WATER SYSTEM COORDINATION

Introduction

The Island County Water Resource Advisory Committee (WRAC) is tasked with developing a Watershed Plan. The goal of Watershed Planning is to determine the availability of the groundwater resources in Island County, and to ensure safe and adequate water supplies. Groundwater resources throughout the county are experiencing increasing demand, and in some areas are expected to be inadequate in the future. Water system coordination would contribute to improvements in public health, groundwater resource management, and resource protection and planning.

Issues and options discussed in this topic paper include public water system coordination, existing water system management, public water system consolidation, and groundwater redistribution. Issues from the "Exempt Wells" and "Water Supply Options" topic papers have been carried over for further discussion in this topic paper.

Definitions

Public Water System: Any water system with two or more connections is considered a public water system. These are multi-party systems that serve the broader public, and as such are regulated to protect public health. Public Water Systems, unless owned by a governmental entity like a city, town or district, are owned and operated by private individuals, groups of private individuals, or community organizations.

Municipal System: The recently passed Municipal Water Law (House Bill 1338) defined all Group A community public water systems (i.e.15 or more connections) as municipal systems. The Municipal Water Law provides greater certainty and flexibility for water rights held by public water systems, and more closely ties water system planning and engineering approvals by the Washington Department of Health (DOH) to water rights administered by the state Department of Ecology (DOE). The Municipal Water Law requires DOH to change many of the processes and procedures it uses to approve water system plans. Interim requirements (see DOH publication #331-256) will remain in effect until DOH establishes long-term processes that will be phased in over the next three years.

Background

Water System Plans

Water System Plans are required under WAC 246-290 and are overseen by the Washington Department of Health (DOH). The purpose of a Water System Plan is to provide a uniform process for water purveyors to demonstrate the system's operational, technical, managerial

and financial capability, demonstrate how the system will address present and future needs, and to establish eligibility for funding pursuant to the State drinking water revolving fund. DOH, Department of Ecology (DOE), and County departments coordinate in regards to Water System Plans.

Coordinated Water System Plans

The Water System Coordination Act (Coordination Act, WAC 246-293) was developed in accordance with the authority granted in the Public Water System Coordination Act of 1977 (Chapter 70.116 RCW) with the purpose of developing a program to coordinate public water systems within the State of Washington. Specifically, it was developed to identify areas that are critical water supply service areas and to provide a framework for coordinated water system planning in those areas. A critical water supply service area is defined as an area having problems related to inadequate water quality, unreliable service, or lack of coordinated planning. Only water purveyors within a critical water supply service area are required to participate in the Coordinated Water System planning process. DOH provides oversight for coordinated water system plans.

A coordinated water system plan is either a compilation of all of the water system plans within its geographic boundary (along with supplemental provisions addressing water purveyor concerns) or is a single plan covering all affected public water systems. The Coordination Act initially required all public water systems created after September 21, 1977 to prepare an individual water system plan. This requirement had been eliminated for Group A community public water systems (i.e.15 or more connections) that do not intend to expand beyond their existing service area boundaries.

A coordinated water system plan must address the following:

- Assess related, adopted water system plans;
- Identify future service areas;
- Designate minimum area-wide water system design standards;
- Include utility service review procedures;
- Include satellite management requirements;
- Include policies and procedures to address failing water systems; and
- Contain compilation of existing water system plans.

Preliminary Assessment of Island County Water System Issues

In 1985 a Preliminary Assessment of Island County water system issues identified the following threats to the delivery of safe, efficient and reliable water sources:

- Proliferation of small water systems;
- Possible inadequacies of groundwater supplies;
- Lack of coordination between adjacent water utilities;
- Water quality problems such as iron, manganese, and seawater intrusion;

- Operation and management of small water systems, including funding of improvements; and
- Lack of consistency between water system planning and County land use planning.

Due to the variety and depth of these problems and concerns, the Preliminary Assessment recommended implementation of the Coordination Act in Island County. The Board of Island County Commissioners adopted implementation of the Coordination Act in 1985.

