Adam Zack

From: Francine Shaw <fshaw@rockisland.com>
Sent: Tuesday, May 18, 2021 9:47 AM
To: Adam Zack
Cc: mementerprises@hotmail.com; Erika Shook; Lynda Guernsey
Subject: Request-18-0017
Attachments: MCCUTCHEON REBUTTAL LETTER.pdf

Good morning, Adam:

Please find attached a letter to the Planning Commissioners for their May 21, 2021 Pubic Hearing to consider Request-18-0017. I am interested in attending and speaking about this request. Can you please send me the information on how to attend, please?

Thank you,
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May 18, 2021

San Juan County Planning Commission
San Juan County Department of Community Development
PO Box 947
Friday Harbor, WA 98250

Re: Request 18-0017
Request for Land Use De-Designation from Ag Resource to Rural General Use
TPN 361031001000; 45 Marcotte Drive, San Juan Island

Dear Commissioners:

This letter is a rebuttal of the department of Community Development's recommendation to the San Juan County Planning Commission to deny Mark McCutcheon's request to de-designate property located at 45 Marcotte Drive, San Juan Island (TPN 361031001000) from Agricultural Resource to Rural General Use. The staff report for this request identifies several reasons to support this recommendation but does not provide an in depth analysis of the state and local regulations for designating land "Agricultural Resource" or existing site conditions which makes the land unsuitable for agricultural use. A full analysis of the law and site conditions is provided below. This analysis will show that the land is not suitable for agricultural use for long term commercial purposes and should be de-designated as requested.

WAC 365-190-050 – Agricultural Resource Lands

WAC 365-190-050(3) states that land should be considered for designation as agricultural resource lands based on three factors:

(a) *The land is not already characterized by urban growth. To evaluate this factor, counties and cities should use the criteria contained in WAC 365-196-310.*

This parcel is not characterized by urban growth.

(b) *The land is used or capable of being used for agricultural production. This factor evaluates whether lands are well suited to agricultural use based primarily on their physical and geographic characteristics. Some agricultural operations are*

less dependent on soil quality than others, including some livestock production operations.

(i) Lands that are currently used for agricultural production and lands that are capable of such use must be evaluated for designation. The intent of a landowner to use land for agriculture or to cease such use is not the controlling factor in determining if land is used or capable of being used for agricultural production. Land enrolled in federal conservation reserve programs is recommended for designation based on previous agricultural use, management requirements, and potential for reuse as agricultural land.

This land is not currently used for agricultural production. It is heavily covered with trees which precludes use for agricultural purposes. (See attached 2019 aerial photograph of the property.) It is not enrolled in any federal or state conservation reserve program.

While the land may have been used for growing hay and running cattle in the past, it has not been used as such for years, which is evident by the extensive tree coverage on the property.

(ii) In determining whether lands are used or capable of being used for agricultural production, counties and cities shall use the land-capability classification system of the United States Department of Agriculture Natural Resources Conservation Service as defined in relevant Field Office Technical Guides. These eight classes are incorporated by the United States Department of Agriculture into map units described in published soil surveys, and are based on the growing capacity, productivity and soil composition of the land.

Land capacity classification show, in a general way, the suitability of soils for most kinds of field crops. The soils are grouped according to their limitations for field crops, the risk of damage of they are used for crops, and the way the respond to management.

The capability system are grouped at three levels; 1) capability class, 2) subclass and 3) unit. The San Juan County Soil Survey provides only the class and subclass. The unit of soil is determined by the site specific location.

There are eight (8) "capability classes" which are designated by numbers 1 – 8. The numbers indicate progressively greater limitation and narrow choices for practical use.

Capability subclasses are groups within one class. They are designated by a small letter, *e, w, s, or c.*

- *"e"* shows the main hazard as being erosion;
- *"w"* shows that water in or on the soil interferes with plant growth or cultivation;
- *"s"* shows that the soil is limited mainly because it is shallow, droughty or stony; and
- *"c"* is used only in portions of the United States and shows that the chief limitation is climate that is very cold and dry.

There are different soil units on the property including; 1) Unit 1003 - Coupeville loam at 0 to 5 percent slopes, 2) Unit 2000 – Whidbey gravelly loam at 3 to 15 percent slopes, and 3) Unit 5003 – Doebay-Morancreek complex at 5 to 25 percent slopes. (See attached Soil Survey Map.)

Coupeville loam accounts for about 25% of the property. It is identified as prime farmland, *if drained*. It has a land capacity classification of 6w which means it has severe limitation which makes this soil generally unsuitable for cultivation. It is also identified as being a wet hydric soil which is typically found in wetlands.

Whidbey gravelly loam occupies about 70% of the property. It is identified as prime farmland, *if irrigated.* It has a land capacity classification of 4s which means it has very severe limitations that restrict the choice of plants or that requires very careful management and is very droughty.

Doebay-Morancreek complex accounts for the remaining 5% of the property. This soil unit is identified as "Farmland of Statewide Significance." It has a land capacity classification of 4e which means it has very severe limitations that restrict the choice of plants or that requires very careful management and is prone to erosion. It is also shallow.

The land capacity classification of these soils shows that the property presents some significant challenges for agricultural production. The staff report acknowledges this.

(c) *The land has long-term commercial significance for agriculture. In determining this factor, counties and cities should consider the following nonexclusive criteria, as applicable:*

(i) The classification of prime and unique farmland soils as mapped by the Natural Resources Conservation Service;

The soils have been listed a prime farmland but with some significant cultivation issues as discussed above.

(ii) The availability of public facilities, including roads used in transporting agricultural products;

The roads on San Juan Island are capable of transporting agricultural products to local markets and to the ferry for transportation to off island markets.

(iii) Tax status, including whether lands are enrolled under the current use tax assessment under chapter 84.34 RCW and whether the optional public benefit rating system is used locally, and whether there is the ability to purchase or transfer land development rights;

The land is not enrolled in a current use Agricultural Open Space Program.

(iv) The availability of public services;

Public services are available to serve the site.

(v) Relationship or proximity to urban growth areas;

The site is approximately several miles north of the Town of Friday Harbor Urban Growth Area.

(vi) Predominant parcel size;

The property is located in an area where parcel size varies. There is no predominant parcel size.

To the north parcel range from 3.59 acres up to 165.29 acres and are zoned for Agricultural Resource and Rural Farm Forest uses. To the west, parcels are generally 20 acres in size and are zones for Rural Residential use. To the south and east, parcels range between 4.48 to 14.61 acres in size. These parcels are zoned for Rural Farm Forest uses.

(vii) Land use settlement patterns and their compatibility with agricultural practices;

Only the land immediately to the north is used for agricultural such as growing hay and running cattle. However, review of the San Juan County Soil Survey shows soil units 2004 and 1013 located to the west of Rouleau Road as being prime farmland and soil unit 5003 as Farmland of Statewide Significance. There are no drainage issues or droughty conditions associated with the soils on these properties. In addition, the parcel size in this area is general 20 acres. These two site conditions make these parcels prime for being designated Agricultural Resource.

These parcels do not meet the criteria for being zone Rural Residential because they are greater than five (5) acres in size and are not part of a land division.

The parcels to the west of Rouleau Road would be better zoned Agricultural Resource than the project site yet San Juan County has designated these parcels "Rural Residential."

(viii) Intensity of nearby land uses;

Surrounding properties are rural in nature as is all of San Juan County.

(ix) History of land development permits issued nearby;

Permit issued for this area primarily are for residential development. However, a couple of miles to the southeast is the Community Treasures site which was permitted in 2013 for expansion of a nonconforming consignment and recycling business. (See File No. PCUP-13-0008.)

(x) Land values under alternative uses; and

Use of the land for agriculture is not the highest and best use of the land from a value perspective. Considering the shortage of land designated Rural General Use on San Juan Island, if de-designated to Rural General Use would be more valuable.

(xi) Proximity to markets.

If the land was completed deforested so that crops could be grown on the property or used for grazing cattle considering the challenges the soils present in cultivation on this property, the crops could be marketed to local businesses or taking off island by ferry to mainland markets for sale.

How Much Agricultural Resource Lands Does San Juan County Need?

WAC 365-190-050 (5) states:

> *When applying the criteria in subsection (3)(c) of this section* (as noted above), *the process should result in designating an amount of agricultural resource lands* ***sufficient*** *to maintain and enhance the economic viability of the agricultural industry in the county over the long term; and to retain supporting agricultural businesses, such as processors, farm suppliers, and equipment maintenance and repair facilities*

There are over 13,000 acres within the County that are designated for use as Agricultural Resource.

When the County first designated Agricultural Resource lands back in 1998, it was required to first evaluated the amount of land that is needed to be zoned Agricultural Resource to assure that there is "sufficient land to maintain and enhance the economic viability of the agricultural industry" over the long term.

In reviewing Ordinance 2-1998, there is nothing in that Ordinance that verifies this step was every taken. While there is a tally of the number of acres used for agricultural purposes, there was never an evaluation indicating the amount of land that was needed to maintain and enhance the economic viability of the agricultural industry" in the County.

In 2009, the Agricultural Resource Committee (ARC) studied the need for agriculturally zoned lands within San Juan County. ARC recommended to the San Juan County Council to adopt a "no-net-loss" policy for Agricultural Resources lands. The thought was to provide a mitigation procedure should land be taken out of Agricultural Resource by de-designation. The policy would require designating a new area of land to Agricultural Resource in order to maintain the base acreage of land already in the Agricultural Resource land use designation. ARC mapped parcels that could serve in this regard and found that there are more than enough parcels available (652 parcels already zoned and 952 potential parcels). This is illustrated in Figure 5 of the attached report.

The ARC study also found that forested parcels would unlikely be used for agricultural purposes due to the cost of land clearing. This is a forested lot. Existing site conditions make this parcel unsuitable for farming such as grazing cattle or growing crops. The site would need to be cleared of trees and other vegetation to become a commercially viable agricultural parcel.

Comprehensive Plan Element 2.3.D.a - Agricultural Resource Lands

The San Juan County Comprehensive Plan provides the following goal and policies for designating land "Agricultural Resource."

***Goal**: To ensure the conservation of agricultural resource lands of long-term commercial significance for existing and future generations, and protect these lands from interference by adjacent uses which may affect the continued use of these lands for production of food and agricultural products.*

Under the Growth Management Act, RCW 36.70A.030, *"long term commercial significance"* is defined as *"the growing capacity, productivity, and soil composition of the land for long-term commercial production, in consideration with the lands proximity to populated areas and the possibility of more intense land uses."*

The San Juan County Code is similar in its definition.

"Long-term commercial significance" means lands with the growing capacity, productivity, soil composition, and economic viability for long-term agricultural or silvicultural production.

The parcel at 45 Marcotte Drive does not meet the goal for being designated Agricultural Resource. It has no growing capacity or productivity its current condition because it is mostly forested. It would need to be completely logged in order to make the property available for growing crops or running cattle.

The soil composition here is such that It would also need to be drained in some areas and irrigated in others so crops including hay could grow here. This parcel is not a commercially significant Agricultural Resource parcel.

Policies:

(1) Lands in agricultural use which are characterized by the following criteria may be designated as Agricultural Resource Lands:

i. Areas in parcels of ten acres or larger with soils capable of supporting long term commercial agricultural production. The federal Natural Resources Conservation Service (NRCS) identified 34 soil types suitable for farming in San Juan County. These soils can be found on page 121 of the 2009 Soil Survey of San Juan County, Washington; or

The parcel is 34.76 acres in size which meets the lot size criteria. The soils may be suitable for agricultural production if drained or irrigated as discussed above. However, the land is forested which prevents use of the property for agricultural purposes.

ii. Lands which meet the criteria in a. above which are under conservation easement for agricultural use or which are enrolled in the Open Space-Agriculture taxation program.

The land is not enrolled in the Open Space-Agriculture taxation program. It does not meet this policy.

(2) Limit conversion of Agricultural Resource Lands to permanent non-farm uses through implementation of a purchase or transfer of development rights program, special tax assessment programs, conservation easements, and conservation site design options for residential land divisions and boundary line modifications.

There are no provisions for the purchase or transfer of development rights in San Juan County.

To be placed in an Open Space-Agriculture taxation program, the land would need to be logged at some expense which would not off-set any viable commercial return from agricultural use of the property.

The land use density allowance here is one dwelling unit per 10 acres. The lot, at 34.76 acres, could be subdivided into three lots, each with a residence.

(3) *Allow cottage enterprises that do not interfere with agricultural use, and allow agriculture-related activities such as processing and limited retailing facilities for locally grown products on farm sites and within agricultural areas consistent with allowances in State law for accessory uses in agricultural resource lands.*

A cottage enterprise could occupy the property and it would not interfere with the agricultural use of the land because there is no agricultural activities occurring on site.

(4) *Allow farm labor housing and farm stay accommodations subject to specific performance standards on Agricultural Resource Lands.*

Since there is no land available to farm this property without significant vegetation removal and irrigation, this is not an option.

