Members of the Small Water Systems Technical Committee

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Dave Montheie, co-lead  King County Department of Natural Resources and Parks (DNRP)
Sean Bauer  City of Kent
Dustan Bott  Seattle Public Utilities
Walt Canter  Cedar River Water and Sewer
Kleen Cottingham  Associate facilitator for the Coordinating Committee in 2006
Larry Fay  Public Health–Seattle & King County
Ron Garrow  City of North Bend
Mike Ireland  Washington Water Service
Larry Krall  Cedar River Water and Sewer
Brad Lake  City of Kent
Jane Lamensdorff-Bucher  King County DNRP
Sheri Miller  Washington State Department of Health
Judy Nelson  Covington Water District
Jim Nilson  Seattle Public Utilities
Shirley Nixon  Center for Environmental Law & Policy
Sarah Ogier  King County DNRP
Tim Osborne  City of Auburn
Bob Pancoast  East King County Regional Water Association
Doug Rushton  Washington State Department of Ecology
Ron Sheadel  Cedar River Water and Sewer
Craig Shuck  Small water system designer
Larry Stockton  King County DNRP
Don Wright  South King County Regional Water Association

Presenters at Committee Meetings (other than Committee members)

Steve Graddon  Graddon Consulting and Research, Inc.
Ken Johnson  King County DNRP
Richard Rodriguez  Washington State Department of Health
Deana Taylor  Washington State Department of Health

Committee Support

Jamie Foulk, report production  King County DNRP
Tamie Kellogg, facilitator  Kellogg Consulting, Inc.
Cathie Scott, summary notes and report writing  King County DNRP

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Executive Summary

The Coordinating Committee for the King County regional water supply planning process formed a Small Water Systems Committee early in 2006 as part of the process convened to develop technical information regarding current and emerging water supply and resource management issues in and around King County. The Committee established a primary goal of examining whether small water systems in the county can, both now and in the future, reliably provide their customers/users with a safe and adequate domestic water supply. The Committee defined “small systems” as public water systems with fewer than 100 connections and other small water users supplied by wells exempt from the Washington State Department of Ecology’s water right permitting process.

The Committee met monthly for a year and half, holding its final meeting in July 2007. To identify what is known and not known about small water systems in King County, members reviewed previous reports and studies, data from other members and outside agencies, and legal documents and policies. It also applied for and received an allocation of $40,000 from a $250,000 Washington State Department of Ecology grant awarded for the regional water supply planning process. The funds were used to fill some of the data gaps identified by the Committee, particularly around recent numbers for locations and uses of new individual wells and around water quality and quantity data for Group B systems, and to help prepare this report.

Early in the process, the Committee devised a draft list of potential issues and questions. Based on information gathered and analyzed throughout the course of the Committee’s tenure, the Committee refined its set of issues and questions, set priorities, and made recommendations for addressing the top three priorities: (1) provision of “timely and reasonable” service to new customers within a water utility’s service area; (2) small water system water quality sampling and enforcement; and (3) receivership of failing small water systems. Other potential issues and questions that were not addressed during the Committee’s tenure could be taken up in the future by other groups or through other processes.

Timely and Reasonable/ Duty-to-Serve

The Small Water System Committee considered issues related to, and the definition of, “timely and reasonable” water service in order to recommend to King County an approach to the issue of timely and reasonable service under the Public Water System Coordination Act (RCW 70.116). The Committee agreed that developing a proposal that included incorporating a discussion of the utility’s approach to timely and reasonable service in the utility’s planning documents would facilitate better understanding and expectations between a water system and its customers regarding how water may be provided. In particular, the Committee’s recommendations included the following:

- Specifying the time period between a utility’s receipt of a request for service and its written response to the request for service
- Identifying the elements that should be included in the utility’s response
Executive Summary

- Identifying the elements that should be included under the water service delivery policies in a utility’s water system plan

**Water Quality Sampling and Enforcement**

The Small Water Systems Committee agreed to address the following two topics:

- The compliance status of small water systems (under 100 connections) in meeting water sampling requirements and the frequency of water quality violations
- The general approach that the Washington State Department of Health (DOH) and Public Health–Seattle and King County (PHSKC) use to assure compliance by small water systems with water quality and sampling requirements

A subcommittee consisting of representatives from PHSKC, DOH, and King County Department of Natural Resources and Parks (KCDNRP), and a small water system designer/operator developed a report that documents the most current information on these topics for small systems that are regulated by both DOH and PHSKC. The full Committee reviewed draft reports and approved the final document, weighing in on some of the subcommittee’s recommendations to improve compliance. Other issues raised in the report and recommended approaches to them were left to be addressed in other processes (such as Board of Health rulemaking).