Island County Coordinated Water System Planning Process

The entirety of Island County is contained within one critical supply service area, and therefore is covered by one Coordinated Water System Plan. The 1990 Island County Coordinated Water System Plan (CWSP) was intended to guide water utilities so that water supply planning could be accomplished through coordinated rather than piecemeal efforts. The CWSP contains forty-three recommendations in the areas of administration, water resource strategy, water purveyor planning and operations and land-use strategy. One of the guiding principles of the plan was to minimize the proliferation of small systems while maximizing the coordination of larger systems consistent with land-use planning efforts.

The CWSP provides administrative procedures and a regional strategy for management and development of public water supplies. This document was meant to work in tandem with the Island County Groundwater Management Plan (GWMP). The GWMP establishes methods to properly monitor and protect the quality and quantity of the groundwater resource, meet future resource needs, and integrate state and local policies. Both function to supplement adopted Island County land use policies.

Growth Management Act and Comprehensive Land Use Planning

In 1990, Washington State's Growth Management Act (GMA), RCW 36.70A, provided for comprehensive planning with local control, with the intent of encouraging conservation, responsible use of lands and resources, and sustainable economic development. The GMA required the adoption of comprehensive land use plans to designate urban growth areas for concentrated development and growth. This concentrated growth also provides a structure such that increasing populations in urban areas are served by a regulated water source rather than an exempt (from water right requirements) Group B system (i.e., 2-14 connections) or individual well.

The GMA requires reassessment of land use if probable infrastructure funding falls short of meeting existing needs and to ensure that the land use element, capital facilities plan element, and financing plan within the capital facilities plan element are coordinated and consistent (RCW 36.70A.070(3)(e)). If this coordination effort is combined with watershed planning to address actual water availability, long-term decisions can be managed incrementally and locally to provide for the best use of water and land resources. By integrating watershed

planning with other land use and resource use decision-making, entities in the watershed may adopt a combined conservation and management approach. This coordinated land use and water system planning would provide for growth and increased capacity.

Water System Issues and Options

Coordination of Public Water Systems

There are three main reasons for promoting coordination between water systems. The first is to ensure a safe and reliable water supply for an affordable cost. From a public health standpoint, groundwater is a limited public resource that must be protected. Coordination between systems allows for the best use and sharing of this public resource. The Island County Coordinated Water System Plan (CWSP) contains tools for requiring systems to comply with upgrades, thereby protecting public health. The second reason for water system coordination is to improve the efficiency of agency and utility interactions. Clear delineation of responsibilities between Island County and Washington Department of Health (DOH) would greatly support water system operators and managers. Due to limited groundwater resources, there has been a tendency in Island County for purveyors with supply problems to expect solutions from local government, and for those with adequate supply to curtail customer growth in order to protect those supplies. Improved procedures and communication would alleviate the impacts of these ongoing problems. The third reason for coordination is to help water systems work together and share information and resources.

The overall objective of water system coordination is to enable systems to jointly address current and future water supply issues, based on local needs and resources. “Coordination” encompasses two goals: 1. to implement procedures for adjoining water systems to address water supply needs in an orderly and coordinated way (see Option #1: Update and Implement the CWSP, below), and 2. to foster a communication structure between water systems so that information and resources can be shared (see Option #2: Water System Associations, below).

Option #1: Update and Implement the CWSP

The 1990 Island County Coordinated Water System Plan (CWSP) is a policy and procedure framework for ensuring the reliability of the groundwater resource. In its executive summary the CWSP states the following: “The CWSP is a policy framework in which utilities, agencies and the public can begin to focus and prioritize efforts to ensure the reliability of the County’s entire existing water resource and prepare for future needs in an orderly and efficient manner.”

The CWSP primarily focuses on coordination between water systems and resolving boundary disputes. Updating and improving the implementation of the CWSP would enable purveyors and agencies to better manage and develop public water supplies.

The approval of the CWSP in 1990 represented a major step forward in groundwater resource management in Island County, and its recommendations are still relevant today. The "Water Supply Alternatives" topic paper reconfirmed Board of Island County Commissioner support of the CWSP.