In order to develop the property with farm labor housing or farm stay accommodations, the property must be placed in an Agricultural Open Space a taxation program, which it is not.

State Law, WAC 458-30-200(2)(x), defines "Farm employee or farm and agricultural employee" as an individual who is employed on farm and agricultural land on a full-time basis or a seasonal or migratory worker who works on farm and agricultural land only during the planting, growing, and/or harvesting seasons. For purposes of (x) of this subsection, "full-time basis" refers to an individual who is employed at least twenty-five hours per week on farm and agricultural land. It does not include a person who is employed full time by a business activity that is not conducted on classified farm and agricultural land and who only works occasional weekends or during the harvest season on classified farm and agricultural land.

(5) *Limit the location of utility lines and facilities, new roads and road realignments, access routes and other non-agricultural public and private facilities, to the least disruptive locations within agricultural areas.*

This criterion can be met.

Comprehensive Plan Element 2.3.C.a - Rural General Use

Contrary to the staff report, this property does not meet the criteria for being designated Rural General Use. The analysis with the goal and polices for this land use designation provided below shows that site is very well suited to be designated Rural General Use.

***Goal**: To provide flexibility for a variety of small-scale, low-impact uses to locate on rural lands.*

The Rural General Use Land Use Designation allows for a wide range of small scale commercial, industrial, institutional, residential an agricultural uses. Of all the land use designations in San Juan County, the Rural General Use designation is the most flexible.

A portion of this land is currently being used as a staging area for construction materials, logging debris and construction equipment which is not allowed in the Agricultural Resource zone. It is also occupied by a single-family residence.

A contractor's storage yard is only allowed in the Rural General Use, Rural Industrial or Rural Commercial land use districts. San Juan Island as few vacant parcels zoned for Rural General Use, Rural Industrial and Rural Commercial. The County has recognized this in the past and has agreed to rezone some of the parcels on San Juan Island to accommodate new uses and services that these zones support to accommodate our growing population.

This site would be an appropriate property to rezone to Rural General Use

Policies:

(1) Areas which are characterized by the following criteria may be designated as Rural General Use on the Comprehensive Plan Official Maps:

i. There is an existing mix of residential development, scattered single family residences, small farms, forestry activities, resource-based commercial and industrial uses, cottage enterprises, rural commercial and rural industrial uses;

The project site complies with this policy. The property lies in an area consisting of medium density and large acre residential development, farming (immediately to the north) and forestry with some parcels on the west side of Rouleau Road in DFL tax status. The Roche Harbor Master Planned Resort is located only a mile or so to the north of the project site and Community Treasures recycling and retail is located about a mile to the south. There is no rural commercial or industrial zoning in this area of San Juan Island.

ii. Parcels are generally five to twenty acres in size; and

The project site complies with this policy. Parcels in the immediate vicinity of the property range from 3.59 to 20 acres in size. The parcel located immediately north of the property is 165.29 acres.

iii. Soils are marginal or unsuitable for intensive commercial agriculture or forestry uses.

The project site complies with this policy. The prior analysis of the soils on this property show they are marginal for intense agricultural. This is because a majority of the soil on property would need to be irrigated to produce a crop when our islands don't have the water resources to irrigate. This is discussed in more detail at the end of this letter.

(2) Allow resource-based industrial and commercial activities, rural commercial, rural industrial, and cottage enterprise uses.

The existing use of the property as a contractor's storage yard complies with this policy.

(3) Establish performance standards for the uses contained in Policy (2), above, to minimize adverse environmental and visual impacts. Standards should address access, circulation, building height and bulk, lighting, screening, signage, noise, odor, vibration, spray, smoke, waste disposal, and storm drainage control.

The development regulations found in the San Juan County Code for a contractor's storage yard can be met.

Staff's recommendation for denial may be based on the site, if zoned Rural General Use, being used for more intense uses than a contractor's storage yard. However, the County has the option of entering into a Concomitant Agreement with the property owner under SJCC 18.90.030(F.3) which states:

Concomitant Agreement. The County is specifically authorized to enter into a concomitant agreement as a condition of any Comprehensive Plan Official Map amendment. Through that agreement, the County may impose development conditions designed to mitigate potential impacts of the use or development that may occur as a result of such an amendment.

(4) Allowable uses should be compatible with the existing rural character and should not result in more than a minimal and manageable increase in demand on existing rural governmental services and facilities, utilities, community water systems, sewage disposal systems, and County roads.

Use of the site as a contractor's storage yard has not placed any increased demand on existing rural governmental services and facilities, utilities, community water systems, sewage disposal systems, and County roads.

The site is served by a private well and septic system. It is located at the intersection of Roche Harbor Road and Rouleau Roads, both which are two-way paved County maintained rights-of-way. Roche Harbor Road is identified as a minor collector road in the Comprehensive Plan and Rouleau Road is identified an Access Road.

The project site complies with this policy.

Water Resources

According to the Section B, Element 4 of the Comprehensive Plan, Water Resources, San Juan County's fresh water resources are provided by rainfall only. The island's geography is characterized by the rain shadow created by the Olympic mountains to the south and Vancouver Island to the west, by predominantly steep terrain and bedrock geology, by small watershed catchment areas and by extensive shoreline. These conditions result in low rainfall, limited groundwater storage, and extensive runoff and discharge to the sea. The San Juans typically see only about 18 to 22 inches of rainfall per year, which is relatively little in the Pacific Northwest.

Whidbey gravelly loam occupies about 70% of the property. This soil is prime farmland, only if irrigated. Rainfall is not sufficient to irrigate these soils or even available during the height of the growing season, therefore, an alternative source of water must be made available in order for this soil type to be productive.

The well on this property yields about 5 gallons per minute. (See attached well log.) It is currently serving a single-family residence on the property. At this rate, the well produces about 7,200 gallons a day. The Water Resources Element of the Comprehensive Plan bases water supply on the conservative policy of 1,000 gallons-per-day/connection for source approval and the historic rate for average daily domestic consumption of 100 – 300 gallons/connection.

Removing the amount of daily domestic consumption for the single-family residence existing on this parcel, this leaves between 7,100 to 6,900 gallons per day for irrigation on this 34+ acre parcel which is 208 gallons of water per acre/day.

Withdrawing this amount of water for irrigation would require a Water Right from the Washington State Department of Ecology which would only be approved upon the submittal of evidence that the withdrawal of groundwater for irrigation purposes would not impact other existing wells within the vicinity of this property.

Without water, this designation is meaningless. Considering the limited water supply available on San Juan Island, parcels with soils that are identified as prime farmland "if

irrigated" should be carefully scrutinized before being designated "Agricultural Resource."

Conclusion

My client and I encourage the San Juan County Planning Commission to closely examine the physical characteristics and constraints of this parcel for use as Agricultural Resources lands. It does not qualify as being an Agricultural Resource parcels because:

1. The property is heavily forested, for the most part, and would require extensive clearing of brush to run cattle or other stock, and complete clearing to grow a viable commercial agricultural crop.

2. The soil on this land is only good for farmland if it is irrigated. Considering the limited amount of water supply we have available on the island, there is the potential for depleting our existing drinking water sources should the land be used for the growth of agricultural crops that require irrigation.

We believe that you will find that the McCutcheon property is not appropriately zoned Ag Resource and warrants a de-designation to Rural General Use to fill the obvious need for additional property in the sparsely available Rural General Use category. There are other properties available to be designated Agricultural Resource in its place. The Planning Commission can recommend that the property owner and San Juan County enter into a Concomitant Agreement by placing conditions of de-designation approval on the land limiting its use to a contractor's storage yard to assure the land is not used for more intense commercial or industrial uses.

Sincerely,

Francine Shaw

Francine Shaw, Land Use Consultant

CC. Mark McCutcheon; M-E-M Enterprises

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PDF **WAC 365-190-050**

Agricultural resource lands.

(1) In classifying and designating agricultural resource lands, counties must approach the effort as a county-wide or area-wide process. Counties and cities should not review resource lands designations solely on a parcel-by-parcel process. Counties and cities must have a program for the transfer or purchase of development rights prior to designating agricultural resource lands in urban growth areas. Cities are encouraged to coordinate their agricultural resource lands designations with their county and any adjacent jurisdictions.

(2) Once lands are designated, counties and cities planning under the act must adopt development regulations that assure the conservation of agricultural resource lands. Recommendations for those regulations are found in WAC 365-196-815.

(3) Lands should be considered for designation as agricultural resource lands based on three factors:

(a) The land is not already characterized by urban growth. To evaluate this factor, counties and cities should use the criteria contained in WAC 365-196-310.

(b) The land is used or capable of being used for agricultural production. This factor evaluates whether lands are well suited to agricultural use based primarily on their physical and geographic characteristics. Some agricultural operations are less dependent on soil quality than others, including some livestock production operations.

(i) Lands that are currently used for agricultural production and lands that are capable of such use must be evaluated for designation. The intent of a landowner to use land for agriculture or to cease such use is not the controlling factor in determining if land is used or capable of being used for agricultural production. Land enrolled in federal conservation reserve programs is recommended for designation based on previous agricultural use, management requirements, and potential for reuse as agricultural land.

(ii) In determining whether lands are used or capable of being used for agricultural production, counties and cities shall use the land-capability classification system of the United States Department of Agriculture Natural Resources Conservation Service as defined in relevant Field Office Technical Guides. These eight classes are incorporated by the United States Department of Agriculture into map units described in published soil surveys, and are based on the growing capacity, productivity and soil composition of the land.

(c) The land has long-term commercial significance for agriculture. In determining this factor, counties and cities should consider the following nonexclusive criteria, as applicable:

(i) The classification of prime and unique farmland soils as mapped by the Natural Resources Conservation Service;

(ii) The availability of public facilities, including roads used in transporting agricultural products;

(iii) Tax status, including whether lands are enrolled under the current use tax assessment under chapter 84.34 RCW and whether the optional public benefit rating system is used locally, and whether there is the ability to purchase or transfer land development rights;

(iv) The availability of public services;

(v) Relationship or proximity to urban growth areas;
(vi) Predominant parcel size;
(vii) Land use settlement patterns and their compatibility with agricultural practices;
(viii) Intensity of nearby land uses;
(ix) History of land development permits issued nearby;
(x) Land values under alternative uses; and
(xi) Proximity to markets.

(4) When designating agricultural resource lands, counties and cities may consider food security issues, which may include providing local food supplies for food banks, schools and institutions, vocational training opportunities in agricultural operations, and preserving heritage or artisanal foods.

(5) When applying the criteria in subsection (3)(c) of this section, the process should result in designating an amount of agricultural resource lands sufficient to maintain and enhance the economic viability of the agricultural industry in the county over the long term; and to retain supporting agricultural businesses, such as processors, farm suppliers, and equipment maintenance and repair facilities.

(6) Counties and cities may further classify additional agricultural lands of local importance. Classifying additional agricultural lands of local importance should include, in addition to general public involvement, consultation with the board of the local conservation district and the local committee of the farm service agency. It may also be useful to consult with any existing local organizations marketing or using local produce, including the boards of local farmers markets, school districts, other large institutions, such as hospitals, correctional facilities, or existing food cooperatives.

These additional lands may include designated critical areas, such as bogs used to grow cranberries or farmed wetlands. Where these lands are also designated critical areas, counties and cities planning under the act must weigh the compatibility of adjacent land uses and development with the continuing need to protect the functions and values of critical areas and ecosystems.

[Statutory Authority: RCW **36.70A.050**, **36.70A.190**. WSR 10-22-103, § 365-190-050, filed 11/2/10, effective 12/3/10; WSR 10-03-085, § 365-190-050, filed 1/19/10, effective 2/19/10. Statutory Authority: RCW **36.70A.050**. WSR 91-07-041, § 365-190-050, filed 3/15/91, effective 4/15/91.]

Growth Management Act

RCW 36.70A.030

Definitions.

Unless the context clearly requires otherwise, the definitions in this section apply throughout this chapter.

(1) "Adopt a comprehensive land use plan" means to enact a new comprehensive land use plan or to update an existing comprehensive land use plan.

(2) "Affordable housing" means, unless the context clearly indicates otherwise, residential housing whose monthly costs, including utilities other than telephone, do not exceed thirty percent of the monthly income of a household whose income is:

(a) For rental housing, sixty percent of the median household income adjusted for household size, for the county where the household is located, as reported by the United States department of housing and urban development; or

(b) For owner-occupied housing, eighty percent of the median household income adjusted for household size, for the county where the household is located, as reported by the United States department of housing and urban development.

(3) "Agricultural land" means land primarily devoted to the commercial production of horticultural, viticultural, floricultural, dairy, apiary, vegetable, or animal products or of berries, grain, hay, straw, turf, seed, Christmas trees not subject to the excise tax imposed by *RCW 84.33.100 through 84.33.140, finfish in upland hatcheries, or livestock, and that has long-term commercial significance for agricultural production.

