Section 12
BARRIERS TO MEETING MUNICIPAL WATER NEEDS

Over the years, a body of laws, court decisions, and administrative processes have evolved in Washington State to determine who may take water and how much, which uses are beneficial and serve the public good, and how to sort out disputes over water. In particular, the state's system of water rights is designed to control access to water, protect the rights of those already granted access, and prevent over-appropriation of the available water resource. There is growing concern, however, that this institutional framework has become increasingly dysfunctional and in many cases hinders, rather than promotes, rational management of the state's water resources.

Developing and implementing a sustainable water resources program is a common objective shared by utilities, state government, local governments, and other stakeholders. A sustainable water resource program would integrate the use of current and future municipal water resources with protection of the natural environment and instream resources, including fisheries. To achieve a sustainable water resource program, utilities, the state, and local governments need to:

- Use existing water resources and water rights wisely and efficiently,
- Identify and select supply options, including water conservation and reuse, that will best meet the future needs of fish and people, and
- Develop the policies, programs, and facilities to meet the requirements of the Growth Management Act (GMA) and Endangered Species Act (ESA) in a timely manner.

Achieving such a program requires that water resource management decisions can be made and implemented. As utilities plan, select, and implement supply options, including water conservation and more effective management of existing resources, each supply option must meet considerable technical, financial, and environmental requirements. However, in addition to these basic water resource management requirements and reviews, there are institutional constraints and management issues that add difficulty to the review and approval process. In some cases, these constraints may preclude implementation of the most desirable utility supply options.

For the purposes of this section of the Outlook, an institutional constraint is a rule, regulation, or policy, or the lack thereof, that unnecessarily results in additional cost, delay, or difficulty in implementing sound water resource management strategies and future water supply options. These constraints may encourage utilities to consider supply options that are easier to implement, but less economical and less environmentally responsible, with fewer regional benefits. This section identifies the most significant institutional constraints faced by utilities,

the state, local governments, and other stakeholders as the region develops and implements new supply options within a sustainable water resource management program.

Included in this section are:

- A brief overview of water law history leading to the current institutional environment,
- Institutional constraints impeding development of sustainable water resource program, and
- Potential solutions for reducing or eliminating those constraints.

The information presented in this section is intended to provide utilities, elected officials, and other stakeholders a greater understanding of the specific institutional constraints faced by water suppliers when trying to more efficiently use existing sources of supply or develop new sources of supply consistent with the requirements of GMA and ESA. This information was developed primarily from a utilities perspective, with input from the Washington State Departments of Health (DOH) and Ecology (Ecology). Utilities and other Forum members recognize that other parties may not view these institutional constraints as either unnecessary or undesirable.

The Forum and utilities are committed to participating in a collaborative process to develop a sustainable water resources management program and to work with the Governor's office and the legislature to overcome institutional constraints. Recent legislation such as HB 1832 represents movement towards addressing some of these constraints.

History and Current Status of Washington State Water Rights

Water is elemental to agriculture, to the environment, to commerce, and to our very civilization. Washington State adopted the same European notion as other western states that water is a natural resource that is held in trust for the people of the state. The state regulates the water as a public resource and has defined both the substance and process for obtaining *a right to use the water*. What follows is a summary of the history and current status of Washington State Water Rights.

Basis for Water Rights in Washington State

Washington was extensively settled by non-natives in the second half of the nineteenth century. Settlement brought the notion of property rights to the state. At the same time, conflicting doctrines related to the management and use of available water were introduced: the riparian doctrine and the doctrine of prior appropriation. Riparian rights tie the right to use a particular body of water (lake, stream, river, or aquifer) to the ownership of the land over, under, and adjacent to the water in question. Riparian rights worked fairly well where there was an abundance of water, but once the more arid portions of the West (including Washington) were developed, an alternate theory of water rights emerged. First developed for claims on federal land, the prior appropriation doctrine awards water rights to those who first take the water and put it to beneficial use. Unlike riparian rights, prior appropriation rights are prioritized based on time, with earlier established rights being senior to more recently acquired rights. For many years, Washington had a mixed doctrine for its

management of water rights. Prior appropriation was used on federal land and a riparian doctrine was used for private lands. These two coexisting doctrines caused considerable problems in administering water rights until the Legislature selected prior appropriation as the dominant scheme, and the doctrine became firmly entrenched in Washington law when the state adopted the Water Code of 1917. However, this Water Code preserved all prior rights, which left issues related to old riparian rights unresolved.

The 1917 Water Code

The 1917 Water Code incorporated the principles of the prior appropriation doctrine and established a centralized administrative system for acquiring new water rights. The 1917 code contained a statutory permit requirement, which required filing an application for a permit as the first step to acquiring a water right. A permit was required prior to the diversion of water. The date of application for a permit is the priority date, under most circumstances. The 1917 code required the state to investigate each permit application to determine if certain criteria (often called the four-part test) had been met:

1. Water is available for appropriation,
2. The water will be put to beneficial use,
3. The proposed water use will not affect existing water rights, and
4. The proposed water use will not be detrimental to the public welfare.

Based on these four tests, the state, through the Department of Ecology, may grant, deny, or condition the application. Once the state grants a permit, the permit holder has a reasonable amount of time (usually specified in the permit) to perfect a water right by actually putting the water to beneficial use. Once this has been accomplished, the permit holder is granted a certificate confirming the extent and nature of the water right. There are provisions for extensions for additional time to perfect the water right as well as the provision to grant temporary permits, preliminary permits or emergency permits. If the water right-holder wishes to change the use or extend the right to other property, a new application and approval process similar to that required for the initial permit must be followed.

