure 6.2, growth in total ridership on the Guemes Island Ferry between 2000 and 2015 is expected to continue to increase at a rate similar to the growth that occurred from 1980 to 2000 (about 38.5%). In addition, if current trends hold, vehicle ridership is expected to continue to outpace walk-on ridership, increasing by about 51%, or about 54,000 vehicles with its consequences. By contrast, walk-on ridership was projected to rise by less than 30% over the next 10 years. With the advent of new ferry fares in 2006, however, there is some indication that vehicle use has declined while walk-on traffic has increased. Presently, there is insufficient data to determine if this will be a long-term trend.

With the increase in population, it is probable an incremental increase in ferry vehicle traffic will occur and will most certainly be felt around the ferry terminals. It may also create pedestrian and vehicle conflicts around the island ferry dock. Overflow parking on South Shore Road and Tidewater Lane, coupled with ferry lines extending well beyond the designated ferry lane, will continue to reduce safety for pedestrian, bicyclists, and vehicle movement on Guemes Island Road.

Future vehicle increases are expected to continue to exceed the capacity of the existing parking facilities around the Anacortes terminal. More vehicles will expand the current parking conflicts in the 6th Street neighborhood. The new walkway between the upper and lower parking lots can encourage more walk-ons. However, it is also anticipated that during peak periods these lots will be unable to handle the vehicles from walk-on passengers during the summer season. To relieve congestion and parking limitations, it is important to continue efforts to implement the Crossing Over Report recommendations.

Due to increasing growth on Guemes Island, it is likely that future vehicle traffic will also surpass the capacity of the existing parking lots even with the proposed improvements. Continually expanding the ferry vehicle capacity would be both costly and in conflict

with the GMA. The SCCP Policy 9A-8.2 and the 2006 draft plan update, which are founded on the GMA mandate, call for encouraging car-pooling and walk-on passengers before additional ferry runs or adding ferry vehicle capacity. To be consistent with these policies while managing increases in ferry ridership, parking, and congestion, a comprehensive approach to ferry-related vehicle and pedestrian traffic movement is needed. The approach should encourage alternative modes and improve public education about the benefits of these modes; improve transit links on and off the island; improve bicycle and pedestrian movement; and coordinate with the City of Anacortes to manage ferry traffic and parking around the Anacortes Ferry Terminal.

Public Road Network

Although future population growth of the island will greatly increase the number of vehicles on island roads, these volumes are not expected to exceed the capacity of either individual roads or the overall road system.

Over time, erosion of the bluff below South Shore Road will continue to cause the bank to retreat toward the road, potentially causing a catastrophic failure resulting in serious injury. In addition, flooding on Edens Road in the valley can be expected to continue. Also, occasional flooding of roads near shorelines may become more serious in the future because of rising sea levels.

With increased population there is a greater likelihood that parked vehicles will encroach more frequently on shoulders and roads. Visitors and a larger island population are expected to continue to push speed limits, particularly around ferry departure and arrival times.

As the population increases and more residences are located on private roads, the demands for emergency services will increase. This will also increase public safety concerns if emergency vehicles are unable to reach structures and individuals in a timely manner. Increases in the number of motorized vehicles on the island, in combination with narrow roads and limited shoulders, will also raise the likelihood of vehicle conflicts with bicycles and pedestrians.

Transportation Recommendations

The following recommendations are intended to supplement the transportation policies in the SCCP and the transportation capital improvements in the Capital Facilities Plan for 2003-2008. The cited SCCP are the basis for the recommendations.

Ferry-Related Recommendations

Ferry Committee Related

- 6.1 The County shall recognize the Ferry Committee by resolution that describes its roles and delineates its responsibilities in working with the County to address ferry issues. (SCCPP 9A- 24.8; draft plan update-Regional Transportation Policy 5)
- 6.2 The County shall implement the Berk Report recommendations calling for a systematic analysis of service demand, level of service standards, capacity, and cost impacts of operations and the ferry schedule. The analysis of service demand shall be prepared by a qualified and independent third party. (SCCPP 9A-8.3, 9A-8.5, 9A-8.7, 9A-22.1, 9A-22.4; draft plan update 8A-13.1, 8A-2.3, 8A-5.4, 8A-12.2)
- 6.3 The County shall provide timely semi-annual reports discussing progress in implementing related SCCP policies and presenting data on ridership demand, system costs and performance in simplified graphic format. This information shall be presented to the County Commissioners and the Guemes Island community. (SCCPP Regional Transportation Policy 5, 9A-20.1; draft plan update-Regional Transportation Policy 5, 8A-1.3)
- 6.4 The Ferry Committee and GIAC shall determine their mutual roles in implementing the ferry-related recommendations with public involvement.

