SAN JUAN COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT

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MEMO

REPORT DATE:	April 26, 2022
TO:	San Juan County Planning Commission
CC:	David Williams, Department of Community Development (DCD) Director
FROM:	Sophia Cassam, Planner II
SUBJECT:	2036 Comprehensive Plan Update Draft Element 4, Water Resources
DISCUSSION:	May 6, 2022
ATTACHMENTS:	A. Section B, Element 4, Water Resources—April 6, 2022 Draft B. Section B, Element 4, Water Resources – April 15, 2022 Draft

PURPOSE

To prepare a Planning Commission public hearing draft of Comprehensive Plan (*Plan*) Section B, Element 4, Water Resources (Water Resources Element). To establish the Planning Commission's decisions regarding unresolved Water Resources Element issues discussed at the April 15, 2022 Planning Commission meeting.

PUBLIC COMMENTS

Please send all public comments to compplancomments@sanjuanco.com. Please do not copy the County Council, Planning Commission members, or County Staff. Written public comments received by 12pm on May 5 will be provided to the Planning Commission prior to the meeting. Please focus public comments on the issues and options contemplated in this report.

All comments received on the Water Resources Element are available on the County website at: https://www.sanjuanco.com/1306/Comprehensive-Plan-Elements

BACKGROUND

The Planning Commission discussed the draft Water Resources Element at the meeting on April 15, 2022. The document reviewed was the April 6, 2022, draft (Attachment A) which was developed by the Clean Water Advisory Committee with support from the County Health and Community Services Department's Environmental Health Manager. The draft included edits made by the Planning Commission and County Council in 2018 and 2019. The staff report for the April 15 discussion is available here: https://www.sanjuanco.com/DocumentCenter/View/25583/.

The Planning Commission reviewed and edited the draft Water Resources Element. The edits are incorporated in the April 15, 2022, draft included in Attachment B. At the April 15 meeting, the Planning Commissioners wanted to hear from water purveyors before deciding on their public hearing draft. In particular, they wanted more information before deciding whether to retain draft policies 1-4. They requested that DCD provide the draft Element including their edits to water purveyors countywide for their

review with particular attention to policies 1-4 on page 10. DCD sent the draft to water purveyors and requested comments by April 29, 2022. Any comments DCD receives from the water purveyors will be provided to the Planning Commissioners for their consideration prior to follow-up discussion on the Water Resources Element scheduled for the May 6 meeting.

MAY 6 MEETING

At the meeting on May 6, 2022, the Planning Commission will complete their discussion of policies 1-4 and agree on a draft Water Resources Element to use for the future *Plan* public hearing. San Juan County Health and Community Services Environmental Health Manager, Kyle Dodd, who was the staff person who worked with the Clean Water Advisory Committee to develop the draft Water Resources Element, will be available at the meeting to answer any questions the Planning Commissioners may have.

NEXT STEPS

After the Planning Commission decides whether to make further edits to the draft Water Resources Element, the draft will become the public hearing draft. This is the draft that will be brought forward at the Planning Commission's public hearing on the *Plan*. At the public hearing, the Planning Commission will hear public testimony and, after deliberations, make its final edits to the draft *Plan* to be recommended to the County Council.

ATTACHMENT A

COMPREHENSIVE PLAN

SECTION B, ELEMENT 4

WATER RESOURCES

DRAFT

April 6, 2022

Supersedes April 2010

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ELEMENT 4 WATER RESOURCES

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4.1 INTRODUCTION

San Juan County strives to achieve integrated water resources management throughout its jurisdiction. The County gained greater understanding of its water resources over the last 20 years through several plans and studies (Attachment A). These efforts focused on resource protection through a common goal of non-degradation for all water types- including surface and storm waters, groundwater, and marine receiving waters (see Attachment B for complete definitions of water types). Managing for resiliency, in both water resources and our community, is critical to minimizing the impacts of change on the hydrology and aquatic habitats we and other species rely upon.

San Juan County relies on precipitation as the only source of freshwater. Precipitation that falls on each island is the only source of recharge for surface and groundwater supplies. The percentage of precipitation that actually becomes groundwater recharge is extremely low, often less than 10 percent.

The islands' 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 lower rainfall than other areas of Western Washington, limited groundwater storage, and extensive runoff and drainage to the Salish Sea. The freshwater available on each island is isolated by the surrounding marine waters, which make our groundwater supplies near the shorelines at risk of seawater intrusion.

Generally, water systems with wells located away from the shoreline have good water quality. However, some areas are experiencing seawater intrusion at this time. How we manage our water use for domestic and agricultural purposes, as well as treat and manage our storm and surface waters, is critical to ensuring all of our water resources are of the highest quality and quantity possible.

4.2 PLANNING

Since 2000, San Juan County has been active in water resource planning; adopting the Watershed Management Action Plan. This plan contained specific recommendations for addressing watershed contamination from several development, land use, and disposal related practices. The plan also resulted in the integration of several local organizations like the Lead Entity for Salmon Recovery and the Marine Resources Committee. These groups have completed several studies and projects to further understanding and improve fish habitat. The Water Resource Management Plan was adopted in 2004, addressing surface and groundwater quality and quantity issues, water rights, and existing water systems capacity to serve projected growth. Groundwater availability from exempt wells, alternative water supply options, and water source approval were discussed in the plan. The Plan was a springboard for future studies and research by the Water Resource Management Committee. The entire list of plans can be viewed in Attachment A.

4.2.1 Critical Aquifer Recharge Areas

The entire County has been designated a critical aquifer recharge area because the County's aquifers are highly susceptible to contamination. The County has development requirements to assure a safe and adequate water supply by protecting the quantity and quality of water available for recharge.

4.2.2 Coordinated Water System Planning

With the goal of improving service and protecting a shared resource, the County worked with water purveyors to develop coordinated water system plans in three areas.

- The *San Juan Island Critical Water Supply Service Area Coordinated Water System Plan* was drafted in September 1990. The plan evaluated the existing water systems constructed at that time, including: source capacity, storage, transmission, and shared facility potential. In addition service areas for existing water systems were established allowing for the water systems to become the exclusive water service providers within those areas.

- In 2003, the *Lopez Village Abbreviated Coordinated Water System Plan* was adopted, establishing design guidelines for new and expanding water systems and outlining a process to direct new growth to existing public water systems in the area rather than creating new water systems. This supports the ability of existing water systems to continue to provide safe and reliable drinking water to their service areas. The Coordinated Water System Plan was adopted in response to the establishment of the Lopez Village Critical Water Supply Service Area in 2001. The Critical Water Supply service area was designated due to questions about whether water quantity and quality were adequate for the growth that was occurring in the area during that time.

- The *Eastsound Water Supply and Abbreviated Coordinated Water System Plan* was adopted in 2008. This established Eastsound Water Users Association (EWUA) as the sole water purveyor within their service area and set standards for timely and reasonable service. This plan ensured that all new development within the EWUA service area is served by that water system and not by individual or smaller water systems in the area.

4.2.3 Climate Change Considerations

Based on the University of Washington report published in 2015, *State of Knowledge, Climate Change in Puget Sound*; the regional trend indicates that summer precipitation is likely to slightly decrease over time, with warmer, drier summers expected. However, periods of heavy rain may intensify during the spring months from March through May. The precipitation during these spring months from 1895 - 2014 has increased 27 percent for the region.

With ground and surface water resources dependent solely on precipitation to recharge, increasing periods of extended drought will require planning to ensure that adequate water supplies are available. Some large water systems in the County are implementing water use efficiency and conservation measures, and have served more users with less water. Implementation of such measures Countywide has the potential to ease demand on County water resources.

4.3 WATER SOURCES AND WATER USE OVERVIEW

4.3.1 Drinking Water Sources

San Juan County's potable water needs are served by a large variety of public water systems and private exempt wells. Approximately, forty percent of the County's population is served by Group A water systems (more than 14 connections), forty percent are served by private exempt wells, and the remaining twenty percent are connected to Group B water systems (3 to 14 connections).