1945 Comprehensive Groundwater Statutes

In 1945, the second major portion of the state's water code was created when the legislature enacted the comprehensive groundwater statutes (RCW 90.44), which essentially applied the system of the 1917 Water Code to groundwater appropriation. These statutes helped to clarify a process for what had been a confusing, unscientific approach to the appropriation of groundwater. The new statutes for the most part meant that groundwater was treated like surface water for the purpose of obtaining permits for groundwater rights. However, a new restriction and a new exemption were applied to groundwater rights. No groundwater permit was to be granted for withdrawal of groundwater "beyond the capacity of the underground bed or formation to yield such water within a reasonable or feasible pumping lift." This was an attempt to avoid over-appropriation of groundwater resources. The groundwater code also contained an exemption from permit requirements for withdrawal of groundwater for livestock watering, small gardens, or domestic or industrial uses not exceeding 5,000 gallons per day.

Water Rights Adjudication

One of the problems Washington still faced was resolving disagreements among holders of water rights. The lack of certainty in priority of water users commonly resulted in disagreements, so a formal adjudication process to facilitate resolution of those disagreements was established in the 1917 Water Code. This process is a special judicial proceeding in which all the water rights claimants within a particular basin join in a lawsuit that results in a decree of valid water rights including the priority date and specifics of each water right.

At this time only a small fraction of the state's water rights have been adjudicated. The primary reason for this is that adjudication is a cumbersome, long, and expensive process. As an example, adjudication of water rights in the Yakima basin began in the mid-1970s and is still not complete.

Environmental Considerations in Water Rights

During the late 1940s through the 1960s, a consideration of instream water needs (providing habitat for fish) began to appear first in the State's fisheries code, where consideration was given to the environmental value of leaving a certain amount of water in streams. Later, the state began to close or place permit restrictions on a number of small streams to further limit appropriation. In 1969, the legislature enacted a statute authorizing minimum stream flows and lake levels to be set by administrative rule making. The Water Resources Act of 1971 also addressed many of the concerns for instream flows and described the relationship between instream flows and water rights. The Act gave protected flows the same status as private appropriations with the effective date being the date of the regulations that specify the instream flows. The Water Resources Act of 1971 also included a list of beneficial uses including less traditional and instream uses such as fish and wildlife maintenance and enhancement and preservation of aesthetic values.

The Water Pollution Control Act also established maintaining water quality and non-degradation as fundamental water resource management policies. These policies were to be implemented through comprehensive statewide planning, which would collect information for the state's 62 water resource inventory areas (WRIAs) and provide a framework for basin-by-basin management and future water allocation. The Water Resources Act of 1971 also encouraged conservation and urged planners to consider increased efficiency as a potential water source. The Department of Ecology was charged with completing the comprehensive statewide planning contemplated in the 1971 Act. Of the 62 WRIAs, none are complete to current planning standards. As a consequence Ecology must manage the state's water resources without the benefit of the comprehensive planning, which would provide more detailed information on water resource needs and availability.

Current Status of the Water Rights Process

Today there is a backlog of approximately 7,000 applications for new water rights or changes to existing water rights from individuals, utilities, and other water users in the state. Many of these applications await the collection of adequate information to make informed decisions regarding the availability of water and other issues related to water right applications. The same kind of information being required now was contemplated when the need for comprehensive statewide planning was identified in 1971. In the late 1980s and early 1990s, the Department of Ecology started more aggressively requiring adequate information before

approving a water right. Inadequate information on instream and out-of-stream water needs is delaying the processing of water rights. Those few water rights that are approved, out of approximately 200 decisions per year, are often opposed by existing users, Indian tribes, or other concerned stakeholders. This further complicates and delays resolution of water right applications. The application and review process for new or changed water rights has reached a point where no one can or will predict how long it will take for an application to be reviewed and a decision rendered. This results in great uncertainty in the ability of utilities to provide water to meet the needs of future growth.

Recently, several species of salmon have been listed by federal agencies as threatened under the federal Endangered Species Act. Additional fish species are also proposed for future listings. The listings and proposed listings complicate the water resource management problems facing the state. Just as the lack of comprehensive statewide planning has made resource planning difficult, the lack of scientifically-based information on the water resource needs of fish also has raised questions that water resource managers must address. As an example, a water resource decision which does not adequately consider the needs of a listed species could result in a "take" (a significant loss of life or impact on habitat that leads to such a loss) of the listed species, and expose multiple parties—including utilities and the Department of Ecology—to legal actions by the listing agency or third parties.

ESA may also affect water right application reviews. ESA may enter into the evaluation of at least two elements of the "four-part test" that the 1917 Water Code established for water rights, specifically that 1) water is available for appropriation, and 2) the proposed water use will not be detrimental to the public welfare.

Additional Information on Washington State Water Rights

Several resources have been prepared over the past few years that describe water law in the State of Washington and provide excellent background information on how Washington's water law has evolved. Two such resources are:

- *An Introduction to Washington Water Law*, 2000, by the Washington State Office of the Attorney General, and
- *Washington Water Law: A Primer*, 1995, by Wick Dufford.

Summary of Constraints and Issues

Table 12-1 shows a summary of the institutional constraints and management issues faced by utilities, the state, and local governments in implementing future supply options and developing a sustainable water resource program for the region. Many of these institutional constraints and management issues are closely related, and multiple constraints or issues may apply to a specific future supply option. There are a variety of ways to group these constraints to understand their relationships, including the source of the constraint, the effects of the constraint, and what institution can best resolve the constraint. A suggested grouping of these constraints is presented later in this section. However, the main purpose of this section is to identify the constraints and provide information on the causes and potential solutions.