(4) "City" means any city or town, including a code city.

(5) "Comprehensive land use plan," "comprehensive plan," or "plan" means a generalized coordinated land use policy statement of the governing body of a county or city that is adopted pursuant to this chapter.

(6) "Critical areas" include the following areas and ecosystems: (a) Wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas. "Fish and wildlife habitat conservation areas" does not include such artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of and are maintained by a port district or an irrigation district or company.

(7) "Department" means the department of commerce.

(8) "Development regulations" or "regulation" means the controls placed on development or land use activities by a county or city, including, but not limited to, zoning ordinances, critical areas ordinances, shoreline master programs, official controls, planned unit development ordinances, subdivision ordinances, and binding site plan ordinances together with any amendments thereto. A development regulation does not include a decision to approve a project permit application, as defined in RCW 36.70B.020, even though the decision may be expressed in a resolution or ordinance of the legislative body of the county or city.

(9) "Extremely low-income household" means a single person, family, or unrelated persons living together whose adjusted income is at or below thirty percent of the median household income adjusted for household size, for the county where the household is located, as reported by the United States department of housing and urban development.

(10) "Forestland" means land primarily devoted to growing trees for long-term commercial timber production on land that can be economically and practically managed for

such production, including Christmas trees subject to the excise tax imposed under *RCW 84.33.100 through 84.33.140, and that has long-term commercial significance. In determining whether forestland is primarily devoted to growing trees for long-term commercial timber production on land that can be economically and practically managed for such production, the following factors shall be considered: (a) The proximity of the land to urban, suburban, and rural settlements; (b) surrounding parcel size and the compatibility and intensity of adjacent and nearby land uses; (c) long-term local economic conditions that affect the ability to manage for timber production; and (d) the availability of public facilities and services conducive to conversion of forestland to other uses.

(11) "Freight rail dependent uses" means buildings and other infrastructure that are used in the fabrication, processing, storage, and transport of goods where the use is dependent on and makes use of an adjacent short line railroad. Such facilities are both urban and rural development for purposes of this chapter. "Freight rail dependent uses" does not include buildings and other infrastructure that are used in the fabrication, processing, storage, and transport of coal, liquefied natural gas, or "crude oil" as defined in RCW 90.56.010.

(12) "Geologically hazardous areas" means areas that because of their susceptibility to erosion, sliding, earthquake, or other geological events, are not suited to the siting of commercial, residential, or industrial development consistent with public health or safety concerns.

(13) "Long-term commercial significance" includes the growing capacity, productivity, and soil composition of the land for long-term commercial production, in consideration with the land's proximity to population areas, and the possibility of more intense uses of the land.

(14) "Low-income household" means a single person, family, or unrelated persons living together whose adjusted income is at or below eighty percent of the median household income adjusted for household size, for the county where the household is located, as reported by the United States department of housing and urban development.

(15) "Minerals" include gravel, sand, and valuable metallic substances.

(16) "Permanent supportive housing" is subsidized, leased housing with no limit on length of stay that prioritizes people who need comprehensive support services to retain tenancy and utilizes admissions practices designed to use lower barriers to entry than would be typical for other subsidized or unsubsidized rental housing, especially related to rental history, criminal history, and personal behaviors. Permanent supportive housing is paired with on-site or off-site voluntary services designed to support a person living with a complex and disabling behavioral health or physical health condition who was experiencing homelessness or was at imminent risk of homelessness prior to moving into housing to retain their housing and be a successful tenant in a housing arrangement, improve the resident's health status, and connect the resident of the housing with community-based health care, treatment, or employment services. Permanent supportive housing is subject to all of the rights and responsibilities defined in chapter 59.18 RCW.

(17) "Public facilities" include streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, storm and sanitary sewer systems, parks and recreational facilities, and schools.

(18) "Public services" include fire protection and suppression, law enforcement, public health, education, recreation, environmental protection, and other governmental services.

(19) "Recreational land" means land so designated under **RCW 36.70A.1701 and that, immediately prior to this designation, was designated as agricultural land of long-term

RCW 7.48.310

Agricultural activities and forest practices—Definitions.

For the purposes of RCW 7.48.305 only:

(1) "Agricultural activity" means a condition or activity which occurs on a farm in connection with the commercial production of farm products and includes, but is not limited to, marketed produce at roadside stands or farm markets; noise; odors; dust; fumes; operation of machinery and irrigation pumps; movement, including, but not limited to, use of current county road ditches, streams, rivers, canals, and drains, and use of water for agricultural activities; ground and aerial application of seed, fertilizers, conditioners, and plant protection products; keeping of bees for production of agricultural or apicultural products; employment and use of labor; roadway movement of equipment and livestock; protection from damage by wildlife; prevention of trespass; construction and maintenance of buildings, fences, roads, bridges, ponds, drains, waterways, and similar features and maintenance of stream banks and watercourses; and conversion from one agricultural activity to another, including a change in the type of plant-related farm product being produced. The term includes use of new practices and equipment consistent with technological development within the agricultural industry.

(2) "Farm" means the land, buildings, freshwater ponds, freshwater culturing and growing facilities, and machinery used in the commercial production of farm products.

(3) "Farmland" means land or freshwater ponds devoted primarily to the production, for commercial purposes, of livestock, freshwater aquacultural, or other farm products.

(4) "Farm product" means those plants and animals useful to humans and includes, but is not limited to, forages and sod crops, dairy and dairy products, poultry and poultry products, livestock, including breeding, grazing, and recreational equine use, fruits, vegetables, flowers, seeds, grasses, trees, freshwater fish and fish products, apiaries and apiary products, equine and other similar products, or any other product which incorporates the use of food, feed, fiber, or fur.

(5) "Forest practice" means any activity conducted on or directly pertaining to forestland, as that term is defined in RCW 76.09.020, and relating to growing, harvesting, or processing timber. The term "forest practices" includes, but is not limited to, road and trail construction, final and intermediate harvesting, precommercial thinning, reforestation, fertilization, prevention and suppression of diseases and insects, salvage of trees, brush control, and owning land where trees may passively grow until one of the preceding activities is deemed timely by the owner.

(1) Areas which are characterized by the following criteria may be designated as Rural Commercial on the *Comprehensive Plan* Official Maps:

i. Lands with an existing or historical commitment to rural commercial uses;

ii. Lands with direct access to a public roadway classified as a minor or major arterial; and

iii. Lands where on-site physical features and/or parcel size can be used to protect surrounding rural land uses from negative impacts.

(2) Rural commercial uses should be limited to those which are most appropriately located in and are compatible with the rural environment. Such uses include, but are not limited to, veterinary clinics, nurseries, animal boarding facilities, feed stores, and some small-scale hospitality commercial uses such as country inns and restaurants.

(3) New residential development (except where accessory to commercial or industrial use) within these areas should be prohibited.

(4) Establish performance standards for all development in Rural Commercial areas to ensure that allowed uses are consistent with the rural character of the area and minimize adverse environmental impacts. Standards should address access, circulation, signage, parking, noise, odor, vibration, spray, smoke, screening, lighting, waste disposal, and storm drainage control.

2.3.D Resource Lands

Goal: To recognize and protect the physical conditions and characteristics of agricultural and forest resource lands which are conducive to the use of such lands for long-term commercial production.

Policies (2.3.D.1–5):

1. Identify lands as Agricultural and Forest Resource lands on the *Comprehensive Plan* Official Maps which are not designated as Activity Centers or Rural Lands.

2. Apply site planning standards for land division activities on resource lands to ensure that agricultural and forest resource lands are conserved for long-term farm and forest uses.

3. Strengthen Right-to-Farm and Right-to-Forestry provisions which establish the high priority and favored use of Resource Lands for farming and forestry operations and assure that such uses will not be considered a nuisance or inconvenience to adjacent non-farm uses.

4. Continue to apply the Open Space Conservation Overlay District regulations to Agricultural Resource Lands located within the San Juan Valley.

5. Establish clearly defined Resource Lands designations which protect and conserve long-term commercially significant agricultural and forest lands and associated uses. The designations are:

a. Agricultural Resource Lands

Goal: To ensure the conservation of agricultural resource lands of long-term commercial significance for existing and future generations, and protect these lands from interference by adjacent uses which may affect the continued use of these lands for production of food and agricultural products.

Policies:

(1) Lands in agricultural use which are characterized by the following criteria may be designated as Agricultural Resource Lands:

i. Areas in parcels of ten acres or larger with soils capable of supporting long term commercial agricultural production. The federal Natural Resources Conservation Service (NRCS) identified 34 soil types suitable for farming in San Juan County. These soils can be found on page 121 of the 2009 Soil Survey of San Juan County, Washington, available at: http://soils.usda.gov/survey/online_surveys/washington/#san2009; or

ii. Lands which meet the criteria in a. above which are under conservation easement for agricultural use or which are enrolled in the Open Space-Agriculture taxation program.

(2) Limit conversion of Agricultural Resource Lands to permanent non-farm uses through implementation of a purchase or transfer of development rights program, special tax assessment programs, conservation easements, and conservation site design options for residential land divisions and boundary line modifications.

(3) Allow cottage enterprises that do not interfere with agricultural use, and allow agriculture-related activities such as processing and limited retailing facilities for locally grown products on farm sites and within agricultural areas consistent with allowances in State law for accessory uses in agricultural resource lands.

(4) Allow farm labor housing and *farm stay accommodations* subject to specific performance standards on Agricultural Resource Lands.

(5) Limit the location of utility lines and facilities, new roads and road realignments, access routes and other non-agricultural public and private facilities, to the least disruptive locations within agricultural areas.

b. Forest Resource Lands

Goal: To protect and conserve forest lands of long-term commercial significance for sustainable forest productivity and provide for uses which are compatible with forestry activities while maintaining water quality, water quantity, and fish and wildlife habitat.

Policies:

(1) Lands which are characterized by the following criteria may be designated Forest Resource Lands:

i. are in Forest Land Grades 1-5 on the Department of Natural Resources Private Forest Land Grades map;

ii. parcels are twenty acres or larger, or of a size meeting the Washington State requirements for timber open space designation;

iii. are in a tax deferred status of Designated Forest Land or Open Space-Timber, or are state trust lands under forest management; and

iv. are being managed for the long-term production of forest products with few non-forest related uses present.

6. Consider the scope and scale of proposals for the alteration, modification, or expansion of existing camps and existing small resorts. Changes that would expand the scope of services (*e.g.*, adding meal service or new recreational facilities, or adding new convention, hotel or marina facilities), increase the scale of facilities, or add on-site residential housing, should require discretionary use or conditional use permits. Allow expansion of existing uses that conform to the current scope and scale subject to reasonable performance standards to ensure that alteration and expansion of such uses have minimal adverse impacts on surrounding uses.

7. Allow the alteration, intensification, and expansion of existing gravel pits subject to reasonable performance standards to ensure that alteration, intensification, and expansion of such uses have minimal adverse impacts on surrounding uses. If increased off-site impacts (noise, vibration, dust, traffic) would result from expansion or modification, a conditional use permit should be required. Modification to include a new use or operation (*e.g.*, an asphalt plant or a rock crusher) should be a conditional use and be limited to areas where residential densities are planned at five acres or more per unit.

8. Alteration and expansion of existing *airstrips* and *airfields* that would result in increased aircraft activity, conflict with the purpose of the applicable land use district, or cause increased adverse impacts to surrounding areas should be prohibited. Allow minor, low-impact changes subject to reasonable performance standards to ensure that such uses have minimal adverse impacts on surrounding uses. Alteration and expansion of existing airports should be subject to a conditional use permit.

9. When evaluating proposals for the alteration, modification, or expansion of non-conforming uses, consider the total impact of the non-conforming uses as well as the added impact of the incremental changes, and the consistency of the changes with the applicable land-use designation.

10. Establish clearly defined Rural land use designations which promote and preserve the rural character of the islands while meeting the varied needs of island residents. The designations are:

a. Rural General Use

Goal: To provide flexibility for a variety of *small-scale*, low-impact uses to locate on rural lands.

Policies:

(1) Areas which are characterized by the following criteria may be designated as Rural General Use on the *Comprehensive Plan* Official Maps:

i. There is an existing mix of residential development, scattered single family residences, small farms, forestry activities, resource-based commercial and industrial uses, cottage enterprises, rural commercial and rural industrial uses;

ii. Parcels are generally five to twenty acres in size; and

iii. Soils are marginal or unsuitable for intensive commercial agriculture or forestry uses.

(2) Allow resource-based industrial and commercial activities, rural commercial, rural industrial, and cottage enterprise uses.

(3) Establish performance standards for the uses contained in Policy (2), *above*, to minimize adverse environmental and visual impacts. Standards should address access, circulation, building height and bulk, lighting, screening, signage, noise, odor, vibration, spray, smoke, waste disposal, and storm drainage control.