The predominant fresh water source in San Juan County is groundwater. There are over 5000 wells in the County. Between fifty-five and sixty percent of the county population is served by groundwater pumped from wells.

Approximately thirty-five percent of the County's population relies upon surface water for their drinking water supply. The two largest community water systems in the County are the Town of Friday Harbor, which is supplied solely by surface water, and Eastsound Water Users Association, which utilizes a combination of surface and groundwater. A table listing the County's largest water systems by connections is shown in Table 4.3.1 below.

Table 4.3.1. San Juan County's Largest Water Systems.

	Water System	Island	Ownership	2018 Reported Connections
1	Friday Harbor, Town of	San Juan	Town	1835
2	Eastsound Water Users Association	Orcas	Association	1127
3	Roche Harbor Water System Inc.	San Juan	Investor	445
4	Doe Bay Water Users Association	Orcas	Association	279
5	Rosario	Orcas	Investor	227
6	Fisherman Bay Water Association	Lopez	Private	161
7	Cape San Juan Water District	San Juan	Special District	144
8	Center Island Water System	Center	Private	140
9	Olga Water Users Inc.	Orcas	Private	130
10	Blakely Is. Maintenance Commission	Blakley	Private	120
11	Orcas Highlands Association, Inc.	Orcas	Association	117
12	Decatur Northwest	Decatur	Private	88
13	The Oaks Mobile Home Park	San Juan	Private	80
14	Spring Point	Orcas	Association	70

*Source: WA Department of Health, Sentry Drinking Water Database

Besides the number of connections, water systems are also classified by the number of temporary or transient users that are served. Notably, Mountain and Cascade Lakes together in 2017, supplied surface water for approximately 800,000 temporary users of the Moran State Park, Rosario, and Doe Bay water systems.

There are over a dozen desalination facilities creating potable water in San Juan County, serving approximately 500 connections. In addition, San Juan County has historically approved new single family home development utilizing hauled water and rainwater catchment. Catchment is commonly used to augment a groundwater source. Because of its heavy reliance on local precipitation and infiltration for fresh water resources, the entire County is designated a Critical Aquifer Recharge Area.

4.3.1.1 Source Approval

San Juan County Code (SJCC) Chapter 8.06, administered by Health & Community Services (H&CS) contains minimum requirements for demonstrating a potable water source; as well as groundwater resource protection. The code applies to all potable water systems proposed for building permits and subdivisions. SJCC Chapter 8.06 complies with Growth Management Act (GMA) requirements for verification of water availability for building permits (RCW 19.27) and for subdivisions (RCW 58.17).

4.3.1.2 Water Requirements for Building

Prior to building permit approval, evidence of an adequate water supply must be provided in the permit application.

1. Community Water Systems - A written notice from the community water system purveyor is required verifying that a water connection is available.

2. Individual Wells - For individual well approvals, a water well report verifying well construction, water quality testing, and well yield testing are required. In addition, a water meter is required at the wellhead, and a 100-foot radius around the well establishing a sanitary control area. The following may also be required:

    (a) A seawater intrusion risk assessment is required where location and/or groundwater criteria indicate the potential for seawater intrusion.

    (b) If necessary, a hydrogeologic site evaluation performed by a Licensed Hydrogeologist is required.

3. Alternative water sources - Sources other than an individual well or connection to a public water system are also approved for a single-family residential building permit. Alternative sources require a recorded Operation and Maintenance covenant to be filed with the County Auditor. Alternative sources include shallow wells with unsatisfactory bacteriological tests; water systems yielding less than 200 gallons/day; hauled water systems; rainwater catchment; seawater treatment; and wells needing treatment for arsenic, barium, or fluoride.

4.3.1.3 Subdivision Requirements

An adequate water source for each new parcel is required prior to subdivision approval such as:

1. Connection to Community Water System. A written notice from the community water system purveyor is required to be submitted with the subdivision application. The letter must verify that

a water connection is available. Water services must be installed to the property line prior to subdivision approval.

2. New Community Water System or Individual Well. Applicants must demonstrate a minimum capacity of 1,000 gallons per day/connection, provide a current bacteriological sample and a complete inorganic chemical analysis. Wells must be drilled and tested to ensure that water is available prior to the creation of new lots.

4.3.1.4 Public Water Systems

Public water systems are those that serve more than three residential connections. They can also consist of water systems serving one connection if the public has access to water (i.e. restaurant, store, or church). In order to protect water resources, the County has established stringent minimum requirements when developing new water supplies to serve new subdivisions.

The San Juan County Board of Health adopted the first local drinking water code in August 1996, establishing rules and regulations for individual water wells and public water systems. There have been six revisions of the code since then, resulting in the current SJCC Chapter 8.06 *Water Wells and Water Systems.* This code adopts state drinking water and well construction rules by reference establishing standards for resource protection, monitoring, and management.

Requirements for new public water systems are:

- Proposed sources of groundwater for public water systems within one-quarter mile of an existing water system service area must apply to that system for service prior to drilling;

- All new public water systems using groundwater must demonstrate a source capacity of 1,000 gallons per day (gpd)/connection, but can design the system based on 350 gallons per day (gpd)/connection; and

- Water systems in areas designated as critical water resource areas, as part of their water system plans, must include resource protection including:

    - A conservation plan;

    - A water shortage contingency plan; and

    - Watershed control, and management strategies such as monthly meter readings, static level measurements, comprehensive monitoring, and coordination of well pumping with other water systems.

4.3.2 Other Water Use Sources

Nationally, over seventy percent of water use is associated with agriculture irrigation. San Juan County's agricultural sector irrigates with surface water from ponds and groundwater. There is no available data on the quantity of water resources being used for irrigation and agriculture in the County.

Other Industrial water uses consist of gravel mining operations and concrete manufacturing. It is presumed that the sources for these operations are groundwater. Similar to the agriculture sector, there is not good data on the quantity of water resources being used for this manufacturing sector in the County.

4.3.2.1 Agriculture Water Use

Forage production and livestock are the dominant agricultural practices in San Juan County. Small farm production of both vegetable and fruit crops is increasing. Over 13,000 acres has been designated 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.

4.3.3 Well Inventory

The County well inventory is quantified by the number of water well reports (well logs) on file. Well logs are available at H&CS or through the Department of Ecology website. Ecology has a record of approximately 5400 water well logs on file. All new wells must meet well site criteria to ensure that they are not impacted by potential sources of contamination.

4.4 GROUND AND SURFACE WATER PROTECTION

4.4.1 On-Site Sewage System permitting and Operation & Maintenance

Health and Community Services (H&CS) implements SJCC Chapter 8.16 On-Site Sewage System (OSS) Disposal to protect public health by minimizing exposure to untreated sewage. This includes inadequately treated discharges from OSS that can affect surface and ground water. Permitting requirements for on-site sewage systems include vertical separation to groundwater and horizontal separation to surface water adopted by reference from WAC 246-272A. In addition, H&CS administers an Operation and Maintenance (O&M) program that exceeds the requirements outlined in WAC 246-272A by requiring ongoing O&M inspections county wide, increasing the frequency at which inspections are required for food service establishments, and requiring O&M upgrades to be installed at the time of property sale.

4.4.2 Seawater Intrusion

In 2007, the San Juan County Board of Health revised SJCC Chapter 8.06 to include a Seawater Intrusion Protection section. This ensures that projects that have a potential to cause or contribute to seawater intrusion are evaluated to determine their impacts on the groundwater resource prior to a project decision being made. If the project is determined to have an impact on groundwater, the Health Officer

will approve with conditions designed to prevent degradation. Projects that cannot mitigate the impact of seawater intrusion on the groundwater resource may be modified or denied.

4.4.3 Water Monitoring

H&CS established groundwater quality monitoring networks in high priority areas of North Lopez and in Eastsound in 2008 utilizing grant funding. The network in Eastsound is managed and maintained by Eastsound Water Users Association (EWUA). The monitoring network on Lopez is monitored and maintained by H&CS staff at a low level with available staff and funding. The monitoring networks consist of data loggers installed in multiple wells, which gather static water level information. In addition, nitrate, chloride and conductivity parameters have been analyzed periodically since 2008 to assess impacts from seawater intrusion and human related nitrate loading to the aquifers.