Table 12-1: Summary of Institutional Constraints

Institutional Constraint	Summary Description
Lack of clear guiding policy for state water resource decision making	Several laws, policies, court actions, and interpretations of existing laws have unclear and/or conflicting objectives for water resource management. A policy is needed at the state level for guiding how available water resources should be used to meet the needs of people, fish, and the environment. Lack of such a policy has resulted in critical water supply decisions being delayed indefinitely and/or decisions being made that do not balance the habitat needs of fish and the water supply needs of people.
Lack of adopted and accepted watershed plans/lack of knowledge and documentation of amount of water available	Two key factors in water resource decision making are quantifying the available water and determining all of the needs for water resources in the region. Existing information is insufficient to quantify these factors, and additional work must be done to develop new information.
Uncertainty related to the Endangered Species Act	Providing adequate fish habitat in response to ESA may result in less water resources being available for future use by utilities that are currently planning on those resources to meet their supply needs.
Balancing available information and risk in water resource decision making	Water resource management decisions need to be made – potentially before adequate information can be available to make decisions with complete certainty about potential effects.
Uncertainty of and disincentives to sharing supplies	Some utilities have an available supply capacity that could be used on a temporary basis by other utilities until growth within the supplier's own service area requires that available supply capacity. However, utilities may be reluctant to sell water on a temporary basis to an adjacent purveyor if there is no guarantee in state law that ensures the supplying utility can stop supplying the adjacent purveyor at an agreed-upon point in time. This does not apply to long-term wholesale agreements that are intended to continue in perpetuity.
Limitations on place of use	Some utilities that could otherwise share supplies through interties, which would defer or reduce the need for new supplies, cannot do so because the place of use stated in their water right is too limited. Although the place of use can be changed, other additional conditions and process issues make the procedure difficult to use to solve problems.
Intertie limitations	Some utilities that could otherwise share supplies through interties, which would defer or reduce the need for new supplies, cannot do so because the current intertie statute prohibits use of interties to meet growth-related demands in the receiving system.
Hydraulic continuity	Where senior water rights, including instream flow requirements have been established for a stream, Ecology has denied water rights applications for new groundwater withdrawals from sources that may be hydraulically connected to the stream if those withdrawals would impair senior water rights. It is often difficult to prove or disprove hydraulic continuity, but Ecology tends to err on the conservative side by denying applications where any impairment may occur. There is currently a lack of defined program to implement effective mitigation strategies.
Difficulty in making timely decisions	The backlog of processing for new water rights or changes in existing rights at Ecology has grown to over 7,000 pending applications statewide. Ecology has minimal staff for processing changes and new water rights. This results in critical water rights and municipal water supply decisions being delayed until long after they are needed.
Uncertainty of existing water rights	Many utilities are planning on using existing water rights to meet their supply needs. However, Ecology has brought into question the validity of some portions of the existing water rights.

Institutional Constraints and Potential Solutions

The institutional constraints described in this section were identified by the Forum as the most significant obstacles faced by utilities, the state, local governments, and other stakeholders that are working to develop a sustainable water resource program. The constraints are not prioritized or ranked. The constraints are grouped into two categories: Obstacles to Decision Making, which involve a number of different institutions, and Water Code Issues that are problems with the administration of and language in the existing water code. A detailed description and discussion of each constraint is provided later in this section.

Obstacles to Decision Making

Managing a sustainable water resources program does and will require that the water supply and environmental enhancement proposals be developed and evaluated, and the necessary decisions made to implement the proposals with timeliness and certainty. Several institutional constraints result in significant obstacles to making these critical decisions, such as a lack of clear direction and policy for state water resource decision making, lack of information, and uncertainty in planning due to the Endangered Species Act. The specific constraints identified as obstacles to decision making include:

- Lack of clear guiding policy for state water resource decision making
- Lack of adopted and accepted watershed plans/lack of knowledge and documentation of amount of water available
- Uncertainty related to the Endangered Species Act
- Balancing available information and risk in water resource decision making
- Uncertainty of and disincentives to sharing supplies

Water Code Issues

Over the past several years the Department of Ecology has championed the need to revise the water code to allow management of water resources in ways that were not contemplated in the current code. The current water code has not been substantially changed since its initial adoption in 1917. The water resource arena has changed significantly over the past few decades and the challenges today are greater than ever before. While the majority of the provisions of the current code were crafted for agricultural water, which remains the state's largest water use, the needs and challenges outside the agricultural setting are equally as important today.

The existing code does not allow Ecology sufficient flexibility to work with water resource stakeholders to implement proposals that provide for sustainable water resource management while also providing appropriate environmental protections. Also, some recent interpretations of water code are contrary to long-standing administration of the water code. The state Supreme Court has been interpreting 1917 Water Code since it was developed. Some holdings of the Court do not result in good public policy for current times, and the law that is being used and applied today in many cases does not result in as flexible a water policy as utilities need. Although many groups of water users would agree that there is a need for

changes to the water code, there has been little agreement or consensus on what changes should be made, or the priority amongst those changes. The following institutional constraints were identified as the areas most in need of change in the code, including how the code is administered:

- Restrictions on moving water between utilities
  - Limitations on place of use
  - Intertie limitations
- Difficulty in obtaining or changing water rights
  - Hydraulic continuity issues
  - Difficulty in making timely decisions
  - Abuse of water supply review process
- Validity and quantification of existing water rights
  - Uncertainty of existing water rights
  - Disincentives for water conservation and reuse

Potential Solutions

Today, many of the state's water utilities, and in particular, those in the Central Puget Sound area, see the need for regional cooperation and revisions to the water code to promote and facilitate the ability to move water from areas of surplus to areas of need. They also need to be able to plan for serving future growth on a sustainable basis while meeting the water resource needs of fish. Finally, the public, elected officials, resource managers, utilities, and regulators need a clear policy to guide them in making critical water resource management decisions. A potential solution has been developed for each of the constraints identified. These solutions are described below each respective constraint in the following section.

Obstacles to Decision Making

The specific institutional constraints identified as obstacles to decision making are described below.

Lack of Clear Direction and Policy for State Water Resource Decision Making

Recent laws, policies, court actions, and interpretations of existing laws and policies have been developed that have unclear and/or conflicting objectives for water resource management. Some agencies have specific objectives defined for water management, but there is no consistency at the state or federal levels. There is currently no clear policy at the state level for guiding how available water resources should be used for meeting the needs of people, fish, and the environment in a balanced and sustainable fashion. This constraint stems primarily from a lack of definition of water management objectives, which is illustrated by significant inconsistencies between the Growth Management Act, water supply planning, and fisheries management objectives.