(4) Allowable uses should be compatible with the existing rural character and should not result in more than a minimal and manageable increase in demand on existing rural governmental services and facilities, utilities, community water systems, sewage disposal systems, and County roads.

b. Rural Farm-Forest

Goal: To provide for rural living opportunities which are compatible with small-scale farming and forestry activities.

Policies:

(1) Areas which are characterized by the following criteria may be designated as Rural Farm-Forest lands on the *Comprehensive Plan* Official Maps:

i. The predominant land use is farming and forestry mixed with residential development;

ii. Parcels are generally five or more acres in size; and

iii. Soils are suitable for small-scale agricultural or forestry uses.

(2) Adopt site development standards for permissible uses that will maintain a predominant portion of the farm and forested areas for farming and forest uses.

(3) Allow cottage enterprise uses and agriculture- and forestry-related commercial and industrial uses, such as processing and limited retailing facilities for farm and forest products, to be located on Rural Farm-Forest lands.

(4) Establish development standards that allow for farm stay accommodations for agritourism enterprises.

(5) Allow the development of farm worker accommodations on Rural Farm-Forest lands subject to standards that ensure the occupancy is seasonal and limited to persons employed by the proprietor in farm labor for a farm production season only, and that ensure compliance with applicable public health and safety requirements.

(6) Establish performance standards for the uses listed in Policies (3), (4) and (5), *above*, to minimize adverse environmental and visual impacts. Standards should address access, circulation, building height and bulk, lighting, screening, signage, noise, odor, vibration, spray, smoke, waste disposal, and storm drainage.

c. Rural Residential

Goal: To protect the predominantly residential character of some rural areas and provide for a variety of residential living opportunities at *rural densities*.

Policies:

(1) Areas which are characterized by the following criteria may be designated as Rural Residential on the *Comprehensive Plan* Official Maps:

i. There are existing small acreage platted areas generally with private covenants and restrictions, and some exclusively residential developments are expected to continue to occur; and

COMPREHENSIVE PLAN

SECTION B, ELEMENT 4

WATER RESOURCES

April 20, 2010

EXHIBIT 1

ELEMENT 4

WATER RESOURCES

TABLE OF CONTENTS

4.1 INTRODUCTION AND PURPOSE

Over the next 20 years, the goals and policies in this section will guide the people of San Juan County in assuring fresh, clean water for the current and future needs of all species. They necessarily recognize four conditions. The first is that rainfall generally measures between eighteen and twenty-two inches per year, relatively little in the Pacific Northwest. The second is that precipitation is concentrated between November and March. The third is a geologic profile dominated by bedrock domes and cemented glacial till, and the forth is the unique, multiplicity of island based, disconnected watersheds.

These goals and policies set out the ways in which San Juan County will manage precious fresh water resources clearly and fairly, for the benefit of our citizens, fish, wildlife and plant communities.

4.1.A. Existing Information

For over twenty years San Juan County has been working on studies and developing planning protocols to guide the management of its fresh water resources. In 2004, the San Juan County Water Resource Management Plan was adopted by both the County and Department of Ecology and constitutes the bedrock of this section. In addition to the county-wide plan, three sub-basin plans have been completed and adopted; and, stringent requirements for evaluating potential impairment or contamination of groundwater supplies and seawater intrusion protection measures have been adopted. The goals and policies of this element are based on these documents:

- San Juan County Water Resource Management Plan, 2004
- Lopez Village Water Supply Report and Recommendations and Abbreviated Coordinated Water System Plan, 2003
- East Orcas Water Supply Report and Recommendations, 2006
- Eastsound Water Supply Report and Abbreviated Coordinated Water System Plan, 2008
- Best Available Science for Critical Aquifer Recharge Areas, 2008

4.2 GOALS AND POLICIES

4.2.A General Goals and Policies

General Goals:

1. In consideration of Best Available Science, protect & manage the quality and quantity of ground and surface water so as to preserve hydrologic systems, designated beneficial uses, and fish and wildlife habitat that rely on fresh water.

2. Coordinate water planning and protection efforts among San Juan County departments with authority over development, land use, drinking water, wastewater treatment, stormwater management, road construction and maintenance, solid waste management, and natural resource protection.

3. Establish coordinated, cost effective programs for monitoring water quality, water quantity and associated habitats and species so that changes can be identified and protection programs modified as necessary.

4. Establish publicly supported methods of funding the actions in this Element.

General Policies:

1. Promote water conservation as a means to ensure the availability of fresh water resources. Encourage the reuse of gray-water, rainwater catchment, and land application of treated wastewater as conservation practices.

2. Encourage the retention of healthy native soils, vegetation and forest cover. Encourage preservation and increased infiltration of fresh water.

3. Support environmentally responsible, sustainable forestry and agricultural practices that protect water quality and enhance infiltration of runoff.

4. Support land conservation programs designed to acquire property with particular value for protecting water quality, quantity and recharge.

5. Ensure adequate treatment of domestic wastewater from new and existing development.

6. Ensure that future development will not harm surface and groundwater resources and the habitat dependent thereon.

7. Assess and manage cumulative impacts so that predevelopment water quality, quantity, infiltration and runoff rates can be protected.

8. Develop and fund programs to a) reduce the use of harmful chemicals including pesticides and petroleum based fertilizers; b) encourage safer use and disposal of chemicals; and c) enhance hazardous waste disposal opportunities.

9. Establish and support technical assistance programs to help property owners protect ground and surface water and associated habitat.

10. Maintain a local water resource management program through the San Juan County Water Resource Management Committee.
    a. Establish a program that addresses all water use, including use of exempt wells and alternative sources, such as desalination and rainwater catchment, and that includes decision-making based on long-term development and analysis of resource information.

    b. Support long-term monitoring and a county hydrogeologist to provide and analyze information on water resources.

11. Work cooperatively with state & federal agencies and coordinate protection and management of water resources in the county.

12. Practice adaptive management. Consider new information as it becomes available, and revise water resource protection programs as necessary.

13. Create county aquifer protection district(s) to fund on-going monitoring and analysis.

14. Provide support and incentives to community water systems to develop cooperative agreements for sharing expertise and resource management responsibilities.

15. Develop a public education program that provides up-to-date information on water resource issues.

16. Departments within San Juan County government should lead by example and model good water protection practices.

17. Make adopted plans and data available to the public and all County Departments.

18. In decision making, utilize locally adopted policies and water resource analysis meeting the Best Available Science Standard.

19. Encourage voluntary enhancement such as rain water catchment, stormwater retention & other technologies that will benefit water quality and quantity related to this element.

20. Manage water policy in accordance with the above listed existing and future amended plans.

21. Exempt well users should be encouraged to meter and record the amount of water allocated for that use.

4.2.B Public Water Supply Goals and Policies

San Juan County's fresh water resources are provided by local rainfall only. The islands' geography is characterized by the rainshadow created by the Olympic mountains to the south and Vancouver Island to the west, by predominantly steep terrain and bedrock geology, by small watershed catchment areas, and by extensive shoreline. These conditions result in low rainfall, limited groundwater storage, and extensive runoff and discharge to the sea.

Public Water Supply Goals:

1. Manage water resources in San Juan County carefully with ongoing assessment of the availability of fresh water.

2. Conduct long term monitoring of streams and wells.

3. Cooperate with State agencies and local water users to effectively manage water resources.

4. Conserve water to meet the demands of population growth, sustainable agriculture and fish and wildlife habitat.

Water Supply Development Policies:

1. Develop new water supplies meeting the requirements of San Juan County codes relating to:
   - well construction and siting,
   - coordination within water system service areas,
   - aquifer protection measures,
   - data collection,
   - long-term capacity analysis.

2. Work cooperatively with State agencies to base future water allocations on capacity by watershed, recognizing the following::
   - Agricultural resource lands,
   - Streams, wetlands, and nearshore habitat,
   - Urban growth areas.
   - Domestic supply

Conservation policies

3. Conservation is the most cost-effective way to obtain water to meet the demands of growth, sustainable agriculture, and fish & wildlife habitat.

4. Educate the public, including seasonal visitors & tourists, about the benefits of water conservation.

5. Managing San Juan County's fresh water resources requires a high standard of efficiency for all water use: domestic, commercial, and irrigation.

6. Water supply approval will continue to be based on the conservative policy of 1000-gallons-per-day/connection for source approval, and the historic rate for average daily domestic consumption of 100-300 gallons/connection.

7. Alternative sources of water, such as rainwater catchment and desalinization, should be allowed for existing residential and agricultural parcels provided they meet all County and State department of health requirements and environmental impacts can be addressed.

Water allocation policies and exempt wells

8. Meter records are the basis for all water right assessments, including exempt wells. Perfection of water rights shall be based on reasonable beneficial use and preventing waste.

9. Evaluation of new water right applications shall include studies and plans approved by San Juan County and the Department of Ecology.

4.2.C Stormwater Goals and Policies

Stormwater poses a widespread risk to the health of our island watersheds. Forests produce the least runoff, the greatest amount of infiltration, and the best water quality.

Soil compaction, altering drainage patterns, and replacing forest with pasture, lawn, driveways, and structures results in less infiltration, more surface runoff, and if not controlled, the discharge of warm, polluted water. As the amount of runoff increases, less water is available for beneficial uses including drinking water.

Increasing surface runoff also increases the quantity of pollutants that are swept into the water during storms. The removal of riparian vegetation and over grazing by livestock destroys nature's filtration system, which can result in runoff, sediment, and nutrients flowing unimpeded into the water. Developing an area can also expose more pollutants to stormwater.

Goals:

1. Prevent flooding and property damage.

2. Promote groundwater recharge.

3. Protect the quality of ground and surface water.

Policies:

1. Promote water conservation and the concept of stormwater as a usable resource.

2. When feasible, treat, manage and infiltrate stormwater on site, as close to impervious areas and sources of pollution as possible. Allow off site discharge only as a last resort with mitigation.

3. When stormwater management ponds are necessary, ensure they are sited and designed to comply with the WA Dept. of Fish and Wildlife requirements, to maintain predevelopment runoff patterns, to protect water quality, and to prevent increases in water temperature.

4. Ensure that clearing, grading and stormwater management regulations and enforcement programs:

    a. Prevent flooding and property damage, protect fish and wildlife habitat, and protect the quality and quantity of surface and ground water in a cost effective manner.

    b. Establish criteria that identify sites and projects with a low risk to property, water resources and associated habitat.

c. Ensure that property owners can prepare and implement their own stormwater management plans on low risk sites and low risk projects.

d. Incentivize the use of Low Impact Development techniques.

e. Guidance documents that may be used in the management of stormwater include but are not limited to the *Low Impact Development Technical Guidance Manual for Puget Sound, 2005* and the *Rain Garden Handbook for Western Washington Homeowners, and* the *Stormwater Management Manual for Western Washington, 2005.*

f. Develop or adopt a stormwater management manual suitable for rural counties.

5. Develop cost effective technical assistance programs for property owners.

6. Complete watershed based management plans that assess and provide mitigation options for the cumulative impacts of land use and development.

7. When necessary, identify and construct cost effective, publicly owned infrastructure designed to prevent harm to property, water resources and associated habitat.

8. Provide incentives and cost share programs for landowners willing to install community stormwater management systems that implement Best Management Practices (BMPs).

4.2.D. Fish, Wildlife and Native Habitat - Goals and Policies

The complex geology of the San Juans supports a diverse land cover that, in conjunction with our streams, wetlands and nearshore areas, supports a wide array of plants and animals. Our habitats are small, disconnected, and often rocky, and for many of them protection is either recommended or is required by State or Federal law.

Goals:

1. In consideration of the Best Available Science and the requirements of the Growth Management Act, ensure there is no net loss of the functions and values of wetlands and fish and wildlife habitat, giving special consideration to anadromous (migratory) fish.

2. Implement currently adopted salmon recovery and Marine Stewardship Area plans.

Policies:

1. Ensure that stream, shoreline and wetland buffers and other mitigation measures are adequate to remove contaminants and ensure good water quality and habitat.

2. Maintain or enhance the infiltration of runoff to ensure adequate recharge to streams and wetlands, and to preserve subsurface and stream flows to nearshore waters.

3. While man made ponds can benefit people and the natural environment, if improperly sited and designed they can disrupt natural drainage patterns, increase water temperatures, increase evaporation of water, and negatively impact streams, wetlands and the fish and wildlife that depend on them. Ensure that regulations governing man made ponds prevent negative impacts to fish and wildlife, consistent with State requirements (Note: The construction of ponds within drainageways is prohibited by WAC 220-110-180).

4. Protect and enhance wetlands and eliminate the conversion of wetlands to other land uses.

5. Protect and restore instream flows for anadromous fish and facilitate native fish passage.

6. Promote agricultural land use practices that reduce or eliminate impacts on water resources.

4.2.E. Agricultural Water Use Goals and Policies

Forage production and livestock are the dominant agricultural practices in San Juan County. Small farm production of both vegetable and fruit crops is also increasing. Water conservation is already an important part of these agricultural enterprises. In fact, in 1992, county residents chose to recognize the value of our agricultural soils by designating over 13,000 acres as Agricultural Resource land. Without adequate water, this designation is meaningless.