Some of the recommendations in the CWSP have been or are being implemented. However, most of the issues cited in the 1985 Preliminary Assessment of water systems have not been resolved and are more prominent today than when the CWSP was enacted. Implementation of the CWSP has been inconsistent and there is still a need for one county department to take a strong lead. The CWSP recommended forming a Public Works Department to take the lead in implementation; although this department was created it did not take the lead for implementing the CWSP. Some of the key enforcement measures recommended in the CWSP have not occurred (i.e. meeting design standards), and efforts between Island County, DOH and the Washington Department of Ecology (DOE) have not been coordinated.

Although the Island County CWSP recommended that it be reviewed every five years, this has not occurred. However, under the E2SSB 5448 revision, a coordinated water system plan needs updating only when the local legislative authority or DOH determines it is necessary. The update may be limited in scope to those portions of a coordinated water system plan that are determined to be in need of updating. Any updates should be consistent with the Washington State Growth Management Act and Island County Comprehensive Plan.

The CWSP establishes a process by which utilities claim a specific area for the provision of direct water service called a "service area." Utilities generally establish boundaries consistent with areas of denser platting similar to urban rather than rural settings. In Island County patterns of development in the 1960s and 1970s resulted in many "islands" of platted lots surrounded by large rural parcels of lands. Each of these subdivisions is served by either a separate water system or multiple water systems.

The success of CWSP policies and procedures to limit the development of small public water systems in Island County is questionable. The county experienced a significant increase in individual well development since 1990, and there has been a significant increase in the development of Group B system sources over Group A water system sources for the same period of time (Note: Group B systems have 2-14 connections; Group A systems have 15 or more connections). While Group A system sources are generally subject to the water right permitting process with DOE, most Group B systems are developed under the permit exemption. For the CWSP to be successful, better coordination is needed to encourage existing purveyors to expand or join utilities.

The WRAC recognizes the CWSP process as an enforcement tool that would be highly effective if reviewed, updated, and implemented. Financing for reopening the CWSP for review may be available through the Washington State Community Development Block Grant program. Reviewing the CWSP is timely, considering that the recently passed

Municipal Bill (HB 1338) applies to water rights and exempt wells. Main items to be addressed within a review of the CWSP would be the following:

1. Maps of Service Areas: Comprehensive maps of public water systems are needed for preventing and settling service area boundary disputes. These maps – most likely geographic information system (GIS) layers – would show infrastructure, existing and planned service areas, and would differentiate between areas of perfected or non-perfected water rights. Updated maps would greatly assist the Island County Planning and Community Development Department (Planning Department) which evaluates water system updates and applications for overlaps between service areas as well as inconsistencies with Growth Management Act requirements. Updating maps would also give opportunity to define service area responsibilities for a public water system (ex. water rights, storage requirements, financial viability).

2. "Timely and Reasonable" Definition: The Planning Department's role in settling service area disputes also involves determining who public water systems will serve. The Municipal Water Law specifies that providers have a duty to provide water service within their defined service area in a "timely and reasonable" manner. As the county legislative body, the Board of Island County Commissioners (BICC) could help define the "timely and reasonable" clause. The Planning Department has difficulty following-through with purveyors, and often ends up working with potential new customers requesting individual wells instead of being able to hook up to existing water supplies. This difficulty is related to the Planning Department's need to ensure consistency with State Board of Health rules through using critical water supply service areas as an enforcement tool for meeting water system design standards and increasing efficiencies.

3. Moratorium Issue: When public water systems are not able to comply with DOH water system design standards, they are able to place a moratorium on granting additional connections even within existing service areas. The ability to declare a moratorium gives a public water system a higher level of land use authority than the county has intended. Moratoriums are viewed by some as a method, or excuse, to limit growth within water system service areas. The CWSP contains regulatory methods for design standard compliance. The receivership process is a regulatory process available to enforce compliance of water systems that are failing.

4. Notice Requirements for Service Area Expansion: The CWSP does not sufficiently outline the notification process for expansion of service areas, especially for affected property owners within or adjacent.