Ridership Demand

- 6.5 The County shall promote alternatives to automobiles on the Guemes Island Ferry with educational materials, incentives, and other supportive measures to reduce vehicle demand, especially during peak use periods. (SCCPP 9A-6.2, 9A-9.6, 9A-9.9, 9A-13.1, 9A13.2; draft plan update 8A-5.2, 8A-3.1, 8A-6.4, 8A-6.9)
- 6.6 The County shall ensure that SKAT provides a direct local service route between the Anacortes ferry dock and the Anacortes downtown core as well as beyond. (SCCPP 9A-13.2; draft plan update 8A-3.2, 8A-3.4)
- 6.7 The County shall allow priority parking for “flex cars” as part of the improvements planned for the Anacortes Ferry Terminal. (SCCPP 9A-6.2; draft plan update 8A-3.1, 8A-1.3)
- 6.8 The County shall establish numeric goals for increasing foot traffic and ridesharing, and provide economic and other incentives to encourage these modes of transportation. (SCCPP 9A-1.3, 9A 11.6; draft plan update 8A-3.1, 8A-6.4, 8A-6.9,).
- 6.9 The County shall ensure that timely after hours emergency ferry service is available. (SCCPP 9A-8.5; draft plan update 8A-5.4)

6.10 The County shall improve accessibility for elderly and disabled passengers when normal ferry service is unavailable.

Parking

6.11 The County, the City of Anacortes, the 6th Street neighborhood, and Guemes Island commuters shall cooperatively implement the recommendation of the Crossing Over Report to improve transit service, street signage, commuter education, and street parking. (SCCPP 9A-8.1, 9A-8.4; draft plan update Goal A3, 8A-3.1).

Ferry Schedule

(SCCPP 9A-8.7, 9A-22.1, 9A-4.8; draft plan update 8A-2.2, 8A 13.1)

6.12 When evaluating major changes in ferry operations or schedules, including the current extended ferry hours demonstration project, the County shall include the following factors:

- a. A rural level of service (LOS) ferry standard for Guemes Island developed by the Regional Transportation Planning Organization.
- b. An assessment of the potential impacts on Anacortes and Guemes Island, including costs, congestion, parking and growth and effects on critical areas, the rural character and the social fabric of the island community.

Public Road Recommendations

6.13 Where economically feasible, utility lines shall be placed underground (SCCPP 10A-6.2; update draft plan 9A-4.2)

6.14 The County should evaluate Tidewater Road for consideration as a one way road in conjunction with the proposed ferry parking lot plan (Figure 6.6) (SCCPP 9A-20.1; draft plan update 8A-11.1)

6.15 Puget Sound Energy should evaluate where fallen power lines frequently cause hazardous driving conditions and consider placing these lines underground (SCCPP 10A-6.2)

6.16 The county shall enforce requirements to place private fences within property lines and not on public right-of-ways.

6.17 Solid fences that are three feet or higher shall be set back a minimum of ten feet from the streetfront property line. Solid fences that are within building setback limits shall be limited to six feet in height.

6.18 Skagit County shall meet biennially with GIAC to discuss present conditions, future needs and safety issues for the island roads, including whether current roads are substandard.

Private Road Recommendation

6.19 The County shall require written road maintenance agreements for all new developments and promote such agreements for existing communal private roads.

6.20 Prior to commencing with construction activities on a communal private road, the initiating landowner shall negotiate appropriate easements and agreements to ensure that the road will be restored to the same or better condition as it was before the construction.

Non-Motorized Mode Recommendation

6.21 The Island community should provide information to drivers so that bicyclists and drivers can safely share the road. (SCCP Policy) 9A-11.1 and 9A-11.2; draft plan update 8A-6.4, 8A-10.3, 8A-10.4 8A –10.2).

Capital Facility Recommendations

General

6.22 The County shall initiate public meetings with the Guemes Island community to receive comments at the draft stage of major capital facility improvement projects. (SCCPP Regional Transportation Policy 5; draft plan update Regional Transportation Policy 5)

Ferry-Related Capital Facilities

6.23 The County shall closely coordinate with the Guemes Island community concerning proposed improvements to the Mangan's Landing parking and waiting area (Figure 6.5).

