

# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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## Appendix H: Summary of Island County Plans and Programs

Island County has proactively achieved a technical understanding of its water resources through numerous studies. Based on this knowledge, a number of water supply and groundwater resource protection and management plans and policies have been adopted and implemented. Island County plans and programs manage adequacy and protection of the resource through a common goal of non-degradation, and include the following:

- 1979 – 1983 USGS Water Resource Study
- 1982 EPA Sole Source Aquifer Designation
- 1985 Designation of Island County as a Critical Water Supply Service Area per 70.116 RCW
- 1989 Adoption of Island County Seawater Intrusion Policy
- 1990 Adoption of Island County Coordinated Water System Plan (CWSP) per 70.116 RCW
- 1990 Adoption of ICC 13.03A, Water System and Fire Flow Standards
- 1990 Memorandum of Understanding between Island County and State Department of Ecology on Water Resource Planning, Management, and Permitting Activities
- 1990 Adoption of ICC Chapter 8.09, Potable Water Source and Supply per GMA requirements 19.27 and 58.17 RCW
- 1991 Adoption of Groundwater Management Program (GWMP) per 90.44 RCW
- 1992 Revision of ICC Chapter 8.09 to include Critical Recharge Area Requirements pursuant to State Growth Management Act
- 1996 Hydrologist and data-entry staff support hired for monitoring, database development and maintenance, resource management, groundwater evaluations, and development of groundwater flow and seawater intrusion models
- 1997 Island County Comprehensive Storm Water and Flood Hazard Management Plan
- 1997 Adoption of North Whidbey Non-Point Pollution Prevention Action Plan
- 1998 Adoption of Water Resources Element of the Island County Comprehensive Plan

# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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| 2003        | Adoption of Central/South Whidbey Non-Point Pollution Prevention Action Plan                    |
| 1997 – 2003 | Island County and USGS cooperative Groundwater Recharge Study (Sumioka and Bauer, USGS 03-4101) |
| 2005        | Adoption of Whidbey and Camano Island Multi-Species Salmon Recovery Plan                        |

Island County has shown foresight in proactively managing the groundwater resource. In many cases, such as the Seawater Intrusion Policy and aquifer testing requirements, Island County has led the State in developing resource evaluation and management policies and has successfully worked to incorporate these policies into State approvals regarding Island County water resources.

The existing water quality and water level monitoring program, comprehensive database, and construction of groundwater flow and seawater intrusion models provides Best Available Science for determining adequacy and detecting trends. These integrated programs provide the technical basis for determining future groundwater capacity and future land use development prior to project approval.

Many of the above plans and programs were foundational to the development of the Island County Water Resource Management Plan. Those most relevant are summarized below.

## Coordinated Water System Plan (1990)

The Island County Coordinated Water System Plan (CWSP) contains forty-three recommendations in the areas of administration, water resource strategy, water purveyor planning and operations and land use strategy.

Preparation of the CWSP was preceded by a 1985 assessment of water system issues in Island County. Issues addressed in the 1985 assessment were: proliferation of small water systems, limits of groundwater availability, lack of coordination between adjacent water utilities, water quality problems, operations and management of small water systems and lack of consistency between water system planning and county land use policies.

The CWSP lists its priorities as follows: public education, conservation technical and financial assistance programs, shared facilities development, groundwater management, funding and future planning. Section One of the CWSP contains the following recommendations:

### Administration

- Create regional water associations to facilitate coordinating shared facilities and system management
- No new water systems unless they have a county-approved water system plan

# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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- County should review water right applications to determine availability of water
- Water utilities should meet minimum fire flow standards.

## Water Resources Strategy

- Water purveyors should continue to rely upon local groundwater
- Water should be monitored for both quality and quantity
- County should maintain a groundwater database
- County should adopt a Groundwater Management Plan
- Purveyors should have contingency plans in the event of source failure
- County should adopt a water conservation policy

## Water Purveyor Planning and Operations

- Expanding systems must submit a comprehensive water system plan to the county
- Purveyors should consider interties with adjacent facilities and size their facilities accordingly
- Purveyors must consider water conservation measures such as installation of meters, rate structures that encourage conservation, leak detection programs, etc.