**Receivership**

King County has an interest in reducing or eliminating the risk of being appointed the receiver of a failing water system. King County suggested four possible actions that could serve to mitigate this threat: (1) meeting regularly with PHSKC and DOH to discuss status of systems in King County; (2) including receivership in the event that a Coordination Water System Planning process is initiated; (3) reviewing King County’s 1994 draft *Action Plan for Receivership* and possibly updating and finalizing it; and (4) meeting with willing utilities to discuss entering into formal agreements with regard to failing systems. The Small Water Systems Committee supported the county in taking these actions, but did not take up the issue further.
Chapter 1

Introduction

Multiple agencies and organizations are voluntarily participating in a regional water supply planning process to develop technical information regarding current and emerging water resource management issues in and around King County. The outline of the process and its objectives are described in an October 2005 Planning Framework Summary document produced by an initial group of stakeholders convened by the King County Executive to develop an approach toward regional water supply planning.¹

The Planning Framework Summary proposed that technical committees be formed to address a set of water resource, water supply, and planning issues. The Coordinating Committee created to oversee the planning process, including the technical work, drafted charters for seven technical committees. The committees addressed the issues of water demand forecast, water supply assessment, climate change impacts, reclaimed water, tributary stream flows, source exchange strategies, and small water systems. The technical committees were asked to produce information on these issues based on best available science that could be used in support of water planning in the region.

The Coordinating Committee agreed to a formal statement with regard to the products produced by the committees, which states that participants may choose whether or how to use the products as they see fit and that the work of the committees does not in any way affect the authority of any of the participants in the planning process.

A Small Water Systems (SWS) Technical Committee was one of the committees formed as part of the process. The purpose of this report is to document the work of the SWS Technical Committee, including any findings and recommendations.

Chapter 1 presents the purpose, participants, and processes of the SWS Committee.

1.1 Small Water Systems Technical Committee—Purpose, Participants, and Process

The Small Water Systems Technical Committee is composed of representatives from water utilities, regional water associations, water system management companies, an environmental organization, Washington State Departments of Health and Ecology, Public Health—Seattle & King County (PHSKC), and King County Department of Natural Resources and Parks (KCDNRP) (Table 1-1). PHSKC and KCDNRP coordinated and hired an external facilitator for

¹ http://www.govlink.org/regional-water-planning/docs/0510_Final_Framework.pdf
Chapter 1. Introduction

the meetings. Participation on the Committee was open to any interested entities and was at their discretion.

The SWS Committee held its first meeting on March 13, 2006. It met, on average, every three weeks through December 11, 2006, and monthly January through July 2007. Early in the process, the Committee devised a draft list of potential issues and questions concerning small water systems in King County. It then redrafted its charter, including a workplan, and created a roadmap to address the list.

<table>
<thead>
<tr>
<th>Table 1-1. Members of the Small Water Systems Technical Committee</th>
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<tr>
<td>Bill Lasby, co-lead</td>
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<td>Dave Monthie, co-lead</td>
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<td>Sean Bauer</td>
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<td>Larry Stockton</td>
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<td>Don Wright</td>
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As indicated in its charter, the Committee’s primary goal was to examine whether small water systems can, both now and in the future, reliably provide their customers/users with a safe and adequate domestic water supply. To do this, the Committee proposed to evaluate (1) the creation, management, and operation of small water systems within the current social, regulatory, and

---

2 Tamie Kellogg of Kellogg Consulting, Inc., served as committee facilitator. Cathie Scott, KCDNRP, took summary notes that the Committee reviewed and approved prior to publication on the Web site; Cathie helped write this final report that the Committee reviewed, revised, and approved prior to its publication.