Road and Non-motorized Capital Facilities

Edens Road

6.24 The County should monitor traffic counts on Edens Road at Guemes Island Road and on South Shore Road during the summer peak period to determine if further traffic management measures are warranted. (SCCPP 9A-4.8, 9A-17.4, 9A-20.1; draft plan update 8A-2.3, 8A-11.1, 8A-11.4)

6.25 A drainage plan for Guemes Island shall be developed to reduce flood damage and to allow proper conveyance of flood flows. [SCCP 13A-5.1(j)]

South Shore Road

6.26 The County shall ensure that full funding is available to provide a long-term solution to bluff-related failures and the deteriorating Cayou Creek culvert on South Shore Road between Guemes Island Road and Holiday Boulevard. Construction trucks should proceed quickly to avoid safety or public liability concerns. The functions and values of any wetland system in any new alignment are to be protected.

6.27 Upon establishing the new alignment, the existing right of way should be converted to a public bicycle/pedestrian path.

6.28 Until the new route for South Shore Road is constructed, the County shall take the following steps on South Shore Road:

- a.) Reevaluate the south road edge to identify locations where the eroding bluff is in danger of imminent road failure.
- b.) Limit traffic to one lane; designate it as “local access only;” prohibit heavy truck traffic (load limits have not worked and heavy trucks further bluff erosion); place barriers, such as jersey barriers, where road shoulders are limited or non-existent; and sign these areas to reduce speed accordingly.

**Table 6.1
Transportation Levels of Service Standard**

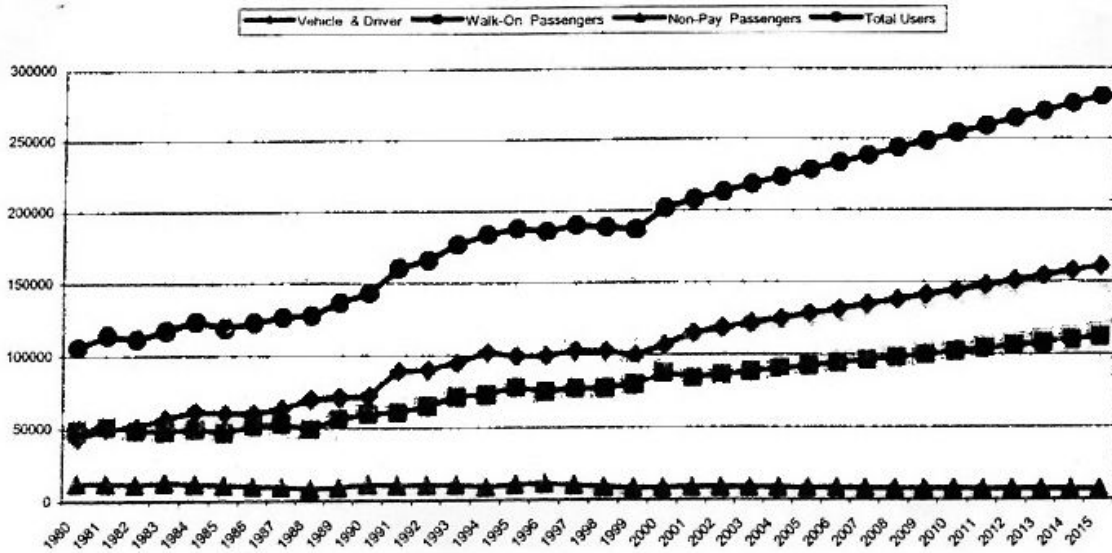
Urban Level Service	Rural Level Service
Curbs & sidewalks	Minimal paving objectives - no curbs or sidewalks
Storm water sewers	Open drainage channels
Separate bike paths	Limited regional bike & pedestrian facilities in traffic lanes
Ferry level of service - sufficient to accommodate urban needs	Ferry Level of service standards for the Guemes Island ferry-not developed (see CCP* policy 9A-8.7)