With proper management, our intensively managed farmland and pasturelands provide ecosystem services such as water filtration and wildlife habitat. In light of these benefits, as well as social assets including cultural history and open view corridors, agricultural water usage must be factored into county water planning.

As the islands' populations have increased, the demands on groundwater have increased and will continue to do so with additional growth. The future of farming and food security in San Juan County will depend upon the continued access to, and wise use of, water.

Goals:

1. Protect the availability of water for current and future agricultural use in San Juan County.

2. Provide incentives for water conservation in agricultural settings to ensure that water resources are utilized in a manner that complements and protects remaining water resources while extending the production of food and fiber.

Policies:

1. To preserve and protect the future use of water for agricultural production, owners of Agricultural Resource Lands, and other land used for agriculture, should obtain and perfect water rights.
    a. Exempt well users should be encouraged to meter and record the amount of water allocated for that use..
    b. To protect groundwater resources, well water levels should be measured annually.
2. Water needed for agricultural use must be protected when evaluating long-term capacity for new water supply development.
3. Agricultural water use should be managed to assure a sustainable quantity and quality of water for all uses.
4. Discourage the transfer of water from Agricultural Resource Lands.

4.2.F. Data Collection Goal & Policies

Goal:

1. To compile existing data, and when necessary to collect new data to support responsible and effective decision making on water resource issues.

Policies:

1. Recognize that a local program of data collection and analysis is the most important tool available to aid policy development and effective resource management as the County's fresh water resources face increased demands associated with growth, agricultural use, and environmental protection.

2. Ensure that data which is collected is comparable to that collected by other organizations in the region, including Canadian organizations, and that the data is shared with those organizations.

3. To make the best use of available funding, a) when possible, use existing data to understand and manage water resources, and b) conduct local studies and monitoring programs in partnership with universities, water purveyors, non-profit organizations, volunteers and local, state and federal agencies and departments.

4. Support an on-going program of ground and surface water monitoring to identify water quantity, quality and changes over time.

5. Determine the availability of water supplies in growth areas.

6. Monitor indicator habitats and organisms associated with fresh water to identify problem areas, establish trends over time, and evaluate the effectiveness of management strategies.

7. Closely monitor streams and habitats that support salmon, steelhead and other migratory fish to ensure that conditions are improving, consistent with the San Juan County Salmon Recovery Plan.

8. Map and monitor wetlands.

9. Funding for data collection should be established through County development and use fees, the Stormwater Utility and state and federal grants.

Soil Map—San Juan County, Washington
(Request 18-0017)

Map Scale: 1:3,800 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1003	Coupeville loam, 0 to 5 percent slopes	21.6	34.1%
1013	Bazal-Mitchellbay complex, 0 to 5 percent slopes	0.8	1.2%
2000	Whidbey gravelly loam, 3 to 15 percent slopes	31.1	49.0%
2004	Mitchellbay gravelly sandy loam, 0 to 5 percent slopes	0.2	0.3%
5000	Cady-Rock Outcrop complex, 5 to 30 percent slopes	4.5	7.1%
5003	Doebay-Morancreek complex, 5 to 25 percent slopes	4.6	7.3%
5008	Doebay-Cady-Rock Outcrop complex, 10 to 30 percent slopes	0.6	1.0%
Totals for Area of Interest		63.4	100.0%

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Juan County, Washington
Survey Area Data: Version 21, Jun 4, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 9, 2010—Aug 28, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

San Juan County, Washington

1003—Coupeville loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 17nnd
Elevation: 0 to 300 feet
Mean annual precipitation: 25 to 40 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Coupeville, undrained, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Coupeville, Undrained

Setting

Landform: Valleys
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Glacial drift over dense glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: loam
A - 7 to 12 inches: loam
2E - 12 to 20 inches: clay loam
2Btg1 - 20 to 34 inches: clay loam
2Btg2 - 34 to 50 inches: clay loam
2Cd - 50 to 59 inches: silty clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: 39 to 59 inches to densic material
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 8 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water capacity: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: C/D
Ecological site: F002XN904WA - Sitka spruce - red alder/ salmonberry/field horsetail
Forage suitability group: Wet Soils (G002XN102WA)

San Juan County, Washington

2000—Whidbey gravelly loam, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 17nn0
Elevation: 0 to 300 feet
Mean annual precipitation: 20 to 35 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Whidbey and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Whidbey

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glacial drift over dense glacial drift

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 6 inches: gravelly loam
Bw - 6 to 20 inches: very gravelly sandy loam
Bg - 20 to 37 inches: very gravelly sandy loam
2Cd - 37 to 59 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: B/D
Ecological site: F002XN901WA - Douglas-fir - Pacific madrone/ oceanspray/rattlesnake plantain

Forage suitability group: Droughty Soils (G002XN402WA)
Other vegetative classification: Droughty Soils (G002XN402WA)
Hydric soil rating: No

Minor Components

Hoypus

Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F002XN901WA - Douglas-fir - Pacific madrone/ oceanspray/rattlesnake plantain
Other vegetative classification: Droughty Soils (G002XN402WA)
Hydric soil rating: No

Data Source Information

Soil Survey Area: San Juan County, Washington
Survey Area Data: Version 21, Jun 4, 2020

San Juan County, Washington

5003—Doebay-Morancreek complex, 5 to 25 percent slopes

Map Unit Setting

National map unit symbol: 1kqvr
Elevation: 0 to 900 feet
Mean annual precipitation: 25 to 40 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Doebay and similar soils: 50 percent
Morancreek and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doebay

Setting

Landform: Hillslopes, mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glacial drift mixed with colluvium from metasedimentary bedrock

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 6 inches: loam
Bw1 - 6 to 16 inches: fine sandy loam
Bw2 - 16 to 21 inches: very gravelly sandy loam
C - 21 to 35 inches: extremely gravelly sandy loam
R - 35 to 45 inches: unweathered bedrock

Properties and qualities

Slope: 5 to 25 percent
Depth to restrictive feature: 20 to 39 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C
Ecological site: F002XN901WA - Douglas-fir - Pacific madrone/ oceanspray/rattlesnake plantain
Forage suitability group: Limited Depth Soils (G002XN302WA)
Other vegetative classification: Limited Depth Soils (G002XN302WA)
Hydric soil rating: No

Description of Morancreek

Setting

Landform: Mountain slopes, hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Mountainbase, side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glacial drift

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 3 inches: sandy loam
Bw1 - 3 to 10 inches: sandy loam
Bw2 - 10 to 21 inches: sandy loam
Bg - 21 to 28 inches: sandy loam
C - 28 to 59 inches: sandy loam

Properties and qualities

Slope: 5 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 16 to 28 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A/D
Ecological site: F002XN903WA - Western redcedar - Douglas-fir/ salal/swordfern
Forage suitability group: Sloping to Steep Soils (G002XN702WA)
Other vegetative classification: Sloping to Steep Soils (G002XN702WA)
Hydric soil rating: No

Minor Components

Rock outcrop

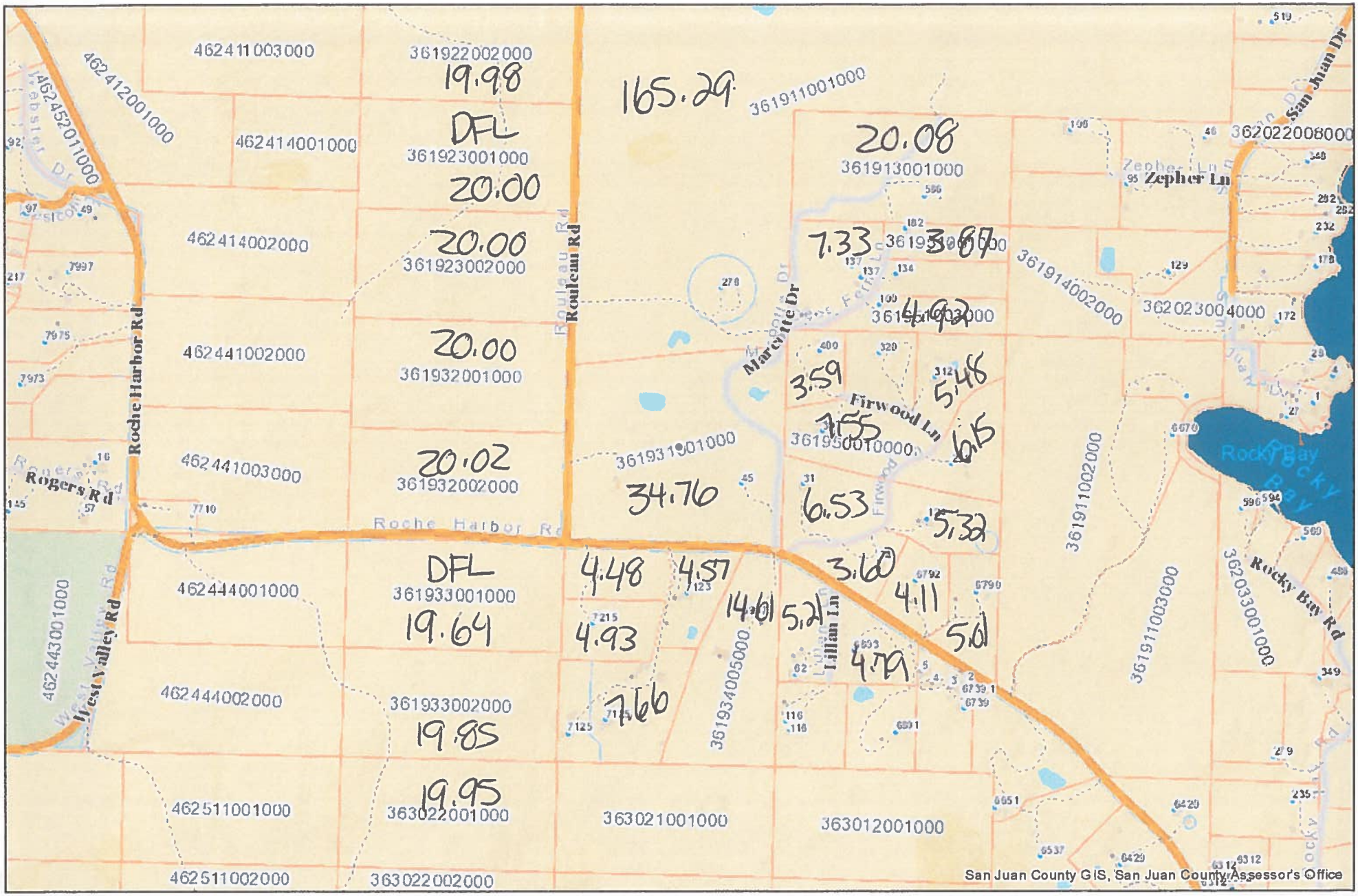
Percent of map unit: 10 percent
Hydric soil rating: No

Cady

Percent of map unit: 10 percent
Landform: Hillslopes, mountain slopes
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F002XN901WA - Douglas-fir - Pacific madrone/ oceanspray/rattlesnake plantain
Other vegetative classification: Limited Depth Soils (G002XN302WA)
Hydric soil rating: No

Data Source Information

Soil Survey Area: San Juan County, Washington
Survey Area Data: Version 21, Jun 4, 2020



SAN JUAN COUNTY WASHINGTON

This map is derived from San Juan County's Geographic Information System (GIS). It is intended for reference only and is not guaranteed to survey accuracy. The information represented on this map is subject to change without notice

1 in = 800 feet

0 0.085 0.17 mi

N

Request-18-0017 Parcels Size Map (ACRES)

Polaris

Date: 5/14/2021

Time: 1:09:39 PM

Soil Map—San Juan County, Washington
(Request-18-0017 Surrounding Soils)

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

In cooperation with United States Department of the Interior, National Park Service; San Juan County; San Juan County Conservation District; and Washington State University, Agricultural Research Center

Soil Survey of San Juan County, Washington

disposal of wastewater by rapid infiltration and slow rate treatment; and large animal carcass disposal

Water features: Hydrologic group, water table, ponding, and flooding

Water management: Pond reservoir areas; embankments, dikes, and levees; aquifer-fed excavated ponds

Yields per Acre

The table "Nonirrigated Yields by Map Unit Component" is described in this section. The average yields per acre shown in the table are those that can be expected of the principal crops under a high level of management. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Nonirrigated Yields by Map Unit Component

(Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Grass-legume hay	Grass-legume pasture
		Tons	*AUM*
997:			
Pits, gravel	8	---	---
998:			
Water, saline	---	---	---

Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability	Grass-legume hay	Grass-legume pasture
		Tons	*AUM*
999: Water, fresh	---	---	---
1000: Sholander	4w	2.00	4.40
Spieden	5w	2.00	4.40
1001: Coveland	6w	3.00	6.60
1002: Sholander	4w	2.00	4.40
1003: Coupeville	6w	3.00	6.60
1004: Limepoint	6w	3.00	6.60
Sholander	4w	2.00	4.40
1005: Shalcar	5w	3.00	6.60
1006: Semiahmoo	5w	3.00	6.60
1009: Coveland	6w	3.00	6.60
Mitchellbay	4w	2.50	5.50
1010: Deadmanbay	4w	2.50	5.50
Morancreek	3w	2.00	4.40
1013: Bazal	5w	3.00	6.60
Mitchellbay	4w	2.50	5.50
1014: Beaches	8	---	---
Endoaquents, tidal	7w	---	---
Xerorthents	7s	---	---
1015: Deadmanbay	4w	2.50	5.50
Bazal	6w	3.00	6.60
Cady	6s	1.00	2.20
1016: Orcas	5w	3.00	6.60
1053: Dugualla	6s	---	---

Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability	Grass-legume hay	Grass-legume pasture
		Tons	*AUM*
2000:			
Whidbey	4s	1.00	2.20
2001:			
Mitchellbay	4w	2.50	5.50
2002:			
Sucia	3s	1.50	3.30
2004:			
Mitchellbay	4w	2.50	5.50
2007:			
Alderwood, warm	4s	1.50	3.30
Everett, warm	4s	1.50	3.30
2008:			
Mitchellbay	4w	2.50	5.50
Sholander	4w	2.00	4.40
Bazal	5w	3.00	6.60
2009:			
Limepoint	6w	3.00	6.60
Alderwood, warm	4s	1.50	3.30
Sholander	4w	2.00	4.40
2010:			
Whidbey	4s	1.00	2.20
Hoypus	3s	1.00	2.20
2011:			
Roche	3w	2.00	4.40
Killebrew	6s	1.50	3.30
3000:			
Pilepoint	3w	2.00	4.40
3001:			
Hoypus	4e	1.00	2.20
3002:			
Keystone	3s	1.50	3.30
3005:			
San Juan	4s	2.00	4.40
3006:			
San Juan	6e	2.00	4.40
3007:			
San Juan	4s	2.00	4.40
3008:			
Xerorthents	7e	---	---
Endoaquents, tidal	7w	---	---

Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability	Grass-legume hay	Grass-legume pasture
		Tons	*AUM*
5000:			
Cady	6s	1.00	2.20
Rock outcrop	8	---	---
5001:			
Rock outcrop	8	---	---
Haro	7e	---	---
5002:			
Doebay, moist	7e	---	---
Cady	7e	---	---
Doebay	7e	---	---
5003:			
Doebay	4e	1.50	3.30
Morancreek	3w	2.00	4.40
5004:			
Pickett	7e	---	---
Kahboo	7e	---	---
Rock outcrop	8	---	---
5005:			
Constitution	4e	---	---
Skipjack	3e	---	---
Kahboo	7e	---	---
5006:			
Cady	7e	---	---
Doebay	7e	---	---
Rock outcrop	8	---	---
5007:			
Haro	6s	0.50	1.10
Hiddenridge	4s	1.50	3.30
Rock outcrop	8	---	---
5008:			
Doebay	4e	1.50	3.30
Cady	6e	1.00	2.20
Rock outcrop	8	---	---
5009:			
Haro	7e	---	---
Hiddenridge	7e	1.50	3.30
Rock outcrop	8	---	---

Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability	Grass-legume hay	Grass-legume pasture
		Tons	*AUM*
5010:			
Turtleback	7e	---	---
Cady	7e	---	---
Rock outcrop	8	---	---
5015:			
Doebay, moist	4e	1.50	3.30
Cady	6e	1.00	2.20
Rock outcrop	8	---	---

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes. The capability classification for each map unit in the survey area is given in the tables "Nonirrigated Yields by Map Unit Component," "Land Capability Classification," and "Forage Suitability Groups, Land Capability Classification, and Yields per Acre of Forage" and in the section "Detailed Soil Map Units."

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961). Only class and subclass are given in this report.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

Land Capability Classification

Map symbol and soil name	Land capability classification	
	Non-irrigated	Irrigated
997:		
Pits, gravel	8	---
998:		
Water, saline	---	---
999:		
Water, fresh	---	---
1000:		
Sholander	4w	4w
Spieden	5w	5w
1001:		
Coveland	6w	6w
1002:		
Sholander	4w	4w
1003:		
Coupeville	6w	6w
1004:		
Limepoint	6w	6w
Sholander	4w	4w
1005:		
Shalcar	5w	5w
1006:		
Semiahmoo	5w	5w

Land Capability Classification--Continued

Map symbol and soil name	Land capability classification	
	Non-irrigated	Irrigated
1009:		
Coveland	6w	6w
Mitchellbay	4w	4w
1010:		
Deadmanbay	4w	4w
Morancreek	3w	4e
1013:		
Bazal	5w	5w
Mitchellbay	4w	4w
1014:		
Beaches	8	---
Endoaquents, tidal	7w	---
Xerorthents	7s	---
1015:		
Deadmanbay	4w	4w
Bazal	6w	6w
Cady	6s	6s
1016:		
Orcas	5w	5w
1053:		
Dugualla	6s	6s
2000:		
Whidbey	4s	4s
2001:		
Mitchellbay	4w	4w
2002:		
Sucia	3s	4e
2004:		
Mitchellbay	4w	4w
2007:		
Alderwood, warm	4s	4s
Everett, warm	4s	4s
2008:		
Mitchellbay	4w	4w
Sholander	4w	4w
Bazal	5w	5w

Land Capability Classification--Continued

Map symbol and soil name	Land capability classification	
	Non-irrigated	Irrigated
4000:		
Roche	3w	4e
Killebrew	6s	6s
Rock outcrop	8	---
4002:		
Laconner, warm	4s	4s
4003:		
Hoypus	4e	6e
Whidbey	4s	6e
4005:		
Roche	3w	4e
Haro	6s	---
Rock outcrop	8	---
4006:		
Alderwood, warm	4s	6e
Hoypus	4e	6e
4007:		
Roche	3w	4e
Mitchellbay	4w	4w
4008:		
Mitchellbay	4w	4w
Rock outcrop	8	---
Killebrew	6s	6s
5000:		
Cady	6s	---
Rock outcrop	8	---
5001:		
Rock outcrop	8	---
Haro	7e	---
5002:		
Doebay, moist	7e	---
Cady	7e	---
Doebay	7e	---
5003:		
Doebay	4e	---
Morancreek	3w	4e

Prime Farmland and Other Important Farmland

The table in this section lists the map units in the survey area that are considered prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmland, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

For some soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures The extent of each map unit is shown in the table "Acreage and Proportionate Extent of the Soils." The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

About 45,000 acres, or about 39 percent of the total acreage, of the survey area meets the requirements for prime farmland.

In some areas, land that does not meet the criteria for prime farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. In Washington, the criteria were developed and approved in cooperation with the Washington State Conservation Commission. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

About 8,400 acres, or about 7 percent of the total acreage, of the survey area meets the requirements for farmland of statewide importance.

Prime and Other Important Farmland

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland.)

Map symbol	Map unit name	Farmland classification
1000	Sholander-Spieden complex, 0 to 5 percent slopes	Prime farmland if irrigated
1001	Coveland loam, 0 to 5 percent slopes	Prime farmland if drained
1002	Sholander gravelly loam, 2 to 8 percent slopes	Prime farmland if irrigated
1003	Coupeville loam, 0 to 5 percent slopes	Prime farmland if drained
1004	Limepoint-Sholander complex, 0 to 8 percent slopes	Prime farmland if drained
1005	Shalcar muck, 0 to 2 percent slopes	Prime farmland if drained
1006	Semiahmoo muck, 0 to 2 percent slopes	Prime farmland if drained
1009	Coveland-Mitchellbay complex, 2 to 15 percent slopes	All areas are prime farmland
1010	Deadmanbay-Morancreek complex, 2 to 15 percent slopes	All areas are prime farmland
1013	Bazal-Mitchellbay complex, 0 to 5 percent slopes	Prime farmland if drained
1016	Orcas peat, 0 to 2 percent slopes	Prime farmland if drained
1053	Dugualla muck, 0 to 2 percent slopes	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
2000	Whidbey gravelly loam, 3 to 15 percent slopes	Prime farmland if irrigated
2001	Mitchellbay gravelly sandy loam, 5 to 15 percent slopes	All areas are prime farmland
2002	Sucia loamy sand, 2 to 10 percent slopes	Prime farmland if irrigated
2004	Mitchellbay gravelly sandy loam, 0 to 5 percent slopes	All areas are prime farmland
2007	Alderwood-Everett complex, warm, 5 to 15 percent slopes	Prime farmland if irrigated
2008	Mitchellbay-Sholander-Bazal complex, 0 to 8 percent slopes	Prime farmland if irrigated and drained
2009	Limepoint-Alderwood, warm-Sholander complex, 2 to 12 percent slopes	Prime farmland if irrigated and drained
2010	Whidbey-Hoypus complex, 2 to 15 percent slopes	Prime farmland if irrigated
2011	Roche-Killebrew complex, 2 to 10 percent slopes	All areas are prime farmland
3000	Pilepoint loam, 2 to 8 percent slopes	Prime farmland if irrigated
3001	Hoypus sandy loam, 3 to 25 percent slopes	Farmland of statewide importance
3002	Keystone sandy loam, 5 to 15 percent slopes	Farmland of statewide importance
3005	San Juan sandy loam, 2 to 8 percent slopes	Prime farmland if irrigated
3007	San Juan sandy loam, 5 to 20 percent slopes	Farmland of statewide importance
3013	Everett sandy loam, warm, 3 to 20 percent slopes	Farmland of statewide importance
3015	Indianola loamy sand, warm, 3 to 15 percent slopes	Prime farmland if irrigated
3016	Sucia-Sholander complex, 5 to 20 percent slopes	Farmland of statewide importance
4002	Laconner gravelly sandy loam, warm, 5 to 15 percent slopes	Prime farmland if irrigated
4003	Hoypus-Whidbey complex, 10 to 30 percent slopes	Farmland of statewide importance
4006	Alderwood, warm-Hoypus complex, 5 to 20 percent slopes	Farmland of statewide importance
4007	Roche-Mitchellbay complex, 3 to 15 percent slopes	All areas are prime farmland
5003	Doebay-Morancreek complex, 5 to 25 percent slopes	Farmland of statewide importance

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

DEPARTMENT OF ECOLOGY State of Washington

RECEIVED
SEP 08 2016
DEPT OF ECOLOGY
NWRO - WR

Construction/Decommission ("x" in circle)

- [x] Construction
- [ ] Decommission *ORIGINAL INSTALLATION*

Notice of Intent Number WE23546

PROPOSED USE: [x] Domestic [ ] Industrial [ ] Municipal [ ] DeWater [ ] Irrigation [ ] Test Well [ ] Other

TYPE OF WORK: Owner's number of well (if more than one) ____

[x] New well [ ] Reconditioned *Method:* [ ] Dug [ ] Bored [ ] Driven [ ] Deepened [ ] Cable [x] Rotary [ ] Jetted

DIMENSIONS: Diameter of well 6 inches, drilled 740 ft.
Depth of completed well 740 ft.

CONSTRUCTION DETAILS

Casing [x] Welded 6" Diam. from +1 ft. to 89 ft.
Installed: [ ] Liner installed ____" Diam. from ____ ft. to ____ ft.
[ ] Threaded ____" Diam. From ____ ft. to ____ ft.

Perforations: [ ] Yes [x] No
Type of perforator used ____
SIZE of perfs ____ in. by ____ in. and no. of perfs ____ from ____ ft. to ____ ft.

Screens: [ ] Yes [x] No [ ] K-Pac Location ____
Manufacturer's Name ____
Type ____ Model No. ____
Diam. ____ Slot size ____ from ____ ft. to ____ ft.
Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel/Filter packed: [ ] Yes [x] No Size of gravel/sand ____
Materials placed from ____ ft. to ____ ft.

Surface Seal: [x] Yes [ ] No To what depth? 89 ft.
Material used in seal Neat Cement
Did any strata contain unusable water? [ ] Yes [x] No
Type of water? ____ Depth of strata ____
Method of sealing strata off ____

PUMP: Manufacturer's Name ____
Type: ____ H.P ____

WATER LEVELS: Land-surface elevation above mean sea level 140 ft.
Static level 40 ft. below top of well Date 4/16/16
Artesian pressure ____ lbs. per square inch Date ____
Artesian water is controlled by ____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? [ ] Yes [x] No If yes, by whom? ____
Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.
Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.
Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test ____

Bailer test ____ gal./min. with ____ ft. drawdown after ____ hrs.

Airtest 5 gal./min. with stem set at 739 ft. for 1 hrs.