Individual wells are required to monitor for water quality and submit that information to H&CS in order to obtain water availability approval for a building permit. The water quality information is entered and stored in a database maintained by H&CS.

4.5 STORM AND SURFACE WATER MANAGEMENT

The County established a Stormwater Utility (Utility) in 2005 to administer programs and projects to protect and improve water quality, water quantity management, and aquatic habitats. Storm water from impervious surfaces must be pre-treated and retained before discharge to natural surface waters (wetlands, streams, ponds). The County uses development design standards for storm water that follow the Department of Ecology's latest guidance, adapted and upgraded for conditions specific to San Juan County.

Watershed-scale system planning was completed in 2015 and is used, along with other technical and scientific information, to guide the Utility's Capital Improvement Program (CIP) for infrastructure upgrades to storm and surface waters. The projects are designed to retain fresh water on the landscape for groundwater recharge, manage excessive runoff, reduce bacteria and nutrient loading, and maintain cooler waters to buffer the impacts of climate change on water quality and cold water habitat.

Photo: San Juan County Public Works

The Utility works to ensure the storm and surface water system is adequately maintained and functional, in order to protect water quality, manage water quantity, and preserve aquatic habitats. Storm water runoff from impervious surfaces picks up contaminants that can impact our water quality if not properly treated. Protection and maintenance of the storm and surface water system also helps to reduce the risk of flooding of structures and roadways. Storm water infiltrates into groundwater, and drains to surface waters (streams, wetlands, ponds and their associated riparian areas) before entering the marine environment.

Since 2005, the Utility has largely focused on drainage planning, monitoring, and conveyance projects. In 2018, the County Council expanded the Utility beyond stormwater to fully address the community need to maintain water resources throughout the County. The Clean Water Utility will add water availability, water quality monitoring, aquifer protection, and protection of fish habitat to the existing stormwater planning, monitoring and conveyance programs.

4.6 NATURAL RESOURCES

4.6.1 Fish, Wildlife and Native Habitat

The complex geology of the San Juan Islands 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 consist of many islands that are in some cases small, disconnected, and often rocky, and for many of them protection is either recommended or is required by State or Federal law.

Photo: Phil Green

A stated goal of previous planning efforts is to use Best Available Science to ensure there is no net loss of the functions and values of wetlands and fish and wildlife habitat, giving special consideration to anadromous (migratory) and native fish.

4.6.2 Marine Waters - San Juan County Marine Stewardship Area

The marine waters of San Juan County were designated a Marine Stewardship Area (MSA) in 2004. The designation is designed to protect the unique and valuable marine resources of the islands, while allowing sustainable use to occur. A Marine Stewardship Area Plan, completed by the Marine Resources Committee in 2007 and approved by County Council, assessed conditions and recommended strategies to protect and improve resource conditions. The work is consistent with some of the Shoreline Master Program development standards currently in place.

The Marine Stewardship Area designation includes the Islands' uplands, shorelines and marine waters throughout the County. The quality of the marine waters are influenced by the freshwater runoff from the Islands as well as boating and vessel traffic, and activities of neighboring jurisdictions.

The County's Salmon Recovery Program also leverages surface water management for habitat benefits to aquatic species. Additional recovery planning for salmonid and native freshwater fish is currently underway, and will guide habitat restoration measures in high priority watersheds.

4.7 GOALS AND POLICIES

Goals

1. Protect and manage the quality and quantity of ground, surface, and marine waters by monitoring, preserving and enhancing hydrologic systems.

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

3. Work cooperatively with State and Federal agencies and coordinate protection and management of water resources and fish and wildlife habitat in the County.

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

5. Assign the policies included in this element to specific County department heads, who will establish a timeline and assign skilled staff to work on the development of the policies included in this Element.

6. Manage water resources in San Juan County by monitoring and measuring the amount of fresh water used for domestic, industrial and agricultural purposes and characterize the amount of water available from ground water and surface water sources.

7. Promote water conservation to ensure the availability of fresh water resources. Encourage low impact development practices such as rainwater catchment, onsite retention, water reuse and treatment of storm water.

8. Support existing water users and water uses that are compliant with Codes.

9. Develop community outreach to inform the public of the rights and responsibilities associated with their use of water as a public resource.

10. Ensure new development has adequate water availability prior to permitting to prevent impairment of existing users that include designated beneficial uses, and fish and wildlife habitat that rely on fresh water.

11. Coordinate water planning and protection efforts among 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.

12. Ensure that development does not impact water available for Agricultural Resource Lands to ensure their viability.

Policies

1. Develop an Advisory Committee web presence that the Clean Water Utility Committee can utilize and maintain. The site will provide current information on water resource issues, as well as adopted plans and data for use by the public and County Departments.

2. Develop and maintain a County-wide water budget that tracks water use from residential, agricultural, commercial and industrial uses.

3. Review and update codes as necessary to address seawater intrusion, new water source approval, Group B system oversight and support, available alternative water sources, and water resource data acquisition.

4. Fund and maintain the staff position of County Hydrogeologist to provide technical assistance to staff and property owners to protect ground and surface water and associated fish and wildlife habitat. Position would also support long-term monitoring, data collection, and trend analysis to ensure protection of water resources.

5. Develop a plan to identify and protect property with particular value for impacting water quality, quantity and recharge, in keeping with Land Bank's mission.

6. 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.

7. Encourage the retention of healthy native soils, vegetation and forest cover.

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

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

10. Protect and enhance wetlands, streams and their associated buffers and eliminate their conversion to other uses.

11. Establish and protect instream flows for anadromous and native fish to facilitate native fish passage.

12. Ensure that existing and new man made ponds are properly permitted to prevent: impediments to fish passage, increasing water temperatures, algal blooms, or harbor non-native and invasive species that have negative impacts to fish and wildlife.

13. Ensure adequate treatment of domestic wastewater from new and existing development through the County's on-site sewage O&M program.

14. Develop a water use efficiency program for the County's Group B water systems. This program

will track annual water use and efficiency, and require water systems to have a plan to achieve and maintain water use efficiency. The program will recognize systems with lowest water loss.

15. Require all new water well and surface water users to install a water meter that is capable of electronically reporting water use data.