## Land Use Strategy

- Water utilities should be sized appropriately and be consistent with county land use policies
- County should be a major coordinator of domestic water supplies
- County must adopt a sewage plan, etc.

The remainder of the CWSP contains detailed discussions as follows:

- Section Two: Coordinated Water System Plan Process
- Section Three: Planning Data and Future Water Supply Needs
- Section Four: Assessment of Existing Water Supply Systems
- Section Five: Water Use Efficiency
- Section Six: County-Wide Water Supply Policies (maps of service area boundaries)
- Section Seven: Regional Water Supply Plan (evaluates what water supply facilities will likely be required in the future, including opportunities for interties)
- Appendices (Volume 2):
  - Background Ordinances and Regulations
  - Individual Water System Plan Guidelines
  - Population and Demand Forecasts
  - Water System Data
  - Water Right Tables
  - Service Area Agreements

# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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Minimum Design Standards  
Regional Water Association Sample Documents  
Satellite System Management Agreements  
Groundwater Resource Evaluation  
Seawater Intrusion Policy  
Water Importation Study

## Groundwater Management Program (1991)

The Groundwater Management Program (GWMP) recommends fourteen management strategies/programs. The following paragraphs address each strategy, its current status and future plans (if any) for implementation of these program goals. Core issues in implementing the GWMP stem from lack of funding, staffing and resources. Consistent funding sources are needed to systematically implement CWSP elements.

### Education Program

The purpose of this program element is to elevate awareness of water resource issues. The Island County Health Department (ICHD) is regularly involved in the development and dissemination of educational materials related to groundwater use and protection. Current programs also address nonpoint pollution sources such as on-site sewage treatment systems. Regulatory and technical seminars are regularly offered to the public. Grant funding has been obtained in the past to develop water conservation packets, a school groundwater program, and a short-term outreach program.

### Technical Assistance Program

The purpose of this program is to assist and provide technical support to water system managers, private well owners, and any other citizens requesting assistance. Technical assistance for both public water systems and individual well owners is available from ICHD Water Program staff and is provided to the public upon request. In addition, ICHD staff provides assistance following the submission of unsatisfactory water quality results or emergency situations. A fee structure is in place to handle information requests, which require extensive staff time.

In addition, the county Hydrogeologist regularly provides water quality, stratigraphic, well construction, and water level data upon request. This technical support is provided to water well drillers, engineering and hydrogeologic consultants, and county, state, and federal employees. The hydrogeologic database and mapping system allows for significant amounts of data to be reviewed and analyzed in a relatively short amount of time.

# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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## Conservation Program

The purpose of this program is to encourage efficient use of groundwater. Water conservation is encouraged by metering, and so all new potable water wells are required to be metered whether for public or individual use. For public water systems, both source and individual meters are required. Use-based rate structures and conservation practices are implemented through the adoption of Operation and Maintenance Agreements. The county's Seawater Intrusion Policy also requires the adoption of conservation measures in medium or high-risk areas. All water systems are encouraged to voluntarily adopt use-based rate structures to discourage overuse.

## Data Collection and Management Program

The purpose of this program is to allow for early detection of unfavorable trends in either groundwater quality or quantity and to refine existing groundwater recharge estimates. Groundwater quantity and quality analysis is a long-term, ongoing project. The Island County Health Department currently manages the county's groundwater database. Six data categories were identified as part of this program element: 1). Well Inventory, 2). Water Level Monitoring, 3). Groundwater Withdrawal Monitoring, 4). Water Quality Monitoring, 5). Weather and Runoff Data Collection, and 6). Runoff Data Collection.

## Seawater Intrusion Policy and Groundwater Development Matrix

The purpose of this program is to provide an objective and technically sound basis for permitting withdrawals in Island County and to protect existing and potential users from adverse affects to groundwater quality or quantity. Upon review of the matrix, the ICHD determined that the Seawater Intrusion Policy (1989) is a more comprehensive tool. The Seawater Intrusion Policy requires extensive pump testing and monitoring to prove (or disprove) the resource availability prior to well site approval or public use of the well. The county has updated the Seawater Intrusion Policy based on current Best Available Science, and is in the process of moving the Seawater Intrusion Policy into Island County Code.