Artesian flow ____ g.p.m. Date ____

Temperature of water ____ Was a chemical analysis made? [ ] Yes [x] No

CURRENT

Notice of Intent No. WE23546

Unique Ecology Well ID Tag No. BIS509

Water Right Permit No. ____

Property Owner Name Mark E McCutcheon

Well Street Address Rouleu Rd

City Friday Harbor County San Juan

Location SW 1/4-1/4 SE 1/4 Sec 19 Twn 36N R 3W EWM [ ] Or WWM [x]
(s, t, r Still REQUIRED)

Lat/Long
Lat Deg 48 Lat Min/Sec 59'87N
Long Deg 123 Long Min/Sec 11'93W

Tax parcel No. (Required) 361931001

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Top Soil	0	2
Brown Sand Med Gravel	2	7
Fine Brown Sand	7	48
Med Gravel	48	56
Course Sand/SmallGravel	56	60
Course Sand/LG Gravel	60	64
Course Sand	64	67
Blue Clay	67	74
Fine Sand/Med Gravel	74	80
Course Sand/LG Gravel	80	84
Hard Green Ryolite	84	102
Med Gray Shale w/Quartz	102	130
Hard Green Shale w/Quartz	130	145
Med Gray Shale w/Quartz	145	168
Med Dark Gray Shale w/Quartz	168	177
Hard Green Shale w/Quartz	177	215
Med Gray/Green Shale	215	230
Med Gray/Green Shale w/Quartz	230	238
Hard Green Shale	238	250
Med Gray Shale w/Quartz	250	272
Med Dark Gray Shale	272	290
H2O Soft Gray Shale w/Lots of Quartz	290	308
Med Gray Green Shale w/Quartz	308	318
Med Dark Gray Shale w/Quartz	318	333
Med Dark Grey Shale	333	365
Med Dark Gray Shale w/Quartz	365	372
H2O Hard LT Gray Ryolite w/Quartz	372	380
Med Dark Gray Shale w/Quartz	380	417
Soft Dark Gray Shale	417	463
Med Gray Shale	463	475
Soft Dark Gray Shale	475	496

Start Date 4/16/2016 Completed Date 6/30/2016

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

[x] Driller [ ] Engineer [ ] Trainee Name Justin Martel
Driller/Engineer/Trainee Signature
Driller or trainee License No. 2386
IF TRAINEE: Driller's License No:
Driller's Signature:

Drilling Company Martel Enterprises, INC
Address PO Box 905
City, State, Zip Friday Harbor, WA 98250
Contractor's Registration No. MARTEWD044PA Date 8/30/16

ECY 050-1-20 (Rev 02-2010) To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program at 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

Mapping Agricultural Land in San Juan County, Washington

Crow Valley, Orcas

A study prepared by the Agricultural Resources Committee of San Juan County

For the San Juan County Council

Funded by the Office of Farmland Preservation

July 2009

This report is written to fulfill requirements of a grant from the Washington State Office of Farmland Preservation to the Agricultural Resources Committee of San Juan County.

Summary

During the first six months of 2009, the Agricultural Resources Committee of San Juan County (ARC) finished a mapping project begun in 2008, funded by a grant from the Washington State Office of Farmland Preservation (OFP). The project looked for patterns of farmland loss by mapping all agriculturally viable parcels within the county. Aerial photos, Geographical Information Systems (GIS), and windshield surveys were the main tools used to achieve these goals. Three primary factors account for most farmland loss: 1) when larger parcels are sub-divided into smaller parcels, they often fall out of agricultural use, turn fallow, become populated with shrubs and eventually return to forest; 2) forest gradually encroaches upon larger parcels; and 3) Urban Growth Areas can intrude into farmland.

Background

In January 2008, the Washington State Office of Farmland Preservation awarded a grant for public education and outreach on farmland preservation to the ARC of San Juan County. The goals of that grant included preliminary work to map farmland within the county. In the fall of 2008, a second grant was awarded to the ARC to finish the mapping project and to determine local areas of concern for farmland preservation. The goals included mapping agricultural areas down to two acres, which is considered the smallest viable farming unit for this area. San Juan County encompasses only 111,941 acres, which made the goal attainable. Also helpful was the county's recent acquisition of aerial photographs covering all the major islands.

Methods

The San Juan County Public Works GIS Team donated aerial photos, GIS software, and mapping data. The data covered parcels, shorelines, land use zoning, roads, and the latest online soil survey from the Natural Resources Conservation Service (NRCS) (online at www.websoilsurvey.nrcs.usda.gov). The GIS software used was ArcGIS 9.3 from ESRI. Aerial photos were taken in June of 2008 at a resolution of six inches per pixel. At this resolution it is possible to pick out individual fence posts.

The first task was to define agricultural soils. In San Juan County's Uniform Development Code, the definition of agricultural soils (Chapter 18.20.010) was written using a soil survey from 1963 and is out of date. The criteria for soils classification are more closely defined in the latest soil survey, and some criteria have changed.

As an alternative, a system entitled "Farmland Classification" in the new soil survey rates soils by their physical and chemical characteristics related to the production of crops. This is the classification system recommended for the new Farm and Agricultural Conservation section in the county's Open Space public benefit rating system. Another possible system is that chosen by Pierce County in their agricultural mapping project, which rated soils by the amount of hay harvested per acre. Neither of these systems is completely satisfactory for this study, since each leaves out soil types that are currently farmed in San Juan County. This project included all of the 55 soil types present in San Juan County, that were productive with common farming practices, which limited the number to 29 soil types. Once the soil types were defined, GIS was used to combine the different soil types into an agricultural soil group. Parcels were considered if they contained at least one acre of agricultural soil and encompassed at least two acres of land, to allow housing. The resulting map included 4,675 parcels out of a total of 16,958 parcels in the county. Next, aerial photos for each of these parcels were visually examined, and the major land uses and active agricultural areas for each parcel were noted. The aerial photo segment consumed most of the time spent on the project. Maps were generated and land use patterns became apparent on both visual and statistical levels.

Several decisions made during the course of the project influenced the results. First, the decision to include all soil types that are currently farmed may have led to including more parcels of forested land with pockets of agricultural soils. This would lead to a higher total parcel area, and a higher percentage of forested land. As an example, Moran State Park was included (a 4,900 acre parcel) in the project, even though it has only forty acres of agricultural soil. Another problem lay in the reliance on aerial photos. While these are very good photos (see Figure 1.), the sheer number of parcels called for quick, subjective decisions on land use, and the tree canopy often obscured any underlying detail. Thus it was almost impossible to tell whether a woodlot was grazed, and the extent of agricultural use. To compensate, local knowledge of several islands was very useful. For San Juan Island, windshield surveys were employed to figure out such puzzles as medium sized mowed areas, many of which were lawns, instead of agricultural fields.

In addition, most parcels are managed in more than one way. Sixteen basic land use categories produced forty-six common combinations (Table 1, and Figure 2). These forty-six categories were collected into four groups: agriculture, fallow, forest, and commercial. These groups are related to the likelihood of farmland loss. It was assumed that parcels in the commercial group were not going to be used for agriculture in the foreseeable future. Parcels in the forest group would be unlikely to be used for agriculture, due to the costs of land clearing. Fallow parcels could more easily return to agricultural production, but they could also continue the along the path into shrub and then forestland, and therefore are most at risk of farmland loss. Parcels in the agriculture group have varying chances of staying in agriculture, which is reflected by the

shading shown in Figure 2. For example, the darker green of Forage is a more stable agricultural use than the lighter green of Forage/Forest. Also, the darker red of Fallow/Forest indicates a more likely permanent loss of agricultural use than the pink of Fallow/ Lawn.

Home gardens, as well as larger market gardens, were included for another project by the ARC. A decision was made that gardens encompassing more than one-quarter acre would be counted as agricultural, while those under a quarter acre would be classified either as fallow or forest using other information.

Results

Looking at the attributes of parcels with at least one acre of agricultural soil, several trends stand out (Table 2). Parcels in the fallow, commercial, and agricultural groups have similar percentages of agricultural soils on average (73%, 73% and 79%, respectively). But mean parcel size for fallow or commercial land is less than half that of agricultural parcels. The difference between the groups has more to do with their size than their soil, leading to the conclusion that, for these three groups, land use is linked to parcel size. This becomes evident on a more intuitive level when looking at the maps (Figure 3), which show many smaller fallow parcels surrounding and occasionally encroaching on larger agricultural parcels. Land in the forest group contains a much smaller percentage of agricultural soils (49%), so it is more likely that these parcels are better suited to that land use.

The mean size of agricultural parcels (22.4 acres) in this study is very different from the average in the 2007 USDA Agricultural Census (74 acres). Only the largest commercial farms that filed Schedule F income tax statements also volunteered to be surveyed by the USDA, while this project covered many small, noncommercial farms. A more comprehensive overview is an advantage to the more inclusive definition of agriculture used in this study.

The maps lead to several conclusions. As mentioned, fallow lands tend to be smaller parcels around agricultural parcels. Urban Growth Areas lie next to agricultural areas, which is not surprising when you realize that towns grew up around some of the county's most productive farms (Figure 4). While there are arguments that agricultural land adjacent to Urban Growth Areas can be beneficial (see *City of Redmond v. Central Puget Sound Growth Management Hearings Board*, 136 Wn.2d at 58), it is undeniable that there is more development pressure on these lands. As the Washington State Growth Management Hearings Board has said, "Both experience and common sense indicate that conversion of agricultural resource lands to nonagricultural uses is a one-way ratchet. To suggest that designated agricultural resource lands, once given over to intensive uses demanded by an ever-increasing urban population, could ever be "retrieved" is simply not credible." (*Green Valley, 98-3-0008c,* FDO, at 18.)

Next Steps

The ARC has recommended to the County Council that San Juan County adopt a policy of "No Net Loss of Agricultural Resource Lands". The policy would provide a procedure for mitigation should any Agricultural Resource Land (ARL) be taken out of ARL by de-designation. The policy would require designating an appropriate area of adjacent farmland to ARL zoning in order to maintain a base acreage of ARL. This project was able to map parcels that could serve in this regard (Figure 5), and found that there are more than enough parcels available (652 parcels already zoned ARL, and 952 potential parcels). The adoption of a "No Net Loss" policy and the enforcement of planning policies already on the books would increase awareness of the importance of farmland preservation. Once the policy is adopted, it would seem prudent to educate alternative ARL parcel owners about the advantages of agricultural zoning.

San Juan County is the only county in the state whose voters have endorsed the concept of a Land Bank, where a small tax on land sales funds the acquisition of exemplary lands, including agricultural lands. Local citizens have also endorsed farmland preservation through the San Juan Preservation Trust, the first nonprofit land trust in the state. Both these organizations work aggressively to preserve farmland through acquisition and conservation easements. Further incentives to decrease development rights would help preserve the larger farms that seem better able to stay in agricultural production.

The promotion of more intensive agricultural models would help the smaller parcels that seem to be in greater jeopardy of farmland conversion. Again, San Juan County is a leader with such programs as the Lopez Locavores' Evening Meals at the School (www.lopezlocavores.org), the Islands Certified Local program (www.sjcarc.org), and the San Juan Islands Agricultural Guild (www.sjiagguild.com). Another possibility would be a study of the food system of San Juan County, detailing the food consumed, grown, exported, and imported. Such a study would be more easily done in a county with only one portal (i.e., the ferry) for imports and exports. The results could detail new marketing opportunities for specific agricultural commodities.

Conclusions

From this study, it appears that the greatest threat to farmland in San Juan County is small parcel sizes. Smaller parcels tend to have more fallow land, which leads to forestation and consequent loss of farmland. Reducing the sales of small pieces of larger farms would slow that loss. Thus, enabling programs to purchase the development rights of larger farms might be the most effective path to farmland preservation in this county.

Another avenue would be support for smaller, more intensive farms. Education, recruitment of innovative farmers, opening new markets, and a less onerous regulatory environment could

lead to a renewal of agriculture in the county. There does not seem to be a lack of farmland for small farms.

Indeed, saving all the farmland in the county will not guarantee the existence of farms. To achieve that goal, farming must be profitable. In the 2002 USDA Census of Agriculture, San Juan County was one of only three Washington state counties to have an average net loss of income for farming operations. By 2007, five other counties had joined the club. Now is the time to provide education, business skills, and regulatory reform for farmers to help them make a profit. If farming were more profitable, less land would be sold for residential development. Farmland preservation requires natural resources, the economic support of a profitable enterprise and the social support of a community. Milking stools don't have one leg.

Acknowledgements

The Washington State Office of Farmland Preservation has supported this project from its inception. The staff at the Agricultural Resources Committee of San Juan County worked to procure the grant and to see it finished. The San Juan County GIS Team gave time, software, and help whenever needed. The San Juan Islands Conservation District provided office space, administrative assistance, brainpower, and encouragement. Special thanks go to the San Juan County Land Bank, the San Juan Preservation Trust, and WSU Extension for San Juan County—our Farmland Preservation Partnership.