3 The revised draft charter/workplan is included in Appendix B to this report and is available at http://www.govlink.org/regional-water-planning/tech-committees/small-systems/060605/SmWtrSystWkplnCharterFinalDRAFT6-7-06.doc.
economic context, and (2) the current and projected viability of those systems. The geographic scope of the Committee covered all of King County. For purposes of this effort, the Committee defined “small water systems” as all public systems with fewer than 100 connections and single domestic and exempt wells, including irrigation wells.\(^4\)\(^,\)\(^5\)

The Committee sought to identify what is known and not known about small water systems in King County. Members reviewed previous reports and studies, data from other members and outside agencies, and legal documents and policies. It also applied for and received an allocation of $50,000 from a $250,000 Washington State Department of Ecology grant awarded for the regional water supply planning process. The funds were used to fill some of the data gaps identified by the Committee, particularly around recent numbers for locations and uses of new individual wells and around water quality and quantity data for Group B systems. The Committee originally allocated $10,000 of the $50,000 as a placeholder for an evaluation of water quantity use by individual exempt wells but subsequently agreed to return that allocation to the Funding Committee. Chapters 2 and 3 contain more detail on the information and data collection effort.

Based on the information and data gathered and analyzed, the Committee refined and further defined its set of issues and questions, set priorities, and made recommendations for addressing the top three priorities, as described in Chapter 4.

Throughout the process, the Committee provided periodic status reports to the Coordinating Committee. Appendix A contains the status report presented at the January 2007 meeting of the Coordinating Committee.

### 1.2 Content and Organization of This Report

The remaining chapters in this report describe the following:

- Chapter 2—the information and data that was generated and reviewed by the Committee.
- Chapter 3—the Ecology-funded work completed by KCDNRP and PHSKC.
- Chapter 4—the evolution of the set of issues and questions generated, refined, and prioritized by the SWS Committee and the Committee’s discussions, findings, and recommendations on its priority issues.
- Chapter 5—Concluding observations and suggestions for possible future work.

Appendices to this report provide additional documentation and detail, including a summary of handouts, presentations, and documents; reports of the work done through the $40,000 in state grant funds; and other SWS Committee–generated products such as the charter/workplan, roadmap, and meeting summary notes.

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\(^4\) Washington State defines a public water system as any system with two or more connections—whether publicly or privately owned. Public systems are classified as Group A (15 or more connections) and Group B (2 to 14 connections).

\(^5\) Exempt wells are not required to obtain a water right permit from the Washington State Department of Ecology. In order to be exempt, no more than 5,000 gallons of groundwater can be used from the well each day for certain uses, or for irrigation of less than 0.5 acre, or for stock watering. See RCW 90.44.050.
Chapter 2

Data Collected and Reviewed by the Committee

The first three steps in the scope of the redrafted Small Water Systems Committee charter called for the committee to (1) identify what is known about small water systems in the King County area, (2) describe the legal and regulatory framework and policies, and (3) identify any data gaps that are beyond the resources of the committee to resolve.¹ This chapter presents the context for the data review and describes the committee’s work to accomplish these tasks. Chapter 3 discusses the data gaps identified by the Committee and efforts to address those gaps with funding provided by the Washington State Department of Ecology.

2.1 Context for Data Collection and Review

The committee took on the task of assembling and reviewing data regarding small water systems in King County. There are multiple definitions of “small water systems.” Federal regulations adopted by the U.S. Environmental Protection Agency (EPA) define a small public water system as a system that serves at least 25 people or 15 service connections for at least 60 days per year and serves populations less than 3,300 (generally, systems with fewer than 1,000 connections). A 1991 Washington State Department of Health (DOH) study defined small systems as those with between 2 and 1,000 connections, while often citing data for systems with between 2 and 100 connections.² A report prepared by Seattle Public Utilities (SPU) in 2002 defined small water systems as systems with fewer than 500 connections.³

For purposes of the Small Water Systems Committee, its charter defines small systems as those with fewer than 100 connections, including individual wells. This definition includes Group B water systems (those that serve 2 to 14 service connections) and Group A water systems (those that serve 15 to 100 connections). Figure 2-1 shows service planning areas for water utilities and Figure 2-2 shows the locations of Group B and small Group A systems in King County.

In general, Group A systems are subject to rules adopted by federal and state agencies; Group B systems are subject to state and local rules; and individual wells are subject to state and local rules. All are required to comply with public health and water rights requirements.