This lack of a clear guiding policy for decision making has resulted in critical water supply decisions being delayed indefinitely and/or decisions being made that do not balance the habitat needs of fish and the water supply needs of people.

GMA Requirements

The Growth Management Act requires local governments to plan for and construct facilities (infrastructure for water supply, wastewater, transportation, etc.) concurrent with (prior to, or to meet) state-assigned population growth for a 20-year horizon within urban growth areas. However, there is no state water resources planning that matches the state's growth management plan. The availability of water was n ot directly addressed by GMA. When developing population projections, the Office of Financial Management does not take into account availability of natural resources, such as water supply, and the ability of local or subregional areas to sustain the population. Nor did the OFM anticipate the explosive suburban growth of the 1990s in the Central Puget Sound region. Also, Ecology's current water rights program and ability to implement that program is not consistent with the state's growth management plans.

Water Supply Planning Requirements

The Department of Health's state-required comprehensive water supply planning program requires utilities to plan for their specific service area for at least 20 years, with 6-year updates. Utilities must complete risk/vulnerability assessments and provide emergency back-up systems to ensure that the state's public water users are provided a safe and reliable water supply. Financing and planning of public water systems must be done with a long-term perspective. Water utilities (and banks and other bonding institutions) must know with certainty that the water utility has the needed water rights in hand and the ability to meet future demands. If utilities cannot meet the needs of planned growth, they need a workable mechanism to provide planning agencies feedback that the growth must go elsewhere.

Fisheries Management Objectives

Fishery management agencies (federal, state, tribal) are mandated by statute to focus on only what fish need without considering the needs of people. Again, there is a clear disconnect between fishery management (particularly instream flow requirements), and water supply needs being defined by state and local planning agencies in accordance with GMA.

Potential Solution

A potential solution to this constraint is for the state to develop a clear guiding policy and procedures that will allow water resource decisions to be made that meet the best interests of both people and the environment. A critical element of that policy is definition of a clear link between GMA projections and the water resources required to serve planned growth at state and local planning levels.

To achieve this, the Governor's Office, the Legislature, and local officials must provide the leadership to establish a clear and focused strategy for meeting the needs for fish and people in the Central Puget Sound area. Once this focused objective is defined, the Governor should ensure that all state regulatory programs and related staff activity supports this policy.

Lack of Adopted and Accepted Watershed Plans/Knowledge and Documentation of Amount of Water Available

Proponents of both municipal water supply and environmental enhancement proposals need a clear understanding of the water resource setting in which they are working. This information is important to allow proponents to craft projects in a way that best addresses the issues related to the basin in which their proposal is located. In addition, the Department of Ecology and other water resource stakeholders also have a need for a clear understanding of water resource needs and availability in order to properly review and comment on the proposals. Ultimately, Ecology needs the same information to approve any changes or new water rights necessary to implement a project. Ecology must evaluate whether the proposed water right meets the "four-part test," described earlier in this section, and prevent over-appropriation of available water resources. Clearly, one key factor of this evaluation is quantifying the available water resources. The second factor is evaluating how much water has already been allocated through existing water rights and is being utilized.

The Watershed Planning Act of 1998 (HB 2514) provides a common framework for evaluating watersheds. A handful of basins are planning using this framework, including the Chambers/Clover and Nisqually WRIAs (see Section 5). This framework allows the watershed planning units to address water quantity issues, and allows them to address instream flow, salmon habitat, and water quality issues as well. The entire process—including initial organization, watershed assessment, and plan development and adoption by local governments—must be completed within four years. No such plans have yet been completed, so it is premature to say whether such plans will provide an adequate basis for decisions to be made on water resource allocation, particularly if the plans do not address the optional elements of instream flows and salmon habitat.

However, due to tribal and local government concerns and priorities in the Central Puget Sound area, the Watershed Planning Act is not being implemented as the framework for most basin studies in the Central Puget Sound area. A number of other basin (WRIA) studies are currently underway in many of the Central Puget Sound WRIAs under the Salmon Recovery Act (HB 2496), which was enacted by the Legislature at the same time as the Watershed Planning Act. The HB 2496 planning process focuses on fish recovery and fish habitat, and may include water quantity and instream flow issues if they are priority factors in developing short-term and long-term salmon recovery plans. Given the salmon focus of such plans, they may not provide all the information needed in a comprehensive basin study to make informed decisions on municipal water supply and environmental enhancement projects, as well as water quality concerns.

The Chelan Agreement, which was placed in statute in 1991, also provides a process for developing watershed-based plans, with tribal and state participation; but this process has not been used since two pilot basin plans were prepared in the early 1990s, neither of which was in the Central Puget Sound area.

A limited amount of descriptive and quantitative information on available resources is being developed by watershed planning groups for each of the state's WRIAs. However, sufficient time and resources are not currently devoted to the watershed planning efforts to result in much new quantitative data. In addition, although there is a reference in HB 2514 to utilizing the habitat work from any plan prepared under HB 2496, there is generally not enough linkage between the two processes to develop useful and comprehensive basin plans.

Potential Solution

Water supply planning will have no meaning unless decisions can be made to secure adequate supplies to meet growth needs. Growth will continue to occur, and water utilities either will need to find adequate supplies, after proper planning, or face imposition of moratoria on new development. The situation requires an approach that will simultaneously move planning forward and will develop a better understanding of the resource setting within watersheds. The solution requires the following elements:

1. Participation by utilities and local governments in the existing processes;
2. Development of and commitment to finding adequate resources to generate the data and planning necessary for comprehensive solutions;
3. A link to existing processes, particularly HB 2496 and HB 2514 planning; and
4. Commitment to honoring tribal relationships and their role in both protecting fish habitat and addressing their economic needs.