## Groundwater Availability Criteria (Program)

This program was completed in 1992 and has been an effective tool.

## Revise Water Resource Ordinance (ICC 8.09)

The purpose of this program element is to strengthen its testing requirements for ensuring adequate water supply. ICC 8.09 was adopted in July 1990 to determine the potability of a water supply prior to building permit issuance. This code is of particular importance in its requirements for individual wells and the establishment of siting criteria prior to drilling. ICC 8.09 also imposes requirements on proposed subdivisions assuring water availability prior to subdivision. In all cases assurance of

# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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water availability is accomplished by drilling and testing prior to any land-use approvals.

ICC 8.09.097 (Critical Recharge Area Protection) was adopted in 1992 and is implemented through the land-use application review process. Proposed projects are evaluated from the potential for groundwater contamination and are required to institute Best Management Practices (BMPs) to mitigate potential impacts to groundwater resources. In some cases, hydrologic site evaluations are conducted prior to review of projects to determine the potential for impacts. Due to Island County's Sole Source Aquifer designation, all proposed projects within the county are subject to such review if necessary.

## Revise Land Development Standards (ICC 11.01)

The purpose of this program is to require consideration of recharge as an alternative to directing water off site. Using the 2003 USGS Groundwater Recharge Study, the ICHD hopes to evaluate areas within the county where artificial recharge may be feasible. Revisions to ICC 11.01 will be addressed after this evaluation is completed, and may encourage the construction of artificial recharge projects.

## Designate Island County as an Environmentally Sensitive Area (SEPA)

The purpose of this program is to provide for environmental review of certain activities that could have adverse effects on groundwater quality and quantity. One of the products of the 2003 USGS Groundwater Recharge Study is an evaluation of the important recharge areas within the county. Using this evaluation, the ICHD has developed a Critical Aquifer Recharge Area (CARA) map of the county. The county is currently in process of incorporating the CARA map into Island County Code.

## Designate Island County as a Critical Aquifer Recharge Area (GMA)

The purpose of this program is to develop criteria to estimate aquifer susceptibility, and implement regulations to preclude land uses incompatible with these areas. In 1992, Island County was designated as a Critical Aquifer Recharge Area (CARA). Based on the development of the 2003 USGS Groundwater Recharge Study and updated CARA map, the county is currently in process of re-designating parts of the county as Critical Aquifer Recharge Areas.

An important aspect of this program is to develop specific performance standards for land uses that have potential for groundwater contamination. The purpose is to promote safe agricultural and waste disposal practices to prevent groundwater contamination. The objective identified in the GWMP was to establish Best Management Practices (BMPs) to reduce the potential for groundwater contamination from specific activities or facilities. ICC 8.09.097, Critical Recharge Area Protection, establishes a method by which land use proposals are reviewed to

# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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determine the potential for groundwater contamination. The county is currently in the process of updating ICC 8.09 based on current Best Available Science.

An additional purpose of this program is to develop specific performance standards for land uses that have potential for groundwater contamination. This would promote safe agricultural and waste disposal practices to prevent groundwater contamination. The objective identified in the GWMP was to establish BMPs to reduce the potential for groundwater contamination from specific activities or facilities. ICC 8.09.097, Critical Recharge Area Protection, established a method by which land-use proposals are reviewed to determine the potential for groundwater contamination. ICHD has developed a list of accepted BMPs that are both disseminated to the public and applied as "conditions of approval" on land-use proposals. The Health Officer has the discretion to impose conditions designed to prevent degradation of groundwater quality or quantity for project types identified in ICC 8.09.097H.

## Designate Areas of Special Concern (WAC 248-96)

WAC 248-98 was adopted by the State Board of Health and became effective January 1, 1995. Island County Health revised ICC 8.07C to reflect the new changes in April 1995; the code now includes a process to adopt an Area of Special Concern. In addition, the goal of groundwater and surface protection was reflected throughout the local code. Requirements for vertical separation to groundwater and horizontal separation to surface water from drainfield components exceed State code standards.