*2000 Skagit County Comprehensive Plan

Figure 6.2

Guemes Island Ferry

Ridership from 1980 Projected to 2015



Source: Skagit County Guemes Island Ferry Capital Facilities Plan

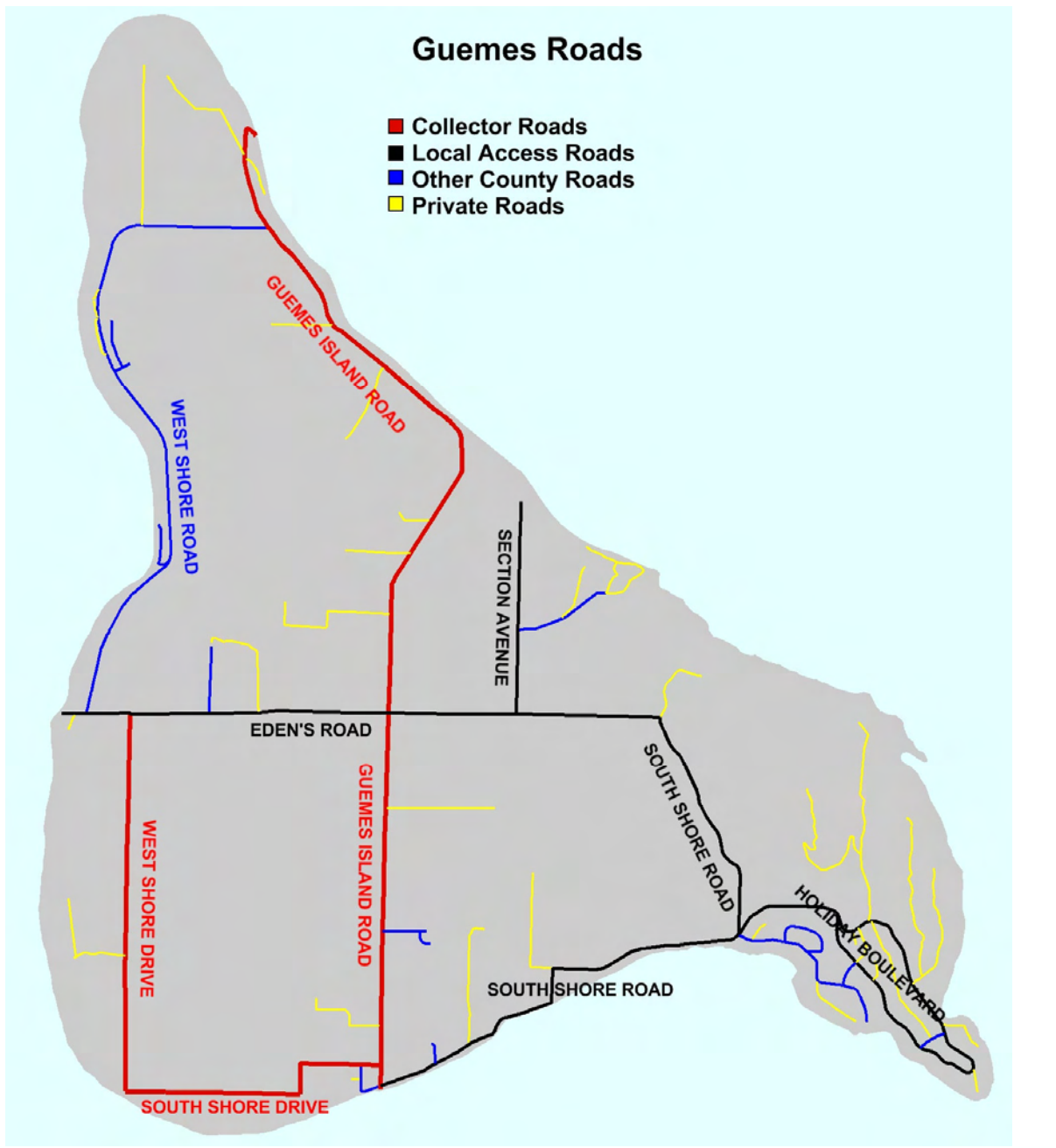


Figure 6.3 Road Designations

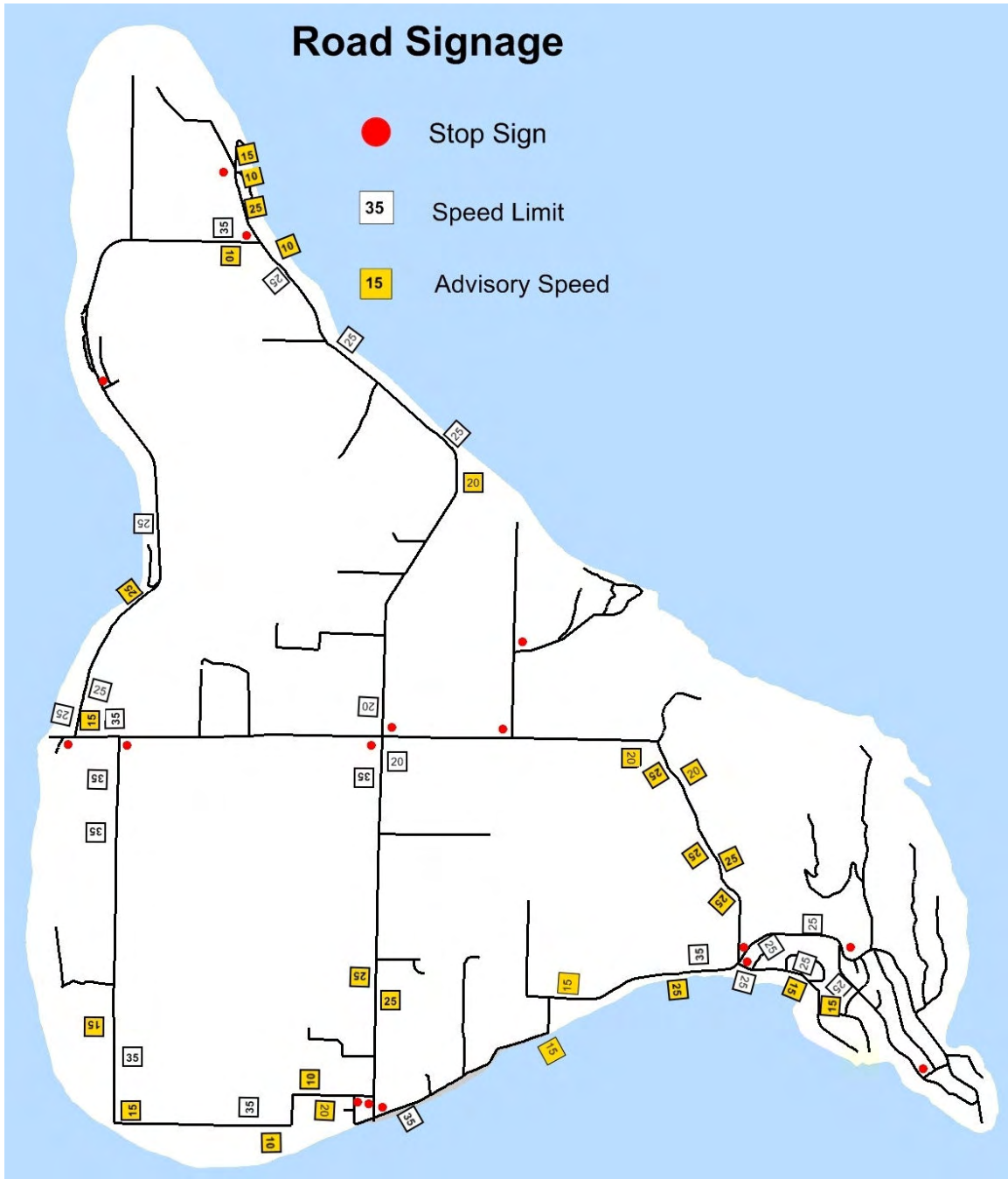


Figure 6.4 Road Signage

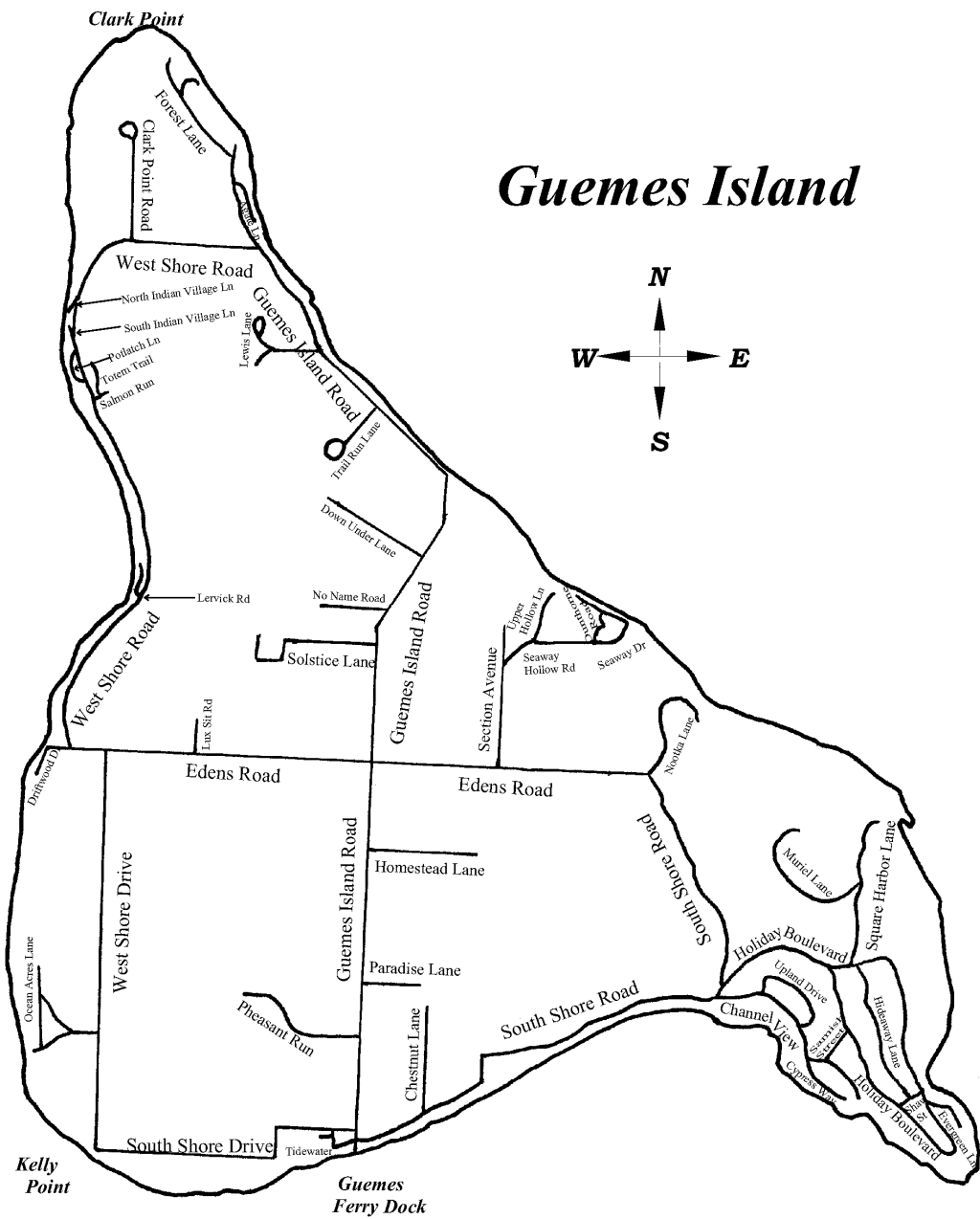


Figure 6.5 Road Map

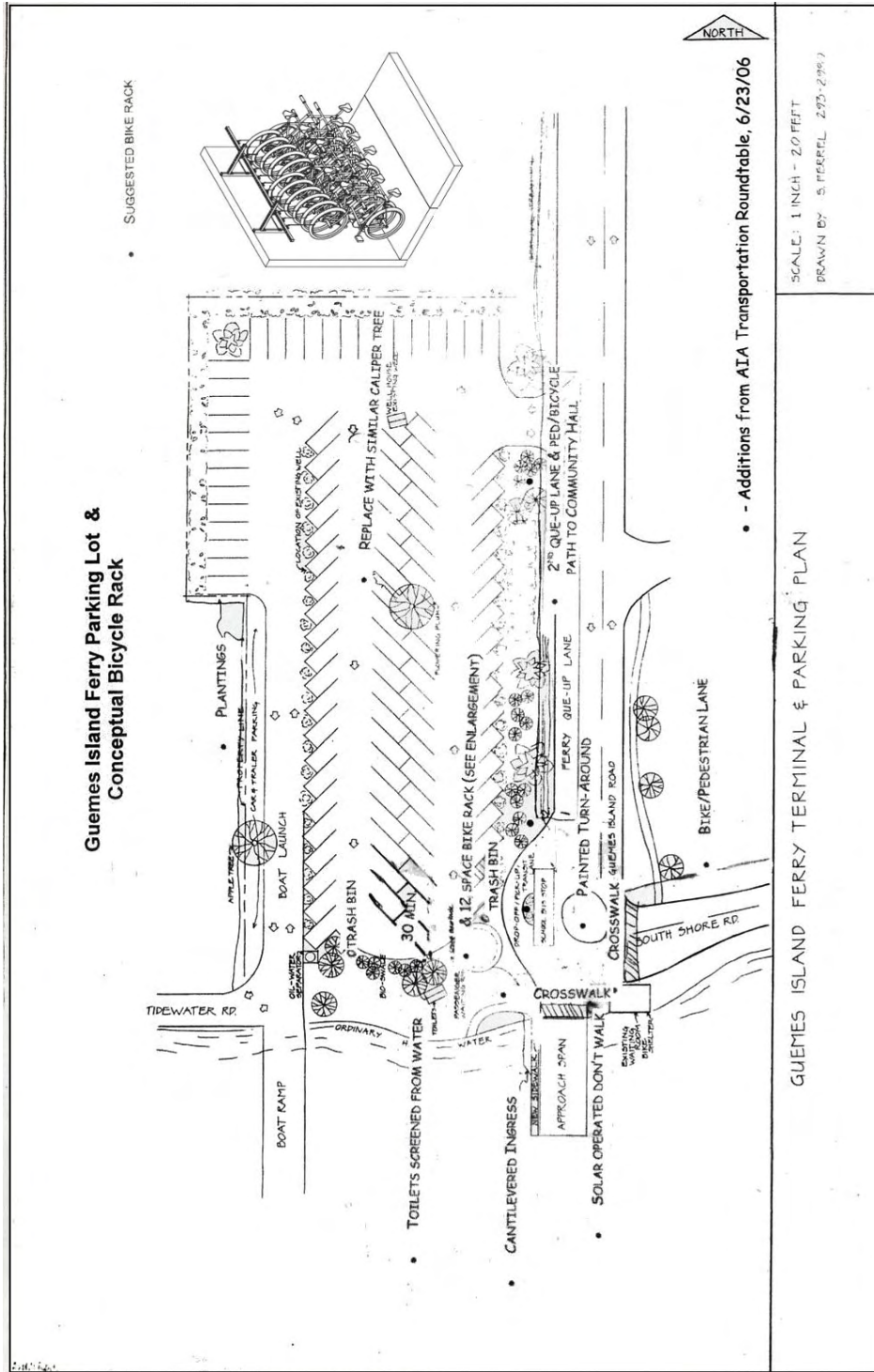


Figure 6.6 Ferry Parking Plan

7. Plan Implementation

Introduction

The components of the Guemes Island Sub-Area Plan include the following elements: land-use, natural resources, environment, shorelines, and transportation. Each element includes a brief introduction to the topic, a description of current and future conditions, and policy recommendations aimed towards achieving the goal of sustainable