The ultimate result is likely to be an adaptive decision-making process that allows necessary water rights and water resource decisions to be made, using the best available information, and/or identifies and implements a program to obtain necessary water availability data in a timely manner. The process would include an approach to routinely evaluating impacts upon the resources for multiple needs, and modifying the resource's management in order to avoid adverse impacts. This process should begin now to enable an adaptive approach that addresses current needs and then manages future demand consistent with the management objectives.

Uncertainty Related to the Endangered Species Act

The listings and proposed listings under the Endangered Species Act, along with concerns for the protection of other fish stocks, further complicate the water resource management issues facing the state. Just as the lack of comprehensive statewide planning has made resource planning difficult, the lack of scientifically based information about the water resource needs of fish results in a reluctance to make decisions. This reluctance to make decisions ultimately results in irreversible water resource commitments.

The implications of such actions can be significant in an ESA context. As an example, a water rights decision that does not adequately consider the needs of a listed species could result in a "take" of the listed species and expose the water right holder and the Department of Ecology to actions by the listing agency or third parties. Therefore, implementation of future supply options may require that quantities of water needed for fish and fish habitat be estimated, along with the amount of water available.

Section 5 includes a status report by Water Resource Inventory Area (WRIA) that describes preliminary results of the watershed planning groups' analyses indicating locations where low instream flows in streams or rivers have been identified as a potential impediment for fish population recovery. The watershed planning groups have not completed their research, and it will likely be several years before a reliable base of flow data on the water resource needs for fish habitat is available.

There are methods available to determine optimum habitat for fish. However, fish biologists are unable to agree on the correlation between fish production levels and instream flows. This makes it difficult for decision-makers to accurately define instream flow requirements that will maximize net benefits for meeting ESA requirements or treaty rights. This is the primary reason that setting instream flows is so controversial and difficult.

Potential Solution

A potential solution is for the state, tribes, and other stakeholders, in cooperation with watershed planning groups, to conduct research that will provide a correlation between instream flows and fish needs, and develop a corresponding water resource management strategy that meets the needs of habitat for fish and water for people in a sustainable manner.

Uncertainty of and Disincentives to Sharing Water Supplies

Many existing and forecasted water supply shortfalls within individual utilities could be solved on a temporary basis by using available supply capacity from another utility while new supplies are being developed. However, there is significant risk, exacerbated by past court decisions, that a utility providing water supply to another utility on a temporary basis may find itself perpetually obligated to continue providing water. The risk of not being able to get the water back when needed is usually enough to discourage the "loaning" of water between utilities.

Under Washington State regulations governing public water utilities, public water purveyors are relatively autonomous governmental systems. These water purveyors find their own sources of water, decide their service areas, and in general manage and operate with their own self-government, usually through an elected board. The state primarily serves in an oversight role ensuring the quality and reliability of the public water systems.

Public water systems have tended to focus on meeting the needs and looking out for the best interest of their own water system and customers, putting regional water needs at a lower level of importance.

In recent years, however, there has been some change in this attitude among water purveyors in many parts of the state. Various institutional mechanisms, such as the Public Water System Coordination Act of 1977 (RCW 70.116) and the Department of Health's encouragement of interties for emergency use, promoted the concept of cooperation among water systems. In addition, organizations such as the Regional Water Associations, Washington Water Utility Council, local chapters of the American Water Works Association, and the Central Puget Sound Water Supplier's Forum have begun to bring water utility representatives together to collectively solve water supply/management problems on a regional basis. This increased level of communication and cooperation between utilities is a good start, but it has not been enough to overcome the reluctance to "loan" water.

Potential Solution

This constraint represents a case in which the problem stems from a lack of code. A solution would be for the state to explicitly define legal "leasing" of blocks of water supplies in statute, where one utility could agree to supply another utility for a specific time period. This statute should include requirements for the utility receiving the water for the specific time period to have replacement supplies on-line by the end of the lease period and should specifically prohibit the use of a dependency argument to try to extend the duration of the supply beyond the terms of lease.

Balancing Available Information and Risk in Water Resource Decision Making

As described earlier, water supply planning cannot be put on hold unless growth is also halted. At some point, water resource management decisions have to be made based on the

information available at that time. The challenge is to arrive at a balance between available information and risk that best meets the collective needs of people and the environment.

Water supply and storage projects are evaluated, in part, based on assessments of the available resources and potential effects on the environment. These assessments rely on scientific and technological data gathering and analysis methods. This scientific information is used in conjunction with economic and planning information to make decisions within an overarching political, regulatory, and legal framework. The process of science and technology in society is one of increasing robustness and control, and decreasing uncertainty.

Although uncertainty decreases with progress, complete certainty in water resource management can never be achieved due to the limitations of the available information. The residual uncertainty harbors risk. In addition to commonly understood forms of risk that must be protected against (e.g., risk to human health from contaminated drinking water) risk can come in the form of lost opportunity that may jeopardize future water supply development and quality, or net future environmental benefits. Therefore, the decision-making process should be guided by sound scientific and engineering understanding to avoid an unacceptable level of risk, but should not be hindered by residual uncertainty when not warranted by the level of risk involved.

The challenge is to optimize the level of effort expended to achieve a level of robustness and control that has a manageable level of attendant uncertainty (i.e., risk). The optimal level of effort will vary from project to project; but for any given water supply or storage project it is arrived at by the application of the combined experience base of the stakeholders to a base of scientific and technical information that is by necessity incomplete, but entails a manageable level of risk.

Potential Solution

A solution is for the state to develop an adaptive decision-making process that allows water rights decisions to be made using the best available information and/or identifies and implements a program to obtain necessary information in a timely manner, on a schedule that balances risk with available information. Appropriate risk assessment and adaptive management would require that past decisions be changed if new information shows an unacceptable risk exists. If past decisions are changed through an adaptive management process, that process would also have to spell out how alternative solutions (supplies) are developed.