5. Streamline Bureaucracy: There is a need to clarify county department roles, and to define protocols for internally routing an application through the different departments. The Planning and Health Departments are each responsible for different aspects of public water supply service areas. Delineating county department responsibilities would remove a disincentive for coordination of water systems.

6. Incentives: Effective incentives need to accompany the regulatory tools outlined in the CWSP. These incentives could be economic-based: funding mechanisms, reduced fees, or education for purveyors on the benefits of economic efficiencies of larger systems.

7. Protection of Public Water Systems: Exempt wells drilled within or adjacent to service areas complicate resource management and pose water quality concerns (seawater intrusion and contamination). The CWSP could contain methods for preventing exempt wells being drilled within service areas (see Option #5 on page 11 for a possible method).

8. Larger New Public Water Systems: Larger water systems tend to be better managed, leading to reduced break downs and water leaks; they also tend to have better resource management of their water supplies. An unmet goal of the CWSP was to encourage larger water systems. The WRAC has identified options for improving the water rights process in Island County (see "Water Rights" topic paper). Incentives and funding sources also need to be provided for the development of larger new water systems.

9. Satellite Management Requirements: Future CWSP revisions may require more stringent satellite management requirements and also must include policies and procedures to address failing water systems for which counties may become responsible as receivers (E2SSB 5448). (See discussion in Option #3.)

10. Conservation Measures: The CWSP recommends that all public water systems prepare plans to implement conservation measures. In areas of seawater intrusion, there should be active ongoing conservation measures in all public water systems. The CWSP also recommends that Island County develop a comprehensive water conservation program as a method for managing water resources on a long-term basis. Such programs should be implemented along with Island County's Groundwater Management Plan. (See discussion in Option #3.)

Option #2: Promote Water System Associations

Promoting the formation of water system associations within Island County would facilitate communication, and would help systems help each other. Systems increase their efficiencies when they share resources and information. The WRAC recognizes that initial meetings would need to be sponsored and facilitated until water system associations develop committed leadership and self-reliance.

The WRAC recognizes that operator and purveyor education is an important aspect of better water system management. Purveyor obligations and responsibilities regarding design standards and upgrades, and moratorium issues, are complex. Responsibilities between purveyors, the county, and State agencies must be delineated and clarified. Education would teach purveyors the technical skills needed to effectively manage their water systems. Education should be accompanied with regulatory enforcement (county and State

responsibilities; delineated within CWSP). Educational opportunities may exist when water system plans are submitted for approval or review.

The Camano Water System Association is a local model for encouraging communication between, and education of, purveyors. Successes from this association include having annual "nuts and bolts" seminars, developing educational materials for Group B system operators, and identifying industry sponsors for administrating meetings and workshops.

Management of Existing Public Water Systems

Option #3: Support County and State-wide Resource Planning and Management Efforts

The WRAC recognizes the importance of good resource planning and management for existing public water systems. Good management reduces the incidence of break downs and water leaks. Resource planning helps to ensure the availability of water supplies. Resource planning and management help ensure that public water systems have the ability to accept new customers within their service areas.

Island County and State-wide resource planning and management efforts are underway, both focused on preventative measures for ensuring water quality and reliability. Island County is expanding its programs to improve Group B water system management (Note: Group B systems have 2-14 connections). The Washington State Department of Health (DOH) is working to address deficiencies shown in its recent Group B sanitary survey report ("Group B Project Report," DOH Publication #331-243, November 2003).

The following are policy areas that the WRAC would monitor and provide comment on:

1. Exempt Wells Drilled Adjacent to or Within Service Areas. When water systems do not comply with design standard planning and upgrades, and therefore do not have the capacity to take on new customers, individual (usually "exempt") wells are drilled within and adjacent to service areas. This leads to future problems for that water system. The proliferation of exempt wells is contrary to the goals of the 1990 Island County Coordinated Water System Plan (CWSP). The CWSP outlines more coordination between systems to help each other and reduce the need for exempt wells. Exempt wells have become an accepted method of ensuring water supplies, and serve unique needs in rural settings. However, exempt withdrawals have the potential to negatively impact groundwater resources and/or public health. Exempt wells do not go through the rigorous tests of availability prior to appropriation, and so have the potential to significantly affect resource quality and quantity. While exempt wells do not pose an immediate threat, the potential negative impacts of further development based primarily upon such sources should be reduced as much as possible. Positive aspects of exempt wells should be kept in mind, and solutions employed to address specific situations. (See "Exempt Wells" topic paper for a more thorough discussion of exempt wells.)