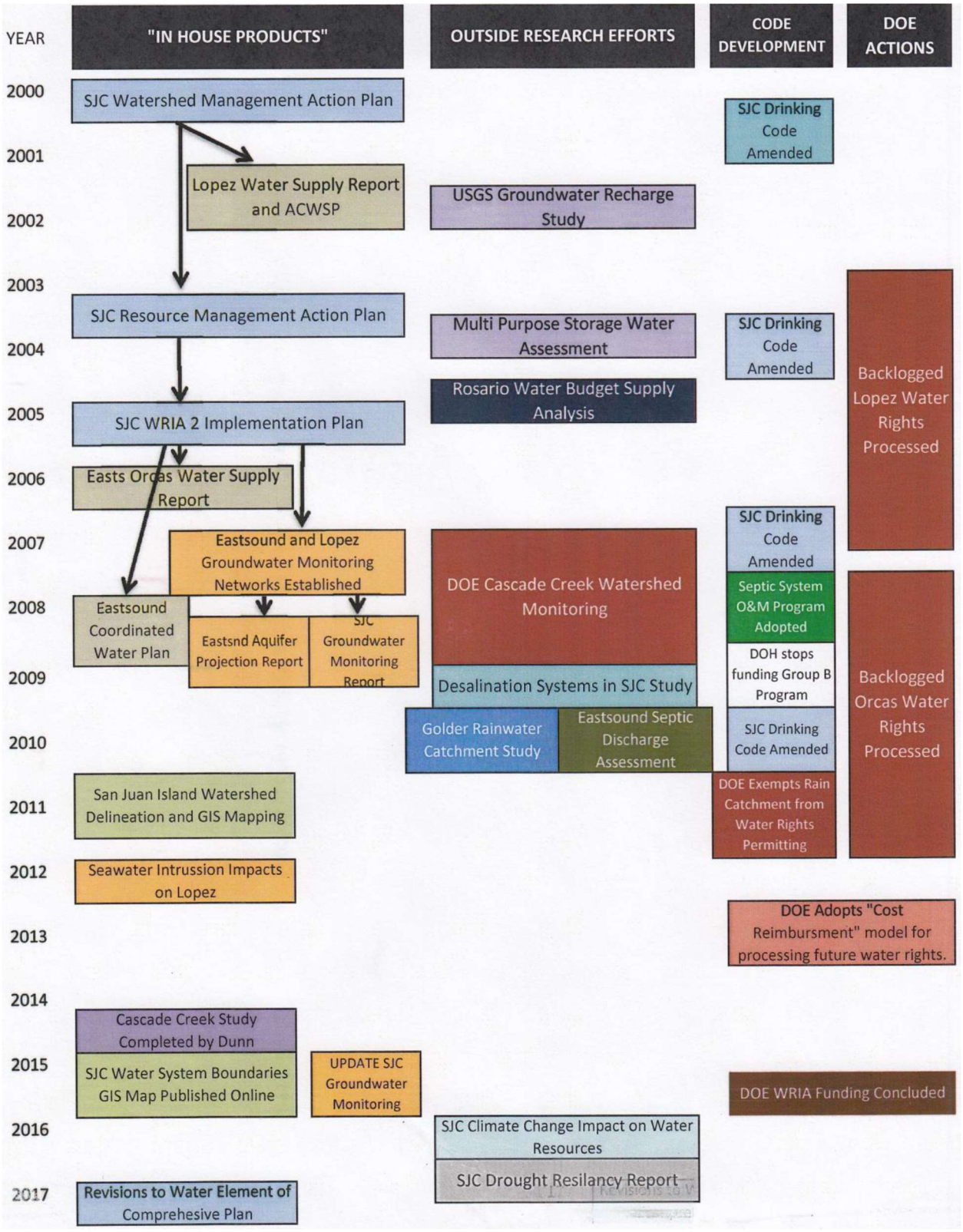
16. Create incentives for all existing water users to install a water meter that is capable of electronically reporting water use data.

17. Require all water hauling permit holders to report volume of water trucked for potable water use by month to the County annually.

18. Conduct a minimum of 20 Group B water system sanitary surveys per year.

19. Maintain a cooperative relationship with the water systems that supply the County's Urban Growth Areas to ensure that water system capacity is adequate to support anticipated growth.

Attachment A – San Juan County Water Resource Planning Chronology 2000-2017



Attachment B – Definitions

Gray Water - sewage from bathtubs, showers, bathroom sinks, washing machines, dishwashers, and kitchen sinks. It includes sewage from any source in a residence or structure that has not come into contact with toilet wastes.

Ground Water – water in a saturated zone or stratum beneath the surface of the ground.

Marine Waters – includes the waters of Puget Sound, including all water waterward of the ordinary high water mark, and related bays and estuaries.

Potable Water – water safe for human consumption.

Reclaimed Water – water derived in any part from a wastewater that has been adequately and reliably treated so that it can be used for beneficial purposes.

Storm Water – water runoff generated from rain and snowmelt events that flow over land or impervious surfaces, such as paved streets, parking lots, and building rooftops, and does not soak into the ground.

Surface Waters – any body of water, whether fresh or marine, flowing or contained in a natural or artificial unlined depressions for significant periods of the year, including lakes, ponds, springs, rivers, streams, swamps, marshes, and tidal waters.

Waste Water – wastewater is the water that leaves industries, businesses, farms, and homes. This includes water from plumbing fixtures, industrial processes, and land use activities, which contains contaminants and pollutants. These pollutants must be treated before it can be released back into the water environment.

Attachment C

San Juan County Clean Water Utility Six-Year CIP - Resolution No. 38 – 20

San Juan County Clean Water Utility

Project	Project #	Island	Previous Spending	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY 2025	Total Budget**
Lopez Village Ditch Retrofit to Bioswale	ST17020	Lopez	-	17,344	77,400	4,000	4,000	6,000	-	-	145,400
Weeks Wetland Bioswale	CW02190	Lopez	-	-	21,100	150,000	156,300	8,000	6,000	-	346,400
Lopez Village Farmers Market	CW01180	Lopez	73,500	3,182	355,400	55,000	6,000	5,000	-	-	541,400
Lopez Tide Gates	CW09190	Lopez	-	-	30,000	30,000	50,000	100,000	100,000	52,000	372,000
Lopez Island Subtotal			**73,500**	**20,526**	**483,900**	**239,000**	**216,300**	**119,000**	**106,000**	**52,000**	**1,405,200**
Pear Point Outfall	ST16040	San Juan	55,370	-	-	-	-	-	-	-	55,870
False Bay Creek Corridor Restoration	CW07190	San Juan	-	54,192	66,000	66,000	66,000	66,000	66,000	30,000	426,000
Garrison Creek Corridor Restoration	CW08190	San Juan	-	238	10,000	10,000	24,000	37,000	37,000	25,000	153,000
San Juan Island Subtotal			**55,370**	**54,430**	**76,000**	**76,000**	**90,000**	**103,000**	**103,000**	**55,000**	**634,870**
Madrona Street Bioswale	0	Orcas	-	-	10,000	17,000	51,500	8,000	500	-	87,000
Prune Alley Bioretention Planters	CW03190	Orcas	-	-	132,500	220,000	35,000	19,000	-	-	461,500
Fern Street Bioretention	CW04190	Orcas	-	-	23,500	171,550	15,000	6,000	-	-	233,250
Market Street Bioretention Planters	CW05190	Orcas	-	-	41,000	48,600	385,800	10,000	10,500	-	495,900
Orcas Village Bioretention Planters	0	Orcas	-	-	-	-	27,900	128,600	7,000	2,000	165,500
Cascade Creek Flow Restoration	0	Orcas	-	-	60,000	-	-	-	-	-	60,000
Fishtrap Creek Culvert Replacement	0	Orcas	-		25,000	125,000	-	-	-	-	150,000
Bayhead Creek Culvert Replacement	0	Orcas	-	-	25,000	-	125,000	-	-	-	150,000
West Sound Creek Corridor Restoration	CW06190	Orcas	-	1,802	20,000	34,080	34,080	35,080	35,080	35,080	203,400
Orcas Island Subtotal			**-**	**1,802**	**337,000**	**616,230**	**674,280**	**206,680**	**53,080**	**37,080**	**2,006,550**
Small Works Countywide	CW01190	All		3,182	50,000	50,000	50,000	50,000	50,000	50,000	350,000
Grand Total			**$128,870**	**$79,940**	**$946,900**	**$981,230**	**$1,030,580**	**$478,680**	**$312,080**	**$194,080**	**$4,396,620**

** Budget estimates are in 2018 dollars and should be adjusted annually to reflect market conditions; totals include previous spent dollars for projects