Restrictions on Moving Water Between Utilities (Water Code Issues)

As previously stated, many utilities anticipate needing additional supplies over the next 20 years to support planned growth. Other utilities in the Central Puget Sound area have available supply capacity that could be used either temporarily or permanently to support utilities with projected shortfalls, without developing new sources. The concept is simple: move water from areas of available supply to areas of need. This could be done through a regional water supply transmission pipeline network through subregional programs or by neighboring utilities. However, this type of utilities' cooperative management of existing supplies currently faces a number of significant hurdles, including limitations on place of use and limitations on the use of interties.

Limitations on Place of Use

Some of the supply options being considered in the region involve moving water from areas with available supply capacity or proposed new sources to areas with water supply shortfalls. However, in many instances the place of use described in a utility's water right is a specific, fixed area that currently prevents utilities from using resources efficiently by sharing supplies outside the defined place of use. The place of use can be changed to accommodate sharing, but not in a timely manner. The place of use described in a utility's water rights defines the area that water supplies can be used within. However, there are differences of opinion as to whether the place of use for a water right for municipal use is static (a fixed area established at the time the water right was granted) or dynamic (grows with expansion of a utility's corporate or service area boundary). As described earlier, the state's water code is based largely on agricultural water use. In agricultural irrigation, water use is related to specific parcels of land and to specific agricultural activities, and a fixed place of use helps avoid potential misuse and over-appropriation.

Applying the same context to a utility's water rights results in poor public policy in that it inhibits creative water resource management. While the current water code allows for changing the place of use associated with an existing water right, the procedure includes an application to the Department of Ecology, it is cumbersome, and a decision on such an application is not likely to be resolved in a timely manner. Broadening the approach to place of use does, however, raise some issues as to potential impacts from the use of the water across a much larger area than may have originally been contemplated when the right was issued, particularly impacts on streamflows and interbasin transfers. This issue is less problematic if it is addressed in a regional plan. However, a broad place of use approach should address an opportunity for affected interests to raise issues that might result from making a broader interpretation.

Potential Solution

The purpose and objective of the "place of use" provision in water right law is to provide a basis against which the four public tests may be measured. Historically this was evaluated on the application proposed by an individual utility. The state Legislature has enacted a broad state policy in the Water Resources Act of 1971 and Public Water Systems Coordination Act of 1977, directing public water systems to develop and coordinate water supplies regionally. When public water systems are interconnected, intertied, and share supplies developed regionally, the place of use should be evaluated and managed as an "inclusive place of use."

A practical and immediate solution is to change the water code to consider the "place of use" for existing and future water rights held by a water utility to be dynamic when included in a regional water management strategy. If the area served by a utility would include the area served by any utilities receiving water through connections to the water right holder, as it should, the public process could be addressed through regional planning under the Coordination Act, or under some other regional planning framework.

Intertie Limitations

Closely related to the issue of "place of use" is the use of interties. Interties can be used to share existing supplies, but the existing code has been interpreted to mean that a new supply cannot be developed with the express intent of supplying water from the new source through an intertie to another utility.

Interties are interconnections between public water systems permitting exchange or delivery of water between systems. Although the value of interties is clearly recognized by the state for improving overall system reliability, other uses of interties are not so clearly supported. These uses may include purposes such as providing opportunities for conjunctive use and opportunities to delay or avoid development of new water sources.

The state supports the use of interties that improve overall system reliability, enhance the manageability of the systems, provide opportunities for conjunctive use, or delay or avoid the need to develop new water sources. Interties include interconnections between public water systems permitting exchange or delivery of water to serve as primary or secondary sources of supply, but do not include development of new sources of supply to meet future demand (see RCW 90.03.383; WAC 246-290-010; WAC 246-290-132; and Attorney General Opinion 1996 No. 19). Therefore, a new source being developed by a utility under an existing water right could not be used to supply adjacent utilities, unless those adjacent utilities were within the place of use defined by the water right (see Limitations on Place of Use, above).

Ecology does not consider connections to different public water systems that lie within the water purveyor's designated place of use to be interties requiring changes in water rights under RCW 90.03.383. A public water system can provide water service anywhere within the place of use described in its water rights without the need to submit an application for change.

A related issue is that of emergency connections being used for non-emergency supplies. Emergency connections are not interties, but sometimes connections that are initially designated as emergency have, in the past, been used for non-emergency purposes without classifying them as an intertie, which may be in violation of a utility's water rights. This highlights the need for both clarification of the intertie statute and resolution of several other institutional constraints described in this section.

Potential Solution

A potential solution is to revise the existing statute to allow development of new sources of supply to meet future demand through use of interties.

Difficulty in Obtaining or Changing Water Rights (Water Code Issues)

To plan for future growth, utilities need to identify and implement supply options that will meet their forecast demands. A critical part of that planning and implementation process is making sure the necessary water rights are in place before they are needed. In some cases utilities need to change existing water rights to serve a different area or type of use (e.g., conversion from industrial to municipal use). Several factors currently make obtaining or changing a water right a prohibitively difficult, costly, or lengthy process. These factors include the lack of timely decisions on water rights applications and a lack of several types of information that may require a lengthy and/or difficult process to obtain (described earlier in this section). Another factor that has recently gained importance is the issue of hydraulic continuity. Those factors are described below.

Hydraulic Continuity

Hydraulic continuity refers to the interconnection between groundwater and surface water. Ecology is required by statute to consider hydraulic continuity when making decisions on groundwater right applications. In late 1995 and early 1996, Ecology issued approximately

600 decisions on applications to appropriate water in 12 different WRIAs. Statewide, 65 percent of the applications were approved, and the rest were conditionally approved or rejected based on impairment of existing rights. The denials were based primarily on impairment of a water right because of hydraulic continuity between surface water and groundwater (on the basis that further groundwater withdrawals would impair senior surface water rights, including instream flows). This is the first evidence of the significant challenge of managing surface water and groundwater. Approximately 150 of the applicants appealed Ecology's decisions.