growth on Guemes Island. The document also contains a series of maps to illustrate the issues. The Guemes Island Sub-Area Plan, as adopted by the Skagit County Board of Commissioners, is a legal document and serves to guide public and private land use decisions.

Plan Implementation

Following adoption of the plan, the approved policies assigned to the county, other agencies, and the island community will begin to incorporate the plan's direction into their actions and decisions. Most of the recommendations are policy changes to supplement the Skagit County Comprehensive Plan. These amendments will provide guidance to the county and other agencies on issues affecting Guemes Island. By contrast, regulations are required actions that become part of the County Code. Ordinarily plans will go through the official adoption process before regulations are written. Code changes that are based on the policy recommendations will be drafted for public review and proposed to the County Commissioners following plan approval. To assist in plan implementation, *Appendix F* identifies the lead entity for each recommendation and where it can be found in the plan.

Consistency Between the Guemes Island Sub-Area Plan and the Skagit County Comprehensive Plan

The Guemes Island Sub-Area Plan needs to be consistent with the Skagit County Comprehensive Plan (SCCP). Overall, it strives to reflect the elements of the SCCP that relate to Guemes Island, while the policies conform to the purpose and intent of the SCCP goals. In accordance with the GMA, the sub-area plan must be consistent with the SCCP. If there are inconsistencies, modifications would need to be made to either the sub-area plan or the comprehensive plan through an amendment process.

Amendment Process

Amendments to the Guemes Island Sub-Area Plan may be necessitated by annual amendments to the Skagit County Comprehensive Plan or by adoption or amendment of a county shoreline master program.

In addition, the Guemes Island Sub-Area Plan will be reviewed and, if necessary, amended once every seven years, after the Skagit County Comprehensive Plan Update has been completed.

Policy Recommendations

It is part of the vision of the Guemes Island Sub-Area planning process that islanders have a voice in the implementation of the sub-area plan. To that end, the following recommendations are intended to provide meaningful public involvement in implementation decisions. Definitions follow the Skagit County Code.