2. Development of an Effective Public Water System Schedule for Island County. The CWSP contains many regulatory tools; economic-based incentives could also be developed.

3. Review of Group B System Water Quality Monitoring Requirements and Compliance. Water quality is a public health concern more related to Group B than Group A systems (Note: Group B systems have 2-14 connections; Group A systems have 15 or more connections). Monitoring requirements for Group B systems include annual bacterial testing, nitrate testing once every three years, and if at risk for seawater intrusion, chloride testing twice annually. Group B sanitary surveys have shown a lack of compliance with even this minimal water quality testing. Regulatory compliance mechanisms combined with educational programs may improve water quality testing compliance. It may be beneficial to evaluate the need to test for additional acute and chronic contaminants in Group B systems.

4. Increase in the Financial Viability of Small and Large Water Systems. The CWSP addresses the need for financial viability of small (often exempt) public water systems. The use of exempt wells results in the development of small public water systems that are owned, operated, and managed by small numbers of individuals or entities, and so their financial viability can be problematic. In general, the provision of service from larger public water systems results in a higher level of service, better economy of scale, and more efficient use of resources. The WRAC recognizes the need to identify funding sources for improving systems. Financial viability includes planning for capital costs and collecting operation and capital funds from customers. Financial viability of Group A systems is not currently included in routine sanitary surveys; the WRAC recognizes the potential value of including financial viability review within Group A sanitary surveys.

5. Increase the Number of Group B Systems Entering into Agreements with Satellite Management Agencies. New Group B systems now require “satellite” management (note: this only applies to systems with three or more connections). A satellite management agency is an individual, purveyor, or entity that is approved by DOH to own or operate more than one public water system on a regional or county-wide basis, without the necessity for a physical connection between such systems. Over the past few years the ICHD has seen an increase in the number of two-party systems over the number of systems with three or more connections. Future CWSP revisions may require more stringent satellite management requirements and also must include policies and procedures to address failing water systems for which counties may become responsible as receivers (E2SSB 5448). In addition to offering technical and monitoring assistance to water systems, satellite management agencies are able to take on administrative/business responsibilities. Employing a satellite management agency is convenient for small systems and becomes more cost-effective for larger systems. Island County currently has two state-approved satellite management agencies: King Water Company and South Whidbey Water Services.

6. Increase Water Conservation and Efficiency Measures for all Public Water Systems. The CWSP recommends that all public water systems prepare plans to implement conservation measures. In areas of seawater intrusion, there should be active ongoing conservation measures in all public water systems. The CWSP also recommends that Island County develop a comprehensive water conservation program as a method for managing water resources on a long-term basis. Such programs should be implemented along with Island County's Groundwater Management Plan. Single wells are generally not monitored or metered, and do not have the costs associated with such activities. Therefore, there is less incentive for single wells to conserve water. New Group B and all Group A systems are required to be metered and monitored. Group A systems are also required to provide storage for fire flow. Since increased use equates to increased costs, larger systems have more incentive to conserve. The WRAC recognizes the important relation of encouraging conservation with ensuring safe and adequate water supplies (see "Water Conservation" topic paper).

Consolidation of Public Water Systems

Larger systems, rather than a proliferation of smaller systems, provide a higher level of protection of public health and the groundwater resource. Consolidation is considered to be a long-term solution for addressing future water supply needs, and is an important component of improved water system management. Consolidation of public water systems involves encouraging larger systems to develop, through developing interties between existing water systems. The WRAC supports streamlining any consolidation efforts desired by existing water systems.