The result of the appeals culminated in the *Postema v. Pollution Control Hearings Board,* 142 Wn.2d 68, 11 P.3d 726 (2000) decision from the Washington State Supreme Court. In a way the Court was asked, what are Ecology's obligations when analyzing an application to withdraw groundwater from an aquifer that may be hydraulically connected to surface water?

On the issue of water right impairment, the court said that a minimum instream flow is an appropriation entitled to the same protection from impairment by subsequent appropriators as other water rights. Hydraulic continuity (interconnection) between an aquifer and a stream where minimum instream flows are not met part of the year is not sufficient to find impairment. Impairment must be determined based on the facts in each case. The test for impairment is "no impairment." Ecology does not have to show a significant or measurable effect to deny a groundwater application based on impairment, but rather simply that an impairment would happen. Ecology may use new information and methods (such as modeling) as they become available and scientifically acceptable to determine hydraulic continuity and potential effects on surface water.

An application for groundwater withdrawal in hydraulic continuity with a surface water body closed by rule (a state regulation prevents additional appropriations from the water body) must be denied if the withdrawal will have any effect on the flow or level of the surface water.

The *Postema* decision is a very discouraging message for new, consumptive groundwater development in WRIAs 7, 8, 9, or 12 given the existing Instream Resource Protection Program, stream closures, and current flow regimes. Groundwater systems are important buffers and storage mechanisms for water supply. Additional understanding of the ability to evaluate and mitigate impacts while utilizing the benefits provided by groundwater sources should be evaluated in subsequent policy decisions for groundwater in the state.

Potential Solution

A potential solution is for the state to develop an appropriate framework to manage available water resources, allowing the state, local governments, and utilities to design and implement effective mitigation strategies where hydraulic continuity is found to be an issue. Water rights applications would still be denied where existing water rights would be impaired and hydraulic continuity issues could not be mitigated.

Difficulty in Making Timely Decisions

A significant institutional constraint to obtaining or changing a water right is the difficulty in making timely decisions. Currently, Ecology is unable to predict with certainty when a decision on any given application will be made. With approximately 7,000 pending applications statewide, it may be many years before a decision on a particular application will be made. (A recent estimate by Ecology of the time for a new water right application to be processed is approximately 35 years.) Factors that affect the processing of applications

include the location of the application, availability of information specific to the application, relationship to pending applications, and available staff resources at Ecology.

Water right applications are processed by Ecology's regional offices. Water right administration in the Central Puget Sound area is split between the Northwest and Southwest regional offices, which encourages locally based water right actions. Currently, 3.2 full time employees are responsible for reviewing water right applications for seven counties. Those same individuals do the permit administration, day-to-day correspondence, and water system plan review.

Water right decisions within each region are generally made on the basis of *priority*, or the date that an application is received, from oldest to youngest, within a source of water. However, there are some circumstances that may cause applications to be processed out of the normal priority sequence, including specific needs to preserve public health and safety or if the proposed use is nonconsumptive and would substantially enhance or protect the quality of the natural environment. In addition, an application to change an existing water right may be processed prior to competing applications provided one or more of the following criteria are satisfied:

- The change or transfer, if approved, would substantially enhance the quality of the natural environment, or
- The change or transfer, if approved, would result in providing public water supplies to meet general needs of the public for regional areas, or
- The change or transfer was filed by water right holders participating in an adjudication, and an expeditious decision is needed to ensure that orders or decrees of the superior court will be representative of the current water use situation.

Water Conservancy Boards

As an alternative to waiting for Ecology to process an application for change of water right, applicants may elect to have a water conservancy board evaluate the change request. At this time, there are no water conservancy boards operational in the Central Puget Sound region. Changes to this statute in 2001 make this vehicle more flexible, but there are no plans to utilize the expanded authority at this time.

Cost Reimbursement Agreement Option to Accelerate Review Process

A law passed during the 2000 legislative session (see ESSB 6277) allows project proponents with complex permit or multiple permit applications to voluntarily enter into cost-reimbursement agreements with Ecology and receive a more timely decision than under normal circumstances. Under a cost-reimbursement agreement, the applicant pays the reasonable costs incurred by the agency for the permit coordination, environmental review, application review, technical studies, permit processing, and carrying out the requirements of relevant law. Ecology is required to contract with independent consultants to carry out the work covered by the cost-reimbursement agreement. For water rights, an applicant for a new water right, or change or transfer of a water right, may initiate a cost-reimbursement agreement provided they agree to pay for the processing of all applications from the same water source that were filed before their application.

Potential Solutions

One potential solution would be to establish water conservancy boards in the Central Puget Sound region to process requests for changes in water rights. However, there has been

litigation involving the scope and authority of the conservancy boards. Tribes and environmental groups have expressed some opposition to their existence. Another, perhaps more practical approach, would be for the state to prioritize responsibilities of Ecology staff and provide the appropriate level of staffing at Ecology to carry out the Department's responsibilities in a timely manner. However, this second part of the solution would best be implemented after resolution of the other institutional constraints described in this section, especially by defining a clear guiding policy for state water resource management decision making.

Abuse of Water Supply Review Process

Groups and individuals in the area have successfully slowed or halted development of water supply projects through abuse of the project review process (including the water rights application process). These groups and individuals are generally opposed to growth and use a number of means to stave off growth, including slowing or preventing the approval of water supply projects.

Potential Solutions

No potential solution was identified to overcome potential misuse of the project review process.

Validity and Quantification of Water Rights (Water Code Issues)

Two closely linked constraints are the uncertainty as it relates to questions regarding existing water certificates and disincentives for water conservation and reuse, which are primarily due to the lack of certainty in water rights.