The Island County Health Department implements a public outreach and education program on the need for septic system operation and maintenance. It is recommended that septic systems be inspected every three years; a reminder card is sent to all system owners who have not pumped within the previous three years. All commercial septic systems must have an on-site maintenance program. The county's liquid waste and watershed program currently conducts public workshops and presentations on septic system operation. The State is currently in process of implementing additional operation and maintenance regulations that may be adopted by Island County.

## Consider Levying the Conservation Futures Tax

Levying the Conservation Futures Tax would provide funds to purchase or otherwise protect lands important to water resource protection.

## Implement Coordination Program

A Coordination Program in Island County would promote effective communication with local, state, and federal agencies regarding water resources management.

# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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- The ICHD has been actively involved at the local and state level to coordinate resource management and public health issues regarding water supply. ICHD staff are members of several committees and associations that shape state policy and coordination among agencies.
- A Washington State Seawater Intrusion Policy was developed in 1991. This policy was modeled after Island County's policy.
- An MOU with the State Department of Ecology (DOE) was approved in 1990. The DOE Water Resource Program is currently under-funded and under-staffed. Recent meetings with DOE indicate that their Water Resource Program will once again gain resources, staff, and a plan for water right decisions. The MOU outlines the coordination and cooperation of the two agencies as it relates to groundwater regulation and protection.
- The ICHD is a member of the NAS Superfund Restoration Advisory Board. The results of studies are analyzed and input is given regarding NAS Superfund restoration and clean-up.
- Through the 2514 Watershed Planning process, ICHD has collected and analyzed additional hydrologic data. This new data is considered Best Available Science, and has been incorporated into the planning process.

## Comprehensive Storm Water and Flood Hazard Management Plan (1997)

The Island County Public Works Department worked with a citizen advisory committee, and contracted with a consultant, to develop the Storm Water Plan. The citizen advisory committee developed a set of policies and recommendations to guide the county's storm water and flood hazard management projects.

The Storm Water Plan identifies drainage problems and recommended actions. Table 6-2 of the plan is a summary of recommended drainage improvements. Progress has been made in addressing some of these drainage problems.

The plan identifies funding options for the recommended improvements. The plan notes that both county staff and the citizen advisory committee recognize that there is a need for a dedicated and adequate funding source. The citizen advisory committee supported a surface water utility as the preferred method of financing storm water and flood hazard management projects.



# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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## Water Resources Element of the Island County Comprehensive Plan (1998)

Goals and policies from the Island County Comprehensive Plan include:

- Preserve Island County's environmental quality through the careful use of land, water, and air resources
- Coordinate and plan for the provision of public services and their related facilities in the most cost-effective manner incorporating both the public and private sector.
- Protect the quality and quantity of groundwater resources for existing and future residents of Island County
- The location and design of development will be carefully guided in order to minimize potential adverse impacts on the quality of ground and surface waters

Phase 2 and 3 planning will acknowledge the goals and policies of other documents and plans previously adopted by Island County, which address water resource management. Such goals and policies will assist to guide the scope and extent, as much as possible, of phase 3 plan development.

## Shoreline Management Master Program

Washington State passed the Shoreline Management Act in 1971 (RCW 90.58). The Shoreline Management Master Program (SMP) was Island County's response, and was updated in conformance with the State Growth Management Act. It provides goals and policies that apply to all Island County's marine shorelines and freshwater lakes 20 acres or larger, the areas 200 feet landward and seaward from the line of ordinary high tide.

The State Shoreline Management Act designated certain shoreline areas as shorelines of statewide significance. The shorelines of statewide significance in Island County include those areas of Puget Sound lying seaward from the line of extreme low tide as well as the tidal shoreline adjacent to Skagit Bay from Brown Point to Yokeko Point.

The State Shoreline Management Act discusses four environmental categories: 1) natural, 2) conservancy; 3) urban, and 4) rural. Island County's SMP adds two additional categories: 1) shoreline residential and 2) aquatic, which is further broken down to include a subcategory, aquatic-conservation.

The Island County Shoreline Management Master Program (SMP) is primarily regulatory in nature. Chapters 16.21 (Goals and Policies) and 17.05 (Shoreline Use Regulations) of the Island County Code (ICC) implement the goals and policies of the SMP.