Various state and local agencies are responsible for different aspects of the creation and regulation of small water systems. Under an agreement with EPA, DOH is responsible for

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¹ See Appendix B for the charter and Appendix C for the regulatory framework.
Chapter 2. Data Collected and Reviewed by the Committee

regulating Group A water systems that are subject to federal requirements, under rules adopted by either DOH or the State Board of Health (SBOH). At the state level, either DOH or local health jurisdictions (LHJs) can enforce rules adopted by the SBOH for both Group A and Group B systems, and a local board of health has the authority to adopt rules more stringent than SBOH rules. DOH and the LHI in each county in Washington State have entered into a Joint Plan of Operation (JPO) that specifies what each agency will be responsible for with regard to both Group A and Group B systems. Within King County, the JPO between DOH and Public Health–Seattle and King County (PHSKC) provides for DOH to ensure regulatory compliance of Group A and larger Group B systems (10–14 connections). PHSKC is responsible for approving and overseeing the remaining Group B systems (2–9 connections).

Decisions on the creation of small Group B systems in King County or on allowing the construction of individual wells are generally a local government determination, either under independent authority (local Board of Health rules or King County Code), delegated authority from the state (e.g., well approvals), or other provisions of law (e.g., “timely and reasonable” determinations under Coordinated Water System Plans). The King County Comprehensive Plan, adopted under the Growth Management Act, has extensive service area policies for water utility service.

The Washington State Department of Ecology (Ecology) defines municipal water supplies and suppliers, grants and administers water rights, and tracks notices of intent and well drilling for individual wells. Withdrawals of groundwater since 1945 require a water right permit or certificate unless the use is specifically exempt from state permitting requirements. Small Group B and individual wells that withdraw less than 5,000 gallons per day or that irrigate less than one-half acre are considered exempt from the permitting process. However, while “exempt” groundwater uses are excused from needing a state permit, they may have conditions attached by Ecology (e.g., metering) and are still considered to be water rights subject to standard water law provisions (e.g., priority date; injury to senior water rights).

The task of assembling data concerning small water systems in King County can be complicated because each regulatory agency owns and operates its own tools, such as databases, for tracking its particular aspects of small water system management. The DOH Sentry data system routinely compiles data on water quality sampling and testing for each Group A system, as well as on compliance with DOH planning requirements, and updates each system’s basic data through an annual Water Facilities Inventory (WFI) supplied to DOH by each system. The PHSKC Envision data system compiles information at the creation of each Group B system for which PHSKC is responsible for under the JPO, and tracks over time each Group B system’s compliance with monitoring, testing, and other requirements. DOH’s Sentry database and PHSKC’s Envision database are complementary and are able to share information.

DOH and PHSKC members of the Committee presented basic information on the status of small Group A and Group B systems. The DOH data on water quality sampling for small Group A systems is up to date and complete. However, the Small Water Systems Committee learned that the database of Group B water system information had not been kept up to date and that a majority of Group B systems have not conducted the required water quality sampling and monitoring, although a large majority of those that have done the sampling are in compliance with water quality standards.
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King County

Department of Natural Resources and Parks

Figure 2-1

KING COUNTY
Water Utilities’ Service Planning Areas

Majority of Water Provided by Seattle Public Utilities

Water Utility Name

City Name

Coordinated Water Supply Planning Area

Urban Growth Area Boundary

City Boundary

July 2007

Map produced by

King County DNR/WLR GIS and Visual Communications & Web Unit

Data: plibrary/utilty/wtrserv

Map produced by:

King County DNR/WLR GIS and Visual Communications & Web Unit

Department of Natural Resources and Parks

King County

Department of Natural Resources and Parks

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Map produced by:

King County DNR/WLR GIS and Visual Communications & Web Unit

Department of Natural Resources and Parks

King County

Department of Natural Resources and Parks
Figure 2-2
KING COUNTY
Group B and Small Group A Water Systems

- Small Group A Water System
- Group B Water System
- Urban Growth Area Boundary
- Incorporated Area

Map produced by:
King County DNR/WLR GIS and Visual Communications & Web Unit
July 2007

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Chapter 2. Data Collected and Reviewed by the Committee

The DOH database includes information on Group A system water consumption as part of WFI information. However, since it has not been part of PHSKC’s Group B program, there are little data on typical water usage of individual and small water system wells. Data on the creation of new individual wells for water supply purposes in King County are also not routinely compiled by Ecology from notices of intent or well log data. (See Chapter 3 for compilation of well creation data and for initial efforts by PHSKC to track water usage by Group B systems.)

Although at any given time there may be a number of Group A or Group B systems in King County that are out of compliance with regulatory requirements, both DOH and PHSKC focus their compliance activities on systems that pose the highest health risks because of such violations. Only rarely do such systems require significant interventions, such as DOH filing an action asking a court to name a “receiver” for a system that is failing. (Chapter 4 includes a discussion on receivership.)