Consolidation offers public water systems the opportunity to decrease their operational and development costs. Operational costs include water quality monitoring or management by a third party certified operator. Development costs include construction and maintenance of storage and distribution systems, engineering and design requirements, or planning requirements. Costs may decrease with increased number of connections and shared resources, leading to a better economy of scale.

The CWSP contains recommendations for consolidation of Group A and Group B water systems (Note: Group B systems have 2-14 connections; Group A systems have 15 or more connections). This includes consolidating very small water systems (perhaps 2-10 connections) into adjacent Group A systems where vacant connections are available. "There are a number of opportunities for interties between systems in Island County as the population and customer base increase. In many cases, intertied systems will become a significant or primary supply to all or portions of the water service areas due to the limited groundwater resources. In some instances, interties will be the standby or backup between two water service areas that are expected to be relatively self-sufficient. In other instances the intertie, in addition to providing supply for standby capability, will provide a primary transmission/distribution loop and/or facilitate future extension of the water system. In all cases, the interties should increase reliability of the water systems." (CWSP, 1990; p. VII-17)

The WRAC has identified the following methods of removing obstacles and providing incentives for systems wanting to consolidate:

Option #4: Remove Regulatory Disincentives for Consolidation

This option involves reviewing ICHD and DOH regulations for adding connections and interties, and allowing for flexibility in interpretation of these regulations. The benefits of additional connections should be strongly considered when protecting public health. A memorandum of understanding between DOH and ICHD could formalize DOH flexibility of interpretation in specific cases. Steps in the consolidation process should be streamlined to reduce the burden of shifting to Group A regulations.

Option #5: Require Request for Existing Water Service Before Drilling New Wells

Exempt wells drilled within or adjacent to service areas pose resource management and public health threats to water systems. To better manage their groundwater resources, public water systems need to be informed of wells drilled within and adjacent to their service areas. Requiring all potential wells to request water service prior to drilling would provide a notification mechanism for public water systems and the ICHD. This notification would enable water systems to review potential impacts on their local groundwater resource. Notification would also enable the ICHD to work with water systems to enforce protections for their service areas, and to encourage sanitary setbacks and water quality inspections. The Department of Ecology (DOE) could amend well driller guidelines to include checking for existing water service prior to drilling any given well. Once a well driller submitted a drilling application, DOE would then notify nearby water systems and the ICHD.

Option #6: Add Value to State Revolving Funds for Consolidating Systems

One method of encouraging consolidation may be to increase funding options. The State Revolving Fund is a method of funding water system improvements, and has been a reliable funding source for Group A system upgrades (Note: Group A systems have 15 or more connections). State Revolving Fund monies may be available for a consolidation feasibility study for Island County. In addition, the Island County Board of Health (BOH) could request that DOH consider changing the State Revolving Fund scoring system to add value for systems wanting to consolidate, therefore making consolidation more financially feasible.

Groundwater Redistribution

Option # 7: Support Infrastructure Improvements for Groundwater Redistribution Efforts

Groundwater redistribution is a water supply alternative for the future, to be implemented as needed. The 1990 Island County Coordinated Water System Plan (CWSP) identifies efficient development of local groundwater as Island County's most desirable and cost-effective water supply option. The resource, however, may not be available where demands occur. The

CWSP outlines "redistribution of groundwater" (*Section V*) as its highest recommended water supply alternative. At present very few water systems employ inter-ties for transfer of water. Long distance transmission may be the only alternative to deliver adequate groundwater to where it is needed. For a detailed description of this issue, please see the "Water Supply Alternatives" topic paper.

Current Watershed Planning efforts may identify regions in which the potential for localized redistribution exists. Care must be taken not to underestimate the local needs of the area from which the water will be exported. Consideration of future land use potential will limit the quantity of water available for distribution. Pipelines and connections between water systems could relocate water from high quality/quantity wells to areas where groundwater quality or quantity is below acceptable standards. To prepare for this eventuality, water systems could begin to prepare for coordination with adjacent systems through coordinating upgrades and design standards (e.g. matching hydraulics). Planning for compatibility between systems would build capacity for the future.