Goals and policies for eight program elements are discussed: economic development, public access, circulation, recreation, shoreline use, conservation, historical/cultural, and implementation. A series of descriptive criteria are given for each category. The SMP contains a chapter on General Policies, which are action-oriented directives to guide activities toward realization of the goals and to serve as an implementation tool between the

# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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goals and the shoreline use regulations in Chapter 17.05 ICC. There are Policy Statements on nineteen uses, including agriculture, aquaculture, forest management practices, commercial development, residential development, marinas, mining, shoreline stabilization, solid waste disposal, dredging, and recreation.

ICC Chapter 16.21 sets forth the special procedures for regulative uses and activities governed by the State Shoreline Management Act. (Permits granted under the State Shoreline Management Act are generally processed pursuant to Chapter 16.19 ICC.) Chapter 16.21 gives detailed directions as to the application process for shoreline development permits, when they will be granted, the review process, the approving authority, penalties, and appeals to the Shorelines Hearings Board. Administration of shoreline permits is under the jurisdiction of the Island County Planning Department and a detailed map of Island County shorelines shall be kept in that office.

Chapter 17.05 ICC sets forth detailed shoreline use regulations and is referred to as the Island County "Shoreline Master Program," "Master Program," or "SMP." This Chapter contains definitions, its applicability generally, exemptions from substantial development permit requirements (including certain watershed restoration projects and certain projects designed to improve fish or wildlife habitat or fish passage). Shoreline use classification identifies and charts permitted, prohibited, and conditional uses. Other ICC sections are cross-referenced. ICC 17.05.260, Utilities, B.10, discusses desalination or reverse osmosis water production processing equipment and service lines.

## Non-Point Pollution Prevention Action Plans

North Whidbey, 1997; Central/South Whidbey, 2002; Camano Island, expected in 2006

The Non-Point Pollution Prevention Action Plans contain numerous measures to reduce non-point pollution. The plans are non-regulatory in nature and focus on voluntary compliance and education. A few proposed actions in both documents have been implemented, such as the recommendation to form an Island County Water Resource Advisory Committee. Some actions are repeated in both plans, which should be noted in terms of preferences and priorities on a county-wide basis.

Non-point pollution can infiltrate into the ground and contaminate aquifers, State studies indicate that 40% of the pollution in Puget Sound originates from non-point pollution. Sources of non-point pollution include: residential, storm water, agriculture, forestry, small businesses, chemical spills, golf courses, boats and marinas, gravel pits and landfills. Non-point pollution sources differ from point sources of pollution in that they are not carried from a distinct point of origin through a single pathway (e.g., a pipe) to the receiving water.

In 1988, Island County completed a ranking of its 130 watersheds for the potential of contributing non-point pollution to Puget Sound. At that time, Island County was divided into four watershed regions: North Whidbey, Central Whidbey, South Whidbey, and Camano Islands. Due to the small size of the island watersheds, some of the watersheds

# Island County Water Resource Management Plan

2514 Watershed Planning - - - Adopted June 20, 2005

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were grouped together, In the ranking process, eight watersheds were identified as priority watersheds in Island County.

The North Whidbey watershed region was selected for the first watershed planning effort because the top three ranked watershed groups are located in that region: Crescent/Oak Harbor (#1), Penn/Hastie/Monroe (#2), and Dugualla (#3). The North Whidbey Non-Point Pollution Prevention Action Plan was adopted in 1997.

The Central/South Whidbey watershed region was selected for the second planning effort because the second highest ranked watershed groups are located in that region: Holmes Harbor (#4), Deer Lake/Clinton (#5), Langley (#6), and Maxwellton (#7). The Central/South Whidbey Non-Point Pollution Prevention Action Plan was adopted in 2003.

The Camano Island watershed region was selected for the third and final planning effort, and contains the following watershed groups: Triangle Cove (#8), Madrona, and Utsalady. Adoption of the Camano Non-Point Pollution Prevention Action Plan is expected in 2006.

An important element of the watershed assessment process was water quality testing and monitoring, The Island County Health Department developed the baseline-monitoring program, collected and analyzed water quality monitoring samples, interpreted the results and summarized them in a Baseline Monitoring Report. Based on the results of baseline monitoring the Health Department included a Long-term Monitoring Plan in each Action Plan.