Uncertainty of Existing Water Rights

Public water utilities are responsible for supplying water to existing customers and for planning and meeting water supply needs of growth planned under GMA. Utilities therefore acquire and hold water rights that will allow orderly development of water supplies, sufficient to meet forecast demands. Utilities rely on existing permits certificates and claims to serve planned growth. Ecology has implied that certificates issued for planned growth may not be valid (a view that utilities believe is inconsistent with the legislative intent for public water supplies), however the issues have not been legally resolved.

The generic term "water rights" encompasses three types of appropriation of public water: permits, certificates, and claims. While permits and certificates have undergone a review process at Ecology to establish quantities of public water for appropriation, claims have not undergone the same review. Claims are filed based on the applicant's claimed water use prior to 1917, for surface water, or 1945, for groundwater. Approximately three-fourths of all water rights in the state are claims. Of the nearly 15,000 water rights in King County, about three-fourths are claims; in Pierce County about three-fourths of its 12,000 water rights are claims; in Snohomish County about 85 percent of the 10,000 water rights are claims.

Claims are converted into adjudicated certificates only by action of a court; Ecology has no legal authority to adjudicate claims. Because adjudication has not occurred for claims throughout the state, there is much uncertainty as to how much water is actually available to be appropriated. In many cases in the state, water right claims for surface waters total more

than the flow of the river or stream. This uncertainty in how much water is available to be withdrawn, when combined with uncertainty about how much water is needed to support fish and other environmental water needs, leads to frustration on the part of utilities, environmental organizations, tribes, Ecology, and other agencies. Until legislation is adopted or adjudication occurs, it is doubtful that effective, comprehensive water resource management can occur.

Recent administrative interpretations of existing municipal water rights have created uncertainty as to the status and validity of thousands of certificated water rights. This uncertainty defeats the purpose of existing watershed, water supply, and growth management planning legislation. Without clear statutory authority to acquire, maintain, and use water rights to meet reasonably expected future needs, water suppliers will continue to have increasing difficulty in planning, financing, and building water systems to serve the needs of the general public.

Potential Solution

A potential solution is for the state to affirm that utilities and communities can continue to rely on existing water permits, certificates, and claims to meet the needs of planned growth. However, water rights on paper cannot guarantee that water is actually available. Existing inchoate water may not be available as a result of watershed planning based on good science, risk assessment, and adaptive management. As described earlier, the state needs to develop a clear guiding policy for water resource decision making to resolve issues of water availability.

Disincentives for Water Conservation and Reuse

Although utilities and other water resource stakeholders agree on the importance of water conservation as a resource management strategy, the uncertainty of water rights described in the previous section results in a strong disincentive for water conservation or reuse. Anticipation of broad regional conservation regulations or requirements also acts as a more subtle disincentive to individual utilities implementing conservation measures.

While municipal water rights are exempt from relinquishment provisions under state water law, some smaller private water systems or those that do not meet the requirements of municipal water uses could be subject to relinquishment.

Of greater concern, however, is the ability of a water utility to grow into its water right. Ecology's interpretation of water law has resulted in a strong "use it or lose it" message that has gone out to many of the mid- to small-sized utilities. Under Ecology's interpretation, recognition of the unique role of municipal water utilities appears to be missing. Ecology has proposed that, like other water users, a municipal utility's water rights are only for the quantity of water that has been put to beneficial use, i.e., the amount of water that has been documented as actually being used for beneficial purposes.

The majority of water utilities are dependent on their current water rights to meet the anticipated future growth as dictated by current zoning and GMA. Utilities must plan and finance their systems based on these future demands and must be able to count on the water being available. In fact, some bonding and other financing institutions may want to be assured that the water rights are in place for the infrastructure that is being financed.

Consequently, there is little incentive for a water system to use less water and not maximize the quantity put to beneficial use if their water rights may be restricted or taken away. This acts as a disincentive to conservation and results in many utilities trying to use as much water

as possible in order to perfect a larger portion of their water right so it will not be lost or unreasonably conditioned. This concept of having to give conserved water permanently back to the natural system also is contradictory to the incentive mechanism that utilities have had to implement conservation or reuse. Many utilities have implemented conservation programs to "stretch" the water supply so that they can meet future demand. Of course, any water not used today remains in the streams and aquifers. There appears to be an emerging concept that the conserved water should be reserved exclusively to meet environmental purposes. This works fine for today when the conserved water is left in the stream or aquifer, but for many water systems there is still a need to use this conserved water to meet future demands.

Another subtle disincentive is found in the anticipation of future more strenuous water conservation regulations. The majority of the water utilities within the state and certainly those within the Central Puget Sound area anticipate that additional water conservation requirements will be forthcoming. In fact, many water utilities are working with other water resource stakeholders to investigate how more rigorous conservation programs could be developed that would raise the water conservation goals and allow monitoring of conservation performance against the goals. While water conservation is currently a major element of utilities' water system plans, the conservation plans are primarily a planning tool and although there are no hard requirements for meeting their determined conservation goals, utilities are making significant investments to assure that they achieve their conservation objectives.

Determining conservation goals is a very utility-specific endeavor. The composition of land use and industrial use within utilities varies widely, and the extent to which conservation efforts have already been implemented has a profound impact on the ability to achieve additional levels of conservation. Future water conservation regulations may be more "broad brush" in nature, with prescribed percentages of water savings which the utility must meet. Unless past conservation was accounted for, those utilities that have successfully implemented an aggressive conservation program over a number of years would find it more difficult to meet an additional across-the-board regional conservation requirement, while those utilities that are just starting their conservation programs could achieve results quicker and with less effort and cost. This has resulted in an attitude among some water purveyors that there is little incentive to implement aggressive conservation programs now if they will be held to future regulations that will be more difficult to achieve.

Additional information on impediments to water conservation and reuse can be found in Sections 8 and 10.

Potential Solution

A potential solution for resolving these disincentives to conservation and reuse is the same as for the previous constraint - the state can affirm that utilities and communities can continue to rely on inchoate water rights to meet the needs of planned growth.