5 Year Average (2020-2024) $749,894

6 Year Average (2020-2025) $657,258

Project	Project #	Island	Clean Water Utility	State Grants	Federal Grants	Local Grants	Total	Funding Notes
Lopez Village Ditch Retrofit to Bioswale	ST17020	Lopez	47,900	-	97,500	-	145,400	Must be spent in 2 years
Weeks Wetland Bioswale	CW02190	Lopez	69,400	277,000	-	-	346,400	Planning funds only
Lopez Village Farmers Market	CW01180	Lopez	180,650	275,750	-	85,000	541,400	Finish grants substantially 2021
Lopez Tide Gates	CW09190	Lopez	372,000	-	-	-	372,000	
Lopez Island Subtotal			669,950	552,750	97,500	85,000	**1,405,200**	
Pear Point Outfall	ST16040	San Juan	55,870	-	-	-	55,870	
False Bay Creek Corridor Restoration	CW07190	San Juan	426,000	-	-	-	426,000	
Garrison Creek Corridor Restoration	CW08190	San Juan	153,000	-	-	-	153,000	
San Juan Island Subtotal			634,870	-	-	-	**634,870**	
Madrona Street Bioswale	0	Orcas	44,500	42,500	-	-	87,000	
Prune Alley Bioretention Planters	CW03190	Orcas	32,500	229,000	-	200,000	461,500	Ties to Prune alley construct 2020-22
Fern Street Bioretention	CW04190	Orcas	140,250	50,000	-	43,000	233,250	Ties to Prune alley construct 2020-22
Market Street Bioretention Planters	CW05190	Orcas	52,400	443,500	-	-	495,900	Install after Prune alley
Orcas Village Bioretention Planters	0	Orcas	165,500	-	-	-	165,500	
Cascade Creek Flow Restoration	0	Orcas	60,000	-	-	-	60,000	
Fishtrap Creek Culvert Replacement	0	Orcas	150,000	-	-	-	150,000	
Bayhead Creek Culvert Replacement	0	Orcas	150,000	-	-	-	150,000	
West Sound Creek Corridor Restoration	CW06190	Orcas	203,400	-	-	-	203,400	
Orcas Island Subtotal			998,550	765,000	-	243,000	**2,006,550**	
Small Works Countywide	CW01190	All	350,000	-	-	-	350,000	
Grand Total			**$2,653,370**	**$1,317,750**	**$97,500**	**$328,000**	**$4,396,620**	**Total Grants = $1,717,500**

ATTACHMENT B

COMPREHENSIVE PLAN

SECTION B, ELEMENT 4

WATER RESOURCES

PLANNING COMMISSION DRAFT

April 15, 2022

Supersedes April 2010

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ELEMENT 4 WATER RESOURCES

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4.1 INTRODUCTION

San Juan County strives to achieve integrated water resources management throughout its jurisdiction. The County gained greater understanding of its water resources over the last 20 years through several plans and studies (Attachment A). These efforts focused on resource protection through a common goal of non-degradation for all water types- including surface and storm waters, groundwater, and marine receiving waters (see Attachment B for complete definitions of water types). Managing for resiliency, in both water resources and our community, is critical to minimizing the impacts of change on the hydrology and aquatic habitats we and other species rely upon.

San Juan County relies on precipitation as the only source of freshwater. Precipitation that falls on each island is the only source of recharge for surface and groundwater supplies. The percentage of precipitation that actually becomes groundwater recharge is extremely low, often less than 10 percent.

The islands' 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 lower rainfall than other areas of Western Washington, limited groundwater storage, and extensive runoff and drainage to the Salish Sea. The freshwater available on each island is isolated by the surrounding marine waters, which make our groundwater supplies near the shorelines at risk of seawater intrusion.

Generally, water systems with wells located away from the shoreline have good water quality. However, some areas are experiencing seawater intrusion at this time. How we manage our water use for domestic and agricultural purposes, as well as treat and manage our storm and surface waters, is critical to ensuring all of our water resources are of the highest quality and quantity possible.

4.2 PLANNING

Since 2000, San Juan County has been active in water resource planning; adopting the Watershed Management Action Plan. This plan contained specific recommendations for addressing watershed contamination from several development, land use, and disposal related practices. The plan also resulted in the integration of several local organizations like the Lead Entity for Salmon Recovery and the Marine Resources Committee. These groups have completed several studies and projects to further understanding and improve fish habitat. The Water Resource Management Plan was adopted in 2004, addressing surface and groundwater quality and quantity issues, water rights, and existing water systems capacity to serve projected growth. Groundwater availability from exempt wells, alternative water supply options, and water source approval were discussed in the plan. The Plan was a springboard for future studies and research by the Water Resource Management Committee. The entire list of plans can be viewed in Attachment A.

4.2.1 Critical Aquifer Recharge Areas

The entire County has been designated a critical aquifer recharge area because the County's aquifers are highly susceptible to contamination. The County has development requirements to assure a safe and adequate water supply by protecting the quantity and quality of water available for recharge.

4.2.2 Coordinated Water System Planning

With the goal of improving service and protecting a shared resource, the County worked with water purveyors to develop coordinated water system plans in three areas.

- The *San Juan Island Critical Water Supply Service Area Coordinated Water System Plan* was drafted in September 1990. The plan evaluated the existing water systems constructed at that time, including: source capacity, storage, transmission, and shared facility potential. In addition service areas for existing water systems were established allowing for the water systems to become the exclusive water service providers within those areas.

- In 2003, the *Lopez Village Abbreviated Coordinated Water System Plan* was adopted, establishing design guidelines for new and expanding water systems and outlining a process to direct new growth to existing public water systems in the area rather than creating new water systems. This supports the ability of existing water systems to continue to provide safe and reliable drinking water to their service areas. The Coordinated Water System Plan was adopted in response to the establishment of the Lopez Village Critical Water Supply Service Area in 2001. The Critical Water Supply service area was designated due to questions about whether water quantity and quality were adequate for the growth that was occurring in the area during that time.

- The *Eastsound Water Supply and Abbreviated Coordinated Water System Plan* was adopted in 2008. This established Eastsound Water Users Association (EWUA) as the sole water purveyor within their service area and set standards for timely and reasonable service. This plan ensured that all new development within the EWUA service area is served by that water system and not by individual or smaller water systems in the area.

4.2.3 Climate Change Considerations

Based on the University of Washington report published in 2015, *State of Knowledge, Climate Change in Puget Sound*; the regional trend indicates that summer precipitation is likely to slightly decrease over time, with warmer, drier summers expected. However, periods of heavy rain may intensify during the spring months from March through May. The precipitation during these spring months from 1895 - 2014 has increased 27 percent for the region.

With ground and surface water resources dependent solely on precipitation to recharge, increasing periods of extended drought will require planning to ensure that adequate water supplies are available. Some large water systems in the County are implementing water use efficiency and conservation measures, and have served more users with less water. Implementation of such measures Countywide has the potential to ease demand on County water resources.

4.3 WATER SOURCES AND WATER USE OVERVIEW

4.3.1 Drinking Water Sources

San Juan County's potable water needs are served by a large variety of public water systems and private exempt wells. Approximately, forty percent of the County's population is served by Group A water systems (more than 14 connections), forty percent are served by private exempt wells, and the remaining twenty percent are connected to Group B water systems (3 to 14 connections).

The predominant fresh water source in San Juan County is groundwater. There are over 5000 wells in the County. Between fifty-five and sixty percent of the county population is served by groundwater pumped from wells.

Approximately thirty-five percent of the County's population relies upon surface water for their drinking water supply. The two largest community water systems in the County are the Town of Friday Harbor, which is supplied solely by surface water, and Eastsound Water Users Association, which utilizes a combination of surface and groundwater. A table listing the County's largest water systems by connections is shown in Table 4.3.1 below.

Table 4.3.1. San Juan County's Largest Water Systems.

	Water System	Island	Ownership	2018 Reported Connections
1	Friday Harbor, Town of	San Juan	Town	1835
2	Eastsound Water Users Association	Orcas	Association	1127
3	Roche Harbor Water System Inc.	San Juan	Investor	445
4	Doe Bay Water Users Association	Orcas	Association	279
5	Rosario	Orcas	Investor	227
6	Fisherman Bay Water Association	Lopez	Private	161
7	Cape San Juan Water District	San Juan	Special District	144
8	Center Island Water System	Center	Private	140
9	Olga Water Users Inc.	Orcas	Private	130
10	Blakely Is. Maintenance Commission	Blakley	Private	120
11	Orcas Highlands Association, Inc.	Orcas	Association	117
12	Decatur Northwest	Decatur	Private	88
13	The Oaks Mobile Home Park	San Juan	Private	80
14	Spring Point	Orcas	Association	70

*Source: WA Department of Health, Sentry Drinking Water Database

Besides the number of connections, water systems are also classified by the number of temporary or transient users that are served. Notably, Mountain and Cascade Lakes together in 2017, supplied surface water for approximately 800,000 temporary users of the Moran State Park, Rosario, and Doe Bay water systems.