- 7.1** A permanent Guemes Island Advisory Committee (GIAC) will be formed to provide communications between Guemes Island property owners/residents and government agencies regarding the sub-area plan. GIAC will consist of nine members, elected by Guemes Island property owners and residents, and will serve in accordance with the State law RCW 36.70.060.070 which governs the actions of planning advisory committees.
- 7.2** GIAC will monitor implementation of the approved sub-area plan and initiate studies and other actions related to plan implementation.
- 7.3** GIAC shall be notified of any State or County proposal to change zoning or property classifications on Guemes Island.
- 7.4** GIAC will hold public meetings to gather input on resolving problems or proposed changes and submit comments on behalf of the island. GIAC would also represent the island if an appeal is warranted.
- 7.5** Public Notice
 - 7.5.1** All public notices affecting Guemes Island, including planning policy or public service changes, development proposals, variances, conditional use proposals, and capital facilities projects, shall be posted in the Skagit Valley Herald. Additionally, the County shall notify the Evening Star and/or other widely-read island media. [CCP13A-1.6]
 - 7.5.2.** Notification should be accompanied by the County press release for posting.

References

General

- American Institute of Architects Center for Communities by Design. Guemes Island Sustainable Assessment Team. A Sustainable Design Assessment Team Report. November 2006
- GIPAC. Policy Recommendations for the Guemes Island Sub-Area Plan. 1991
- Linetime.org (<http://www.lifetime.org>)
- Skagit County GIS. Skagit County Map Portfolio
- Skagit County. County-Wide Planning Policies
- Skagit County. Critical Areas Ordinance.
- Skagit County. Skagit County Code 2003. Title 12 and 14 and draft revised County Code 2006.
- Skagit County. Skagit County Comprehensive Plan 2000 and draft revised Comprehensive Plan 2006.
- Skagit County. Skagit County Comprehensive Plan Environmental Impact Statement. 1994.
- Skagit County. Skagit County Zoning Code. Chapter 14.00. July 2000.
- Washington State. Revised Code of Washington.

Introduction

- Anderson, Winston: personal communication.
- Ashbach, Dawn and Janice Veal: "Samish Indians of Guemes, 1792 – 1986," Western Washington University, History 391, 1986.
- Samish Nation: personal communication.
- Supreme Court of Washington, April 17, 1969 Judgment No 39675, RE: appeal with respect to county rezoning for Aluminum Plant on Guemes.

Environment

- Department of Natural Resources, document OFR 2005-1, Tsunami Map of Anacortes-Whidbey Island Area, Washington. (www.dnr.wa.gov/geology/pdf/ofr05-1)
- GIPAC. Guemes Island Written Planning Survey, 2004.
- Huxley College of Environmental Studies. "Guemes Island: Preserving Rural Elements and Enhancing Conservation Opportunities," 2004.
- The Cascadia Region Earthquake Workgroup (CREW). Cascadia Subduction Zone Earthquakes (a magnitude 9.0 earthquake scenario)
- USGS. "Hydrogeology and Quality of Ground Water on Guemes Island, Skagit County, Washington." Water-Resources Report 94-4236. 1995

Shorelines

- Brennan, Jim and Culverwell, Hilary. *Marine Riparian: An Assessment of Riparian Functions In Marine Ecosystems*. 2004.
- MAKERS. *Draft Guemes Island Shoreline Master Program Element*. Nov. 2005.
- People for Puget Sound. *Guemes Island Rapid Shoreline Inventory*. October 2005.
- Skagit County. *Skagit County Shoreline Master Program*. December 1976.
- Washington State. *Shorelines Management Act*. RCW 90.58. 1972, as amended.

Transportation

- Skagit County Board of County Commissioners. *Resolution R20030074*, March 2003. *Resolution R20040051*, February 2004. *Resolution R200601840*, May 2006.
- Skagit County, *Guemes Island Ferry Operations Management Analysis*. March 2003.
- Skagit County. *2007-2012 Transportation Improvement Plan (TIP)*. January 2007.
- Skagit County. *Skagit County Capital Facilities Plan (CFP) 2000-2005, Goals and Policies, Capital Improvements and Implementation Programs*. July 2000.
- Skagit County. *Skagit County Transportation Systems Plan*. June 2003.
- Skagit County. *Guemes Island Ferry Capital Facilities Program (Ferry CFP)*. 2001-2015, November 2001.