Studies, such as the 1991 DOH study and the 2002 SPU study, have attempted to identify and recommend solutions to small water system issues. The Small Water Systems Committee tried to collect and review data that built on earlier studies. For example, DOH and PHSKC updated the Committee on the status of the recommendations made in the 1991 DOH report. The Committee sought to build bridges across the various sources of data and to fill in some of the data gaps through completion of its Ecology-funded projects. For a more detailed discussion of the DOH and PHSKC regulatory approach to water systems in King County and for data with regard to compliance by such systems, refer to Chapters 3 and 4.

2.2 What Is Known About Small Water Systems

At the first meeting of the Small Water Systems Committee on March 13, 2006, members identified potential data to be collected, generated, and reviewed and the Committee representatives responsible for supplying the data:

- Summary of legal framework for small water systems—King County Department of Natural Resources and Parks (KCDNRP) and PHSKC
- Current status of Group B systems and Group B trends—PHSKC
- DOH report to the Legislature on Group B systems—PHSKC and DOH
- GIS maps of small water systems and water service areas—KCDNRP and SPU
- Satellite Management role/program—various utilities
- Consolidated Report on Water Supply in King County, SPU, 2002—SPU
- Small water system strategies from East King County and South King County Coordinated Water System Plans—plan coordinators
- Municipal Water Law status—DOH

Most of these data and additional data identified through the course of the year—such as the current status of small Group A systems and Group A trends (DOH) and Group B system design and management (Group B designer/certified operator)—were reviewed via handouts and presentations at Committee meetings. In addition, data were collected and/or generated through Ecology-funded projects. The following section briefly discusses and summarizes the data collection and review efforts at the Committee meetings. Chapter 3 provides information on the data collected and compiled through the Ecology-funded work.
Chapter 2. Data Collected and Reviewed by the Committee

2.3 Handouts and Presentations

Table 2-1 lists the handouts and presentations at Small Water System Committee meetings. All handouts and presentations shown in the table are summarized in Appendix D. Meeting summary notes are provided in Appendix E.

Table 2-1. Small Water Systems Committee Presentations and Handouts

<table>
<thead>
<tr>
<th>Meeting Date</th>
<th>Presentation Details</th>
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<tbody>
<tr>
<td></td>
<td>2. Compliance information—small systems (&lt; 100 connections) in King County (DOH, 3-31-06)</td>
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<td>4. Municipal Water Law—Draft Handouts at July and August 2005 Stakeholder Meetings on Proposals for Planning and Engineering Requirements (accessed from DOH Web site on 3-31-06)</td>
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<td>6. Consolidated Report on Water Supply in King County (prepared for Seattle Public Utilities, February 2002) (taken from Chapters 2 and 6)</td>
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<td>8. RCW 43.70.195. Public Water Systems, Receivership Actions Brought by Secretary—Plan for Disposition (accessed from the Web by DOH, 4-21-06)</td>
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<td>9. Summary of Receivership Actions as of 4/28/04 (DOH)</td>
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<td>10. List of Approved Satellite Management Agencies in Washington State (DOH, 1-1-95)</td>
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<td>11. East King County CWSP Satellite System Management Program (East King County Regional Water Association, October 1989 CWSP and August 12, 1993, addendum)</td>
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<td>13. Satellite system policies and contracts (Covington Water District, January 1997)</td>
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<td>15. Small Water Systems Committee Meeting Summary Notes (4-24-06)</td>
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<td>May 16, 2006</td>
<td>16. Exempt Irrigation Wells In King County (PowerPoint presentation: Ken Johnson, KCDNRP; slides dated 5-16-06)</td>
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<td>17. How Reliable Are Our Water Systems? What Happens When Systems Fail—The Rimrock Case Study (DOH, 11-18-05)</td>
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<td>19. Satellite Management Agencies Approved to Operate in King County (DOH, May 2006)</td>
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<td>20. Small Water Systems Committee Meeting Summary Notes (5-16-06)</td>
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<td>June 5, 2006</td>
<td>21. Information on number of irrigation wells in King County (sample map and list by water districts (KCDNRP, May 2006)</td>
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<td>22. Groundwater Protection Services and Funding, 2005 Report to King County Council and Seattle-King County Board of Health (KCDNRP and PHSKC, December 2005)</td>
</tr>
</tbody>
</table>