There are over a dozen desalination facilities creating potable water in San Juan County, serving approximately 500 connections. In addition, San Juan County has historically approved new single family home development utilizing hauled water and rainwater catchment. Catchment is commonly used to augment a groundwater source. Because of its heavy reliance on local precipitation and infiltration for fresh water resources, the entire County is designated a Critical Aquifer Recharge Area.

4.3.1.1 Source Approval

San Juan County Code (SJCC) Chapter 8.06, administered by Health & Community Services (H&CS) contains minimum requirements for demonstrating a potable water source; as well as groundwater resource protection. The code applies to all potable water systems proposed for building permits and subdivisions. SJCC Chapter 8.06 complies with Growth Management Act (GMA) requirements for verification of water availability for building permits (RCW 19.27) and for subdivisions (RCW 58.17).

4.3.1.2 Water Requirements for Building

Prior to building permit approval, evidence of an adequate water supply must be provided in the permit application.

1. Community Water Systems - A written notice from the community water system purveyor is required verifying that a water connection is available.

2. Individual Wells - For individual well approvals, a water well report verifying well construction, water quality testing, and well yield testing are required. In addition, a water meter is required at the wellhead, and a 100-foot radius around the well establishing a sanitary control area. The following may also be required:

    (a) A seawater intrusion risk assessment is required where location and/or groundwater criteria indicate the potential for seawater intrusion.

    (b) If necessary, a hydrogeologic site evaluation performed by a Licensed Hydrogeologist is required.

3. Alternative water sources - Sources other than an individual well or connection to a public water system are also approved for a single-family residential building permit. Alternative sources require a recorded Operation and Maintenance covenant to be filed with the County Auditor. Alternative sources include shallow wells with unsatisfactory bacteriological tests; water systems yielding less than 200 gallons/day; hauled water systems; rainwater catchment; seawater treatment; and wells needing treatment for arsenic, barium, or fluoride.

4.3.1.3 Subdivision Requirements

An adequate water source for each new parcel is required prior to subdivision approval such as:

1. Connection to Community Water System. A written notice from the community water system purveyor is required to be submitted with the subdivision application. The letter must verify that

a water connection is available. Water services must be installed to the property line prior to subdivision approval.

2. New Community Water System or Individual Well. Applicants must demonstrate a minimum capacity of 1,000 gallons per day/connection, provide a current bacteriological sample and a complete inorganic chemical analysis. Wells must be drilled and tested to ensure that water is available prior to the creation of new lots.

4.3.1.4 Public Water Systems

Public water systems are those that serve more than three residential connections. They can also consist of water systems serving one connection if the public has access to water (i.e. restaurant, store, or church). In order to protect water resources, the County has established stringent minimum requirements when developing new water supplies to serve new subdivisions.

The San Juan County Board of Health adopted the first local drinking water code in August 1996, establishing rules and regulations for individual water wells and public water systems. There have been six revisions of the code since then, resulting in the current SJCC Chapter 8.06 *Water Wells and Water Systems.* This code adopts state drinking water and well construction rules by reference establishing standards for resource protection, monitoring, and management.

Requirements for new public water systems are:

- Proposed sources of groundwater for public water systems within one-quarter mile of an existing water system service area must apply to that system for service prior to drilling;

- All new public water systems using groundwater must demonstrate a source capacity of 1,000 gallons per day (gpd)/connection, but can design the system based on 350 gallons per day (gpd)/connection; and

- Water systems in areas designated as critical water resource areas, as part of their water system plans, must include resource protection including:

    - A conservation plan;

    - A water shortage contingency plan; and

    - Watershed control, and management strategies such as monthly meter readings, static level measurements, comprehensive monitoring, and coordination of well pumping with other water systems.

4.3.2 Other Water Use Sources

Nationally, over seventy percent of water use is associated with agriculture irrigation. San Juan County's agricultural sector irrigates with surface water from ponds and groundwater. There is no available data on the quantity of water resources being used for irrigation and agriculture in the County.

Other Industrial water uses consist of gravel mining operations and concrete manufacturing. It is presumed that the sources for these operations are groundwater. Similar to the agriculture sector, there is not good data on the quantity of water resources being used for this manufacturing sector in the County.

4.3.2.1 Agriculture Water Use

Forage production and livestock are the dominant agricultural practices in San Juan County. Small farm production of both vegetable and fruit crops is increasing. Over 13,000 acres has been designated 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.

4.3.3 Well Inventory

The County well inventory is quantified by the number of water well reports (well logs) on file. Well logs are available at H&CS or through the Department of Ecology website. Ecology has a record of approximately 5400 water well logs on file. All new wells must meet well site criteria to ensure that they are not impacted by potential sources of contamination.

4.4 GROUND AND SURFACE WATER PROTECTION

4.4.1 On-Site Sewage System permitting and Operation & Maintenance

Health and Community Services (H&CS) implements SJCC Chapter 8.16 On-Site Sewage System (OSS) Disposal to protect public health by minimizing exposure to untreated sewage. This includes inadequately treated discharges from OSS that can affect surface and ground water. Permitting requirements for on-site sewage systems include vertical separation to groundwater and horizontal separation to surface water adopted by reference from WAC 246-272A. In addition, H&CS administers an Operation and Maintenance (O&M) program that exceeds the requirements outlined in WAC 246-272A by requiring ongoing O&M inspections county wide, increasing the frequency at which inspections are required for food service establishments, and requiring O&M upgrades to be installed at the time of property sale.

4.4.2 Seawater Intrusion

In 2007, the San Juan County Board of Health revised SJCC Chapter 8.06 to include a Seawater Intrusion Protection section. This ensures that projects that have a potential to cause or contribute to seawater intrusion are evaluated to determine their impacts on the groundwater resource prior to a project decision being made. If the project is determined to have an impact on groundwater, the Health Officer

will approve with conditions designed to prevent degradation. Projects that cannot mitigate the impact of seawater intrusion on the groundwater resource may be modified or denied.

4.4.3 Water Monitoring

H&CS established groundwater quality monitoring networks in high priority areas of North Lopez and in Eastsound in 2008 utilizing grant funding. The network in Eastsound is managed and maintained by Eastsound Water Users Association (EWUA). The monitoring network on Lopez is monitored and maintained by H&CS staff at a low level with available staff and funding. The monitoring networks consist of data loggers installed in multiple wells, which gather static water level information. In addition, nitrate, chloride and conductivity parameters have been analyzed periodically since 2008 to assess impacts from seawater intrusion and human related nitrate loading to the aquifers.

Individual wells are required to monitor for water quality and submit that information to H&CS in order to obtain water availability approval for a building permit. The water quality information is entered and stored in a database maintained by H&CS.

4.5 STORM AND SURFACE WATER MANAGEMENT

The County established a Stormwater Utility (Utility) in 2005 to administer programs and projects to protect and improve water quality, water quantity management, and aquatic habitats. Storm water from impervious surfaces must be pre-treated and retained before discharge to natural surface waters (wetlands, streams, ponds). The County uses development design standards for storm water that follow the Department of Ecology's latest guidance, adapted and upgraded for conditions specific to San Juan County.

Watershed-scale system planning was completed in 2015 and is used, along with other technical and scientific information, to guide the Utility's Capital Improvement Program (CIP) for infrastructure upgrades to storm and surface waters. The projects are designed to retain fresh water on the landscape for groundwater recharge, manage excessive runoff, reduce bacteria and nutrient loading, and maintain cooler waters to buffer the impacts of climate change on water quality and cold water habitat.

Photo: San Juan County Public Works

The Utility works to ensure the storm and surface water system is adequately maintained and functional, in order to protect water quality, manage water quantity, and preserve aquatic habitats. Storm water runoff from impervious surfaces picks up contaminants that can impact our water quality if not properly treated. Protection and maintenance of the storm and surface water system also helps to reduce the risk of flooding of structures and roadways. Storm water infiltrates into groundwater, and drains to surface waters (streams, wetlands, ponds and their associated riparian areas) before entering the marine environment.