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Ibid., Redmond, 136 Wn.2d at 58

Table 1.

Category Grouping

Commercial	Fallow	Forest	Agriculture==
Commercial	Fallow	Forest	Forage
Road	Golf Courses	Wetland/Forest	Orchard
Cemetery	Lawn	Wet/Fallow/Forest	Nursery
Airport	Fallow/Forest	Gar<.2A/Wet/Forest	Vineyard
School	Fallow/Lawn	Gar<.2A/Lawn/Forest	Gardens > 0.2 Acres
Wetland	Road/Fallow	Commercial/Forest	Equine
	Wet/Fallow	Garden<.2A/Forest	Equine/Fallow
	Garden<.2A/Fallow	Gar<.2A/Fal/Forest	Forage/Fallow
	Gar<.2A/Lawn	Lawn/Forest	Forage/Forest
		Wet/Lawn/Forest	Forage/Lawn
			Forage/Wetland
			Garden/Equine
			Garden/Forage/Forest
			Garden/Forage
			Garden/Forage/Fal
			Garden/Orchard
			Gar>.2A/Wetland
			Nursery/Forest
			Orchard/Forage
			Orchard/Forest
			Vineyard/Forage

Figure 1. Farm Aerial Photo

Figure 2. San Juan County Farmland Use

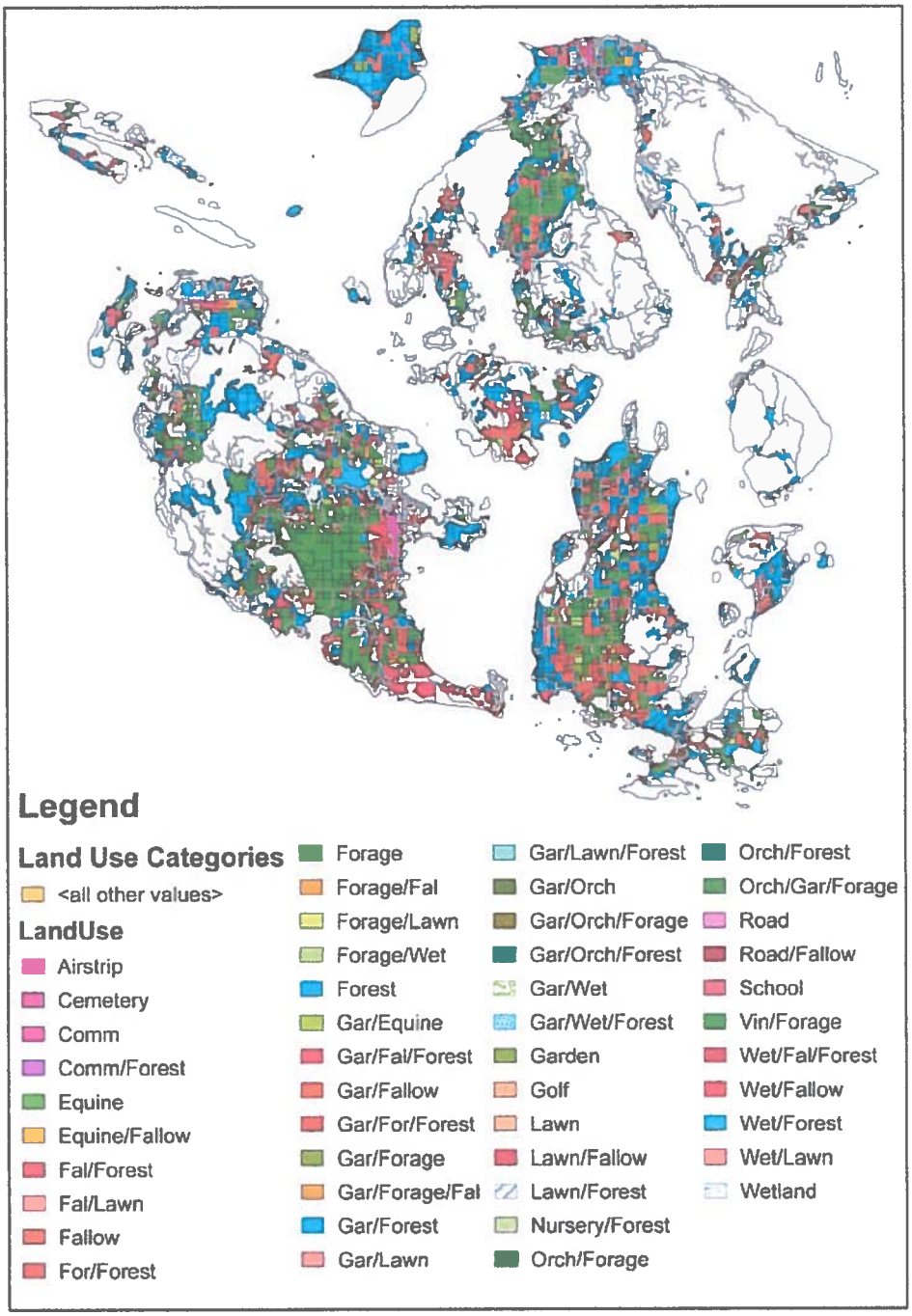

Figure 3. San Juan County Farmland Use

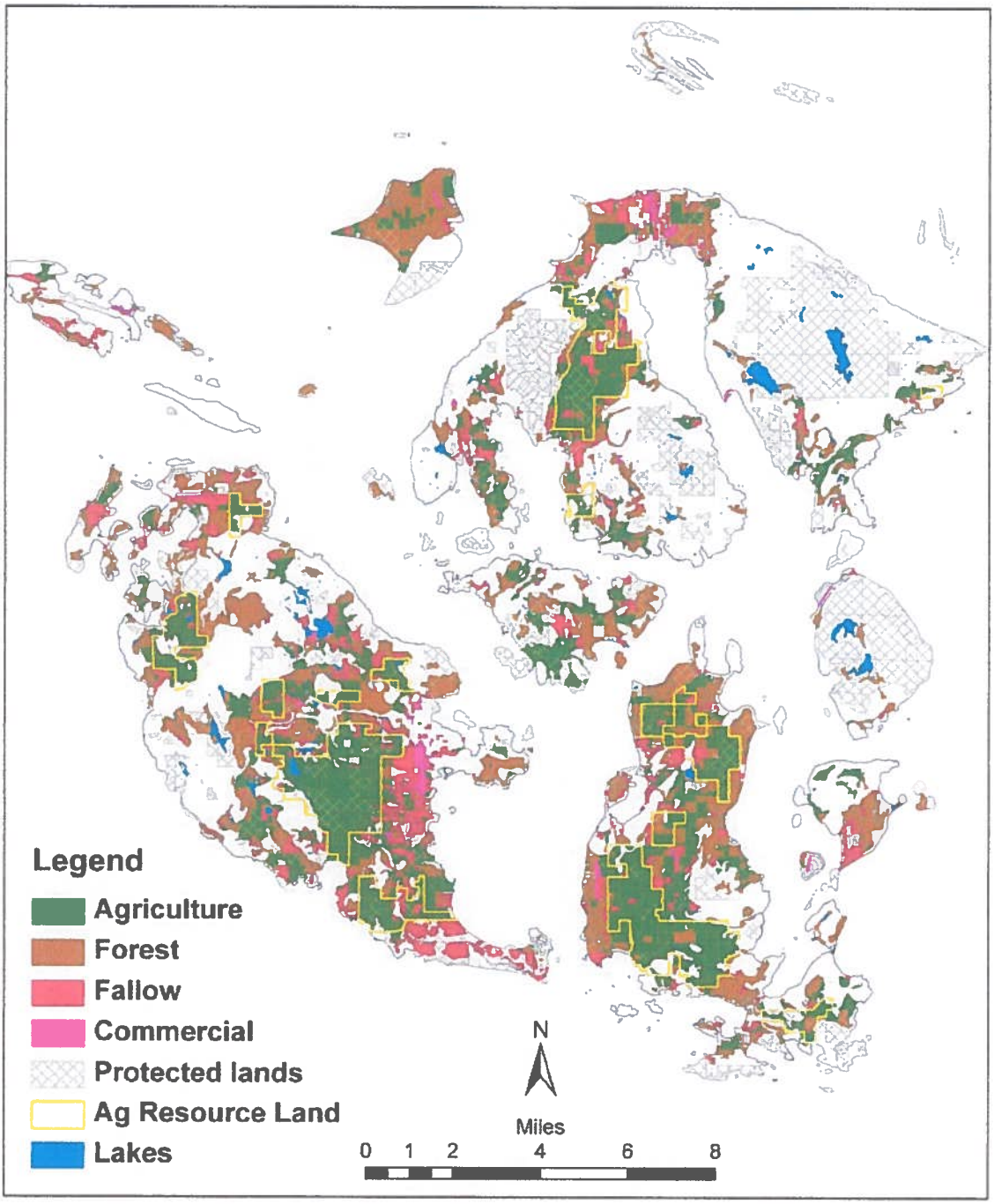

Figure 4. Friday Harbor UGA and ARL Boundaries

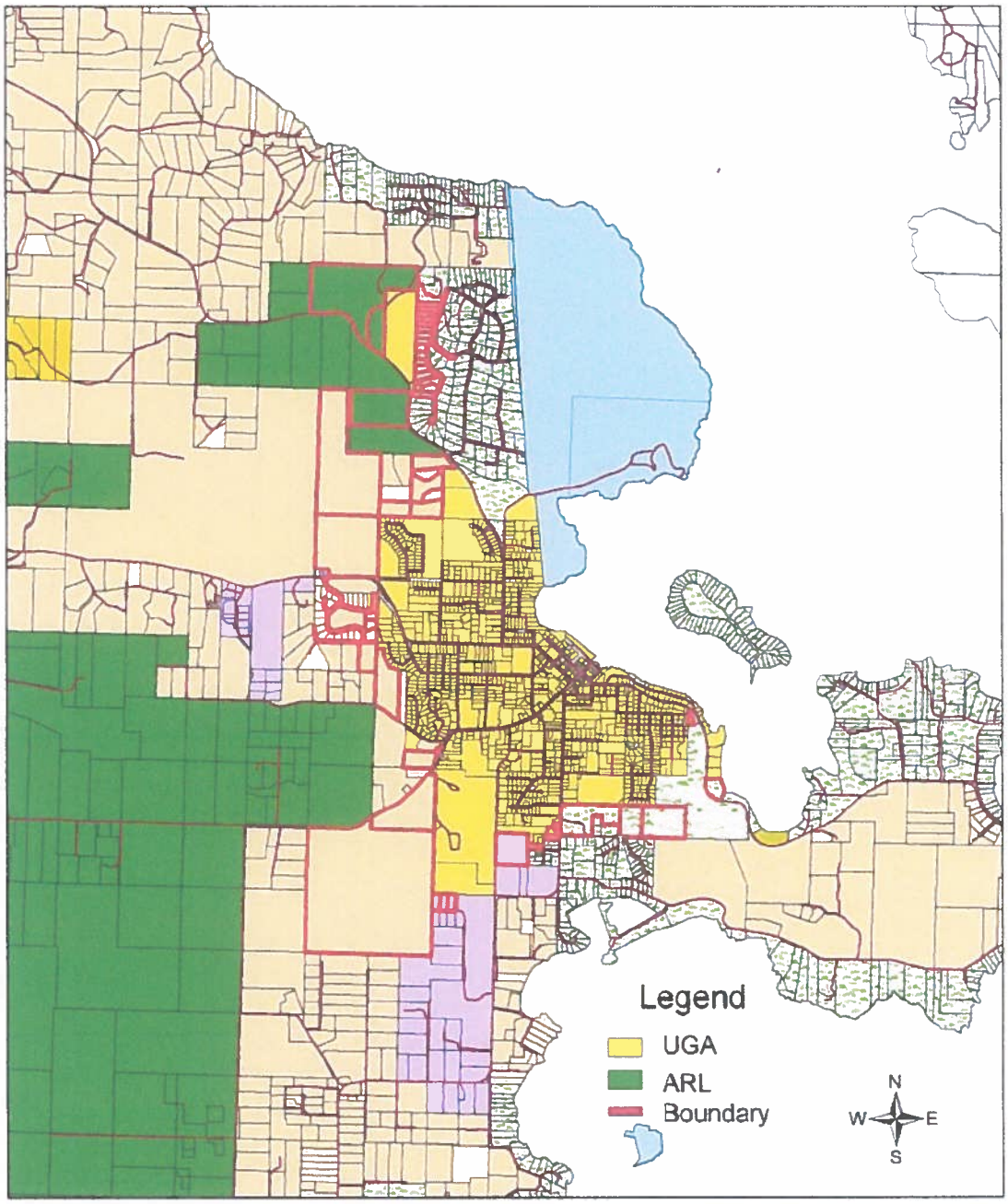

Figure 5.
Future Possibilities for Ag Resource Zoning