Appendix D also contains a list of data presentations suggested by Small Water Systems Committee members.
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<tr>
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</tr>
</thead>
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</tr>
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<td><strong>June 26, 2006</strong></td>
</tr>
<tr>
<td>24. Letter from Tacoma-Pierce County Health Department (June 13, 2006)</td>
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<td>32. Small Water Systems Committee Meeting Summary Notes (7-18-06)</td>
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</tr>
<tr>
<td>34. Municipal Water Law—Agency Responsibilities Outline (DOH and Ecology, 6-23-06)</td>
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<td>38. Municipal Water Law Discussion Paper No. 3, Should the Department of Health require a public meeting or governing body approval prior to its approval of a water system plan? (DOH, 6-23-06)</td>
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<td>39. Small Water Systems Committee Meeting Summary Notes (8-7-06)</td>
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<td>42. Small Water Systems Committee Meeting Summary Notes (10-30-06)</td>
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<td>43. Municipal Water Law Briefing Paper, Retail Service Area (DOH, October 2006)</td>
</tr>
<tr>
<td>44. Municipal Water Law Briefing Paper, Duty to Serve (DOH, October 2006)</td>
</tr>
<tr>
<td>45. Municipal Water Law Briefing Paper, Local Government Consistency (DOH, October 2006)</td>
</tr>
<tr>
<td>46. Small Water Systems Committee Meeting Summary Notes (11-29-06)</td>
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<tr>
<td>48. Decision Tree for Timely and Reasonable Service (Cedar River Water and Sewer District, 1-19-07)</td>
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<tr>
<td>49. Small Water Systems Committee Meeting Summary Notes (1-8-07)</td>
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<tr>
<td><strong>February 12, 2007</strong></td>
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<tr>
<td>50. Small Water Systems Committee Meeting Summary Notes (2-12-07)</td>
</tr>
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## Chapter 2. Data Collected and Reviewed by the Committee

<table>
<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>March 12, 2007</td>
<td>51. Small Water Systems Committee Meeting Summary Notes (3-12-07)</td>
</tr>
<tr>
<td>April 23, 2007</td>
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<td>54. Small Water Systems Committee Meeting Summary Notes (5-14-07)</td>
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<td>June 11, 2007</td>
<td>55. Small Water Systems Committee Meeting Summary Notes (6-11-07)</td>
</tr>
<tr>
<td>July 23, 2007</td>
<td>56. Small Water Systems Committee Meeting Summary Notes (7-23-07)</td>
</tr>
</tbody>
</table>

DOH = Washington State Department of Health  
KCDNRP = King County Department of Natural Resources and Parks  
KCDDES = King County Department of Development and Environmental Services  
Chapter 3

Ecology-Funded Projects

The Small Water Systems Committee submitted a proposal to the Washington State Department of Ecology (Ecology) to use $50,000 of the $250,000 state funds earmarked for the King County regional water resources planning effort. (The proposal is included as Appendix F to this report.) The purpose of the proposed projects, with the exception of $10,000 proposed to prepare the committee’s final report, was to help determine whether concerns may be warranted regarding the number and extent of Group B systems and other exempt water wells, their impact on streamflows, and their effects on Group A public water utilities in their service areas. The work consisted of compiling existing information, collecting new information, analyzing the information, and presenting it in easy-to-access formats such as GIS maps, graphs, and reports. The Ecology-funded projects were completed by King County Department of Natural Resources and Parks (KCDNRP) and Public Health–Seattle and King County (PHSKC).¹

3.1 Work Done by Public Health–Seattle and King County

PHSKC completed four tasks:

- Collect and analyze water use data from a small number of Group B systems.
- Prepare a map that shows locations of Group B systems based on GPS coordinates and a list of Group B systems not yet assigned GPS coordinates but in the PHSKC database.
- Prepare a map of individual single-family domestic wells based on information in the database on permits issued for onsite sewage systems in the last 5–10 years, and identify well development by year and parcel size.
- Compile into a single database and prepare a report on Group B system water quality violations based on monitoring test results, sanitary system surveys, and investigations.²

The following sections describe the work done to complete these four tasks.

3.1.1 Water Use Data from Group B Systems

Twenty Group B water systems were selected for water use monitoring. The systems range in size from two to six connections and all have source totalizing water meters already in place. The systems began monitoring water use in August 2006. They are collecting and reporting use information on a monthly basis. Each month, PHSKC staff send a joint email to all of the parties

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¹ The proposed scope of work for use of the $50,000 also included $10,000 as a placeholder for a project to collect water use data from a few exempt and individual wells in King County. The committee decided to forego this project, and the $10,000 was made available to other technical committees.