Since 2005, the Utility has largely focused on drainage planning, monitoring, and conveyance projects. In 2018, the County Council expanded the Utility beyond stormwater to fully address the community need to maintain water resources throughout the County. The Clean Water Utility will add water availability, water quality monitoring, aquifer protection, and protection of fish habitat to the existing stormwater planning, monitoring and conveyance programs.

4.6 NATURAL RESOURCES

4.6.1 Fish, Wildlife and Native Habitat

The complex geology of the San Juan Islands 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 consist of many islands that are in some cases small, disconnected, and often rocky, and for many of them protection is either recommended or is required by State or Federal law.

Photo: Phil Green

A stated goal of previous planning efforts is to use Best Available Science to ensure there is no net loss of the functions and values of wetlands and fish and wildlife habitat, giving special consideration to anadromous (migratory) and native fish.

4.6.2 Marine Waters - San Juan County Marine Stewardship Area

The marine waters of San Juan County were designated a Marine Stewardship Area (MSA) in 2004. The designation is designed to protect the unique and valuable marine resources of the islands, while allowing sustainable use to occur. A Marine Stewardship Area Plan, completed by the Marine Resources Committee in 2007 and approved by County Council, assessed conditions and recommended strategies to protect and improve resource conditions. The work is consistent with some of the Shoreline Master Program development standards currently in place.

The Marine Stewardship Area designation includes the Islands' uplands, shorelines and marine waters throughout the County. The quality of the marine waters are influenced by the freshwater runoff from the Islands as well as boating and vessel traffic, and activities of neighboring jurisdictions.

The County's Salmon Recovery Program also leverages surface water management for habitat benefits to aquatic species. Additional recovery planning for salmonid and native freshwater fish is currently underway, and will guide habitat restoration measures in high priority watersheds.

4.7 GOALS AND POLICIES

NOTE ON DRAFT: Changes made by the Planning Commission since the last County Council review in 2019 are shown in highlighted strikeout/underline.

Goals

1. Protect and manage the quality and quantity of ground, surface, and marine waters by monitoring, preserving and enhancing hydrologic systems.

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

3. Work cooperatively with State and Federal agencies and coordinate protection and management of water resources and fish and wildlife habitat in the County.

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

5. Assign the policies included in this element to specific County department heads, who will establish a timeline and assign skilled staff to work on the development of the policies included in this Element.

6. ~~Manage water resources in San Juan County by~~ Explore methods of monitoring and measuring the amount of fresh water used for domestic, industrial and agricultural purposes and characterize the amount of water available from ground water and surface water sources to enable water resource management.

7. Promote water conservation to ensure the availability of fresh water resources. Encourage low impact development practices such as rainwater catchment, onsite retention, water reuse and treatment of storm, and gray water.

8. Support existing water users and water uses that are compliant with Codes.

9. Develop community outreach to inform the public of the rights and responsibilities associated with their use of water as a public resource.

10. Ensure new development has adequate water availability prior to permitting to prevent impairment of existing users that include designated beneficial uses, and fish and wildlife habitat that rely on fresh water.

11. Coordinate water planning and protection efforts among 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~~.

12. ~~Ensure that development does not impact water available for Agricultural Resource Lands to ensure their viability.~~ Establish policies regarding rain catchment systems.

13. Encourage policies that support water availability in response to climate change.

14. Encourage responsible use of water.

Policies

1. Develop an Advisory Committee web presence that the Clean Water Utility Committee can utilize and maintain. The site will provide current information on water resource issues, as well as adopted plans and data for use by the public and County Departments.

2. Develop and maintain a County-wide water budget that tracks water use from residential, agricultural, commercial and industrial uses.

3. Review and update codes as necessary to address seawater intrusion, new water source approval, Group B system oversight and support, available alternative water sources, and water resource data acquisition.

4. Fund and maintain the staff position of County Hydrogeologist to provide technical assistance to staff and property owners to protect ground and surface water and associated fish and wildlife habitat. Position would also support long-term monitoring, data collection, and trend analysis to ensure protection of water resources.

5. Develop a plan to identify and protect property with particular value for impacting water quality, quantity and recharge, in keeping with Land Bank's mission.

6. 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.

7. Encourage the retention of healthy native soils, vegetation and forest cover where related to water quality.

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

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

10. Protect and enhance wetlands, streams and their associated buffers and ~~eliminate~~ mitigate their conversion to other uses.

11. Establish and protect instream flows for anadromous and native fish to facilitate native fish passage.

~~12. Ensure that existing and new man made ponds are properly permitted to prevent: impediments to fish passage, increasing water temperatures, algal blooms, or harbor non-native and invasive species that have negative impacts to fish and wildlife.~~

~~13. Ensure adequate treatment of domestic wastewater from new and existing development through the County's on-site sewage O&M program.~~

14. Develop a water use efficiency program for the County's Group B water systems. This program will track annual water use and efficiency and require water systems to have a plan to achieve and maintain water use efficiency. The program will recognize systems with lowest water loss.

~~15. Require all new water well and surface water users to install a water meter that is capable of electronically reporting water use data.~~

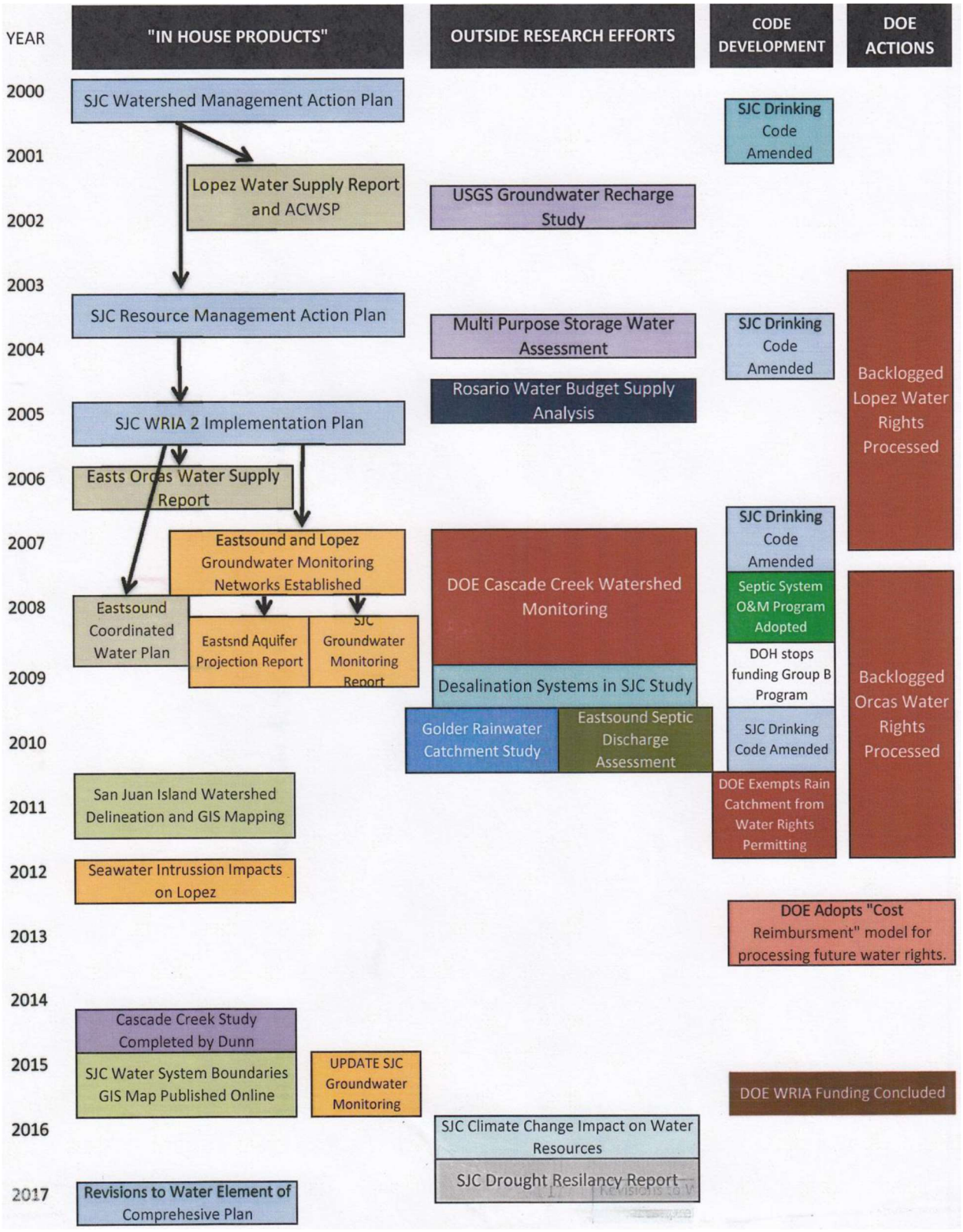
16. Create incentives for all new and existing water users to install a water meter that is capable of electronically reporting water use data.

17. Require all water hauling permit holders to report source and volume of water trucked for potable water use by month to the County annually.

~~18. Conduct a minimum of 20 Group B water system sanitary surveys per year.~~

~~19. Maintain a cooperative relationship with the water systems that supply the County's Urban Growth Areas to ensure that water system capacity is adequate to support anticipated growth.~~

Attachment A – San Juan County Water Resource Planning Chronology 2000-2017



Attachment B – Definitions

Gray Water - sewage from bathtubs, showers, bathroom sinks, washing machines, dishwashers, and kitchen sinks. It includes sewage from any source in a residence or structure that has not come into contact with toilet wastes.

Ground Water – water in a saturated zone or stratum beneath the surface of the ground.

Marine Waters – includes the waters of Puget Sound, including all water waterward of the ordinary high water mark, and related bays and estuaries.

Potable Water – water safe for human consumption.

Reclaimed Water – water derived in any part from a wastewater that has been adequately and reliably treated so that it can be used for beneficial purposes.

Storm Water – water runoff generated from rain and snowmelt events that flow over land or impervious surfaces, such as paved streets, parking lots, and building rooftops, and does not soak into the ground.

Surface Waters – any body of water, whether fresh or marine, flowing or contained in a natural or artificial unlined depressions for significant periods of the year, including lakes, ponds, springs, rivers, streams, swamps, marshes, and tidal waters.

Waste Water – wastewater is the water that leaves industries, businesses, farms, and homes. This includes water from plumbing fixtures, industrial processes, and land use activities, which contains contaminants and pollutants. These pollutants must be treated before it can be released back into the water environment.

Attachment C

San Juan County Clean Water Utility Six-Year CIP - Resolution No. 38 – 20

San Juan County Clean Water Utility

Project	Project #	Island	Previous Spending	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY 2025	Total Budget**
Lopez Village Ditch Retrofit to Bioswale	ST17020	Lopez	-	17,344	77,400	4,000	4,000	6,000	-	-	145,400
Weeks Wetland Bioswale	CW02190	Lopez	-	-	21,100	150,000	156,300	8,000	6,000	-	346,400
Lopez Village Farmers Market	CW01180	Lopez	73,500	3,182	355,400	55,000	6,000	5,000	-	-	541,400
Lopez Tide Gates	CW09190	Lopez	-	-	30,000	30,000	50,000	100,000	100,000	52,000	372,000
Lopez Island Subtotal			**73,500**	**20,526**	**483,900**	**239,000**	**216,300**	**119,000**	**106,000**	**52,000**	**1,405,200**
Pear Point Outfall	ST16040	San Juan	55,370	-	-	-	-	-	-	-	55,870
False Bay Creek Corridor Restoration	CW07190	San Juan	-	54,192	66,000	66,000	66,000	66,000	66,000	30,000	426,000
Garrison Creek Corridor Restoration	CW08190	San Juan	-	238	10,000	10,000	24,000	37,000	37,000	25,000	153,000
San Juan Island Subtotal			**55,370**	**54,430**	**76,000**	**76,000**	**90,000**	**103,000**	**103,000**	**55,000**	**634,870**
Madrona Street Bioswale	0	Orcas	-	-	10,000	17,000	51,500	8,000	500	-	87,000
Prune Alley Bioretention Planters	CW03190	Orcas	-	-	132,500	220,000	35,000	19,000	-	-	461,500
Fern Street Bioretention	CW04190	Orcas	-	-	23,500	171,550	15,000	6,000	-	-	233,250
Market Street Bioretention Planters	CW05190	Orcas	-	-	41,000	48,600	385,800	10,000	10,500	-	495,900
Orcas Village Bioretention Planters	0	Orcas	-	-	-	-	27,900	128,600	7,000	2,000	165,500
Cascade Creek Flow Restoration	0	Orcas	-	-	60,000	-	-	-	-	-	60,000
Fishtrap Creek Culvert Replacement	0	Orcas	-		25,000	125,000	-	-	-	-	150,000
Bayhead Creek Culvert Replacement	0	Orcas	-	-	25,000	-	125,000	-	-	-	150,000
West Sound Creek Corridor Restoration	CW06190	Orcas	-	1,802	20,000	34,080	34,080	35,080	35,080	35,080	203,400
Orcas Island Subtotal			**-**	**1,802**	**337,000**	**616,230**	**674,280**	**206,680**	**53,080**	**37,080**	**2,006,550**
Small Works Countywide	CW01190	All		3,182	50,000	50,000	50,000	50,000	50,000	50,000	350,000
Grand Total			**$128,870**	**$79,940**	**$946,900**	**$981,230**	**$1,030,580**	**$478,680**	**$312,080**	**$194,080**	**$4,396,620**

** Budget estimates are in 2018 dollars and should be adjusted annually to reflect market conditions; totals include previous spent dollars for projects

5 Year Average (2020-2024) $749,894

6 Year Average (2020-2025) $657,258

Project	Project #	Island	Clean Water Utility	State Grants	Federal Grants	Local Grants	Total	Funding Notes
Lopez Village Ditch Retrofit to Bioswale	ST17020	Lopez	47,900	-	97,500	-	145,400	Must be spent in 2 years
Weeks Wetland Bioswale	CW02190	Lopez	69,400	277,000	-	-	346,400	Planning funds only
Lopez Village Farmers Market	CW01180	Lopez	180,650	275,750	-	85,000	541,400	Finish grants substantially 2021
Lopez Tide Gates	CW09190	Lopez	372,000	-	-	-	372,000	
Lopez Island Subtotal			669,950	552,750	97,500	85,000	**1,405,200**	
Pear Point Outfall	ST16040	San Juan	55,870	-	-	-	55,870	
False Bay Creek Corridor Restoration	CW07190	San Juan	426,000	-	-	-	426,000	
Garrison Creek Corridor Restoration	CW08190	San Juan	153,000	-	-	-	153,000	
San Juan Island Subtotal			634,870	-	-	-	**634,870**	
Madrona Street Bioswale	0	Orcas	44,500	42,500	-	-	87,000	
Prune Alley Bioretention Planters	CW03190	Orcas	32,500	229,000	-	200,000	461,500	Ties to Prune alley construct 2020-22
Fern Street Bioretention	CW04190	Orcas	140,250	50,000	-	43,000	233,250	Ties to Prune alley construct 2020-22
Market Street Bioretention Planters	CW05190	Orcas	52,400	443,500	-	-	495,900	Install after Prune alley
Orcas Village Bioretention Planters	0	Orcas	165,500	-	-	-	165,500	
Cascade Creek Flow Restoration	0	Orcas	60,000	-	-	-	60,000	
Fishtrap Creek Culvert Replacement	0	Orcas	150,000	-	-	-	150,000	
Bayhead Creek Culvert Replacement	0	Orcas	150,000	-	-	-	150,000	
West Sound Creek Corridor Restoration	CW06190	Orcas	203,400	-	-	-	203,400	
Orcas Island Subtotal			998,550	765,000	-	243,000	**2,006,550**	
Small Works Countywide	CW01190	All	350,000	-	-	-	350,000	
Grand Total			**$2,653,370**	**$1,317,750**	**$97,500**	**$328,000**	**$4,396,620**	**Total Grants = $1,717,500**