² Data maintained by PHSKC with regard to water quality problems and potential health risks associated with these small systems are not currently stored and maintained in a form that allows easy and reliable analysis of potential health risks.
in the water meter reading group to remind them to collect the meter readings. In addition, as the opportunity presents, more systems are added to the monitoring activity.

As water meter information is submitted, it is entered into the Envision database along with information on the number of current active connections and the date and time the reading was taken.

When there are sufficient data for analytical purposes, PHSKC will prepare a report that identifies real water use patterns of small water systems in King County.

### 3.1.2 Map of Group B System Locations

A GIS map was created using all Group B well location information in the Envision database. GPS coordinates were used when available. When the database did not contain well location coordinates, the well location was identified using the center of the parcel containing the well.

The total number of Group B water systems with GPS measurements was 484 out of 1,484 systems. Since the report was initiated, GPS coordinates were established for an additional 227 Group B water systems, bringing the total number of systems with GPS location information to 711 out of 1,484.

This map was presented to the Small Water Systems Committee on February 12, 2007, and was subsequently used as the base for producing compliance status maps.

### 3.1.3 Map of Individual Single-Family Domestic Wells

The Envision database was queried to produce a list of parcels with onsite sewage system approvals that show the water source as an individual water supply. KCDNRP used these data to produce a base map showing single-family domestic wells developed in the last 10 years (see the section later in this chapter that discusses work done by KCDNRP). It is important to note that these data do not show all domestic wells drilled and do not show irrigation wells. Rather, the data are limited to sites that had an onsite approval and an individual well. There may be wells that were drilled that were not associated with a septic approval. Further work should be done to reconcile well reporting information contained in Ecology and PHSKC records.

### 3.1.4 Group B System Water Quality Violations

PHSKC’s Envision data system is fully capable of functioning as a single repository of small water system information for King County. However, many errors occurred as different data systems that were used in the past were merged into new systems and ultimately into Envision. These errors became evident as attempts were made to query information such as system status, sampling compliance, and water quality. There were many instances of multiple entries, missing data, or data that were partially entered.

These problems were addressed during completion of this task. Multiple identification numbers from the 1997–1999 merge of the dbase Group B data and the Sierra building permit data into the Envision database are being identified and corrected. About 150 Group B water system files have been cleaned up, removing multiple entries and correcting incomplete information on
connected parcels to each water system; well source construction; bacterial, nitrate, arsenic, iron, and manganese water quality testing results; current contacts for each water system; and other information such as the date of the most recent inspection, date of the as-built for the water system, the presence of a meter on the system, and unique well identification number (where available).

The following data were included in a report to the Small Water Systems Committee (see Chapter 4 and Appendix G):

- The number of Group B systems and the number of Group B systems by size (2–9 connections).
- The compliance status of Group B systems (adequate, provisionally adequate, inadequate); percent of total water quality sampling completed (those current in nitrate sampling, current in bacteria sampling, and both); percent in each category of water systems (adequate, provisionally adequate, and inadequate); number of Group B inspections annually (2001–2006); enforcement strategies; success stories; specifics on applicable Board of Health code changes over the years on key items such as operating permit and the 5-acre requirement; an estimation for low compliance in water quality monitoring; and future steps for the program.
- Maps in GIS format showing locations of systems and their status for routine bacteria sampling and routine nitrate sampling and for compliance with bacteria standards. The maps are derived from data listing water systems with unsatisfactory bacteria samples from the last five years, nitrates older than three years, and bacteria samples older than one year. The database is capable of generating other relevant information such as locations of sole source aquifers and critical aquifer recharge areas. Figures 3-1 and 3-2 show examples of these capabilities. One product of the exercise is that PHSKC can now link Envision data to GIS to create real-time visual information of small water system status across King County. When completed, the public will have Web access to current compliance maps.

3.2 Work Done by King County Department of Natural Resources and Parks

KCDNRP completed three tasks:

- Examine Ecology records of well logs to determine the location and purpose (domestic, public water supply, irrigation, and other uses such as monitoring or dewatering) of each well.
- Prepare GIS maps showing locations of wells drilled, and compile lists of numbers and types of wells inside and outside Group A service areas in the county.
- Prepare graphs showing trends in installation of individual wells in the past five years compared with previous years.

The following text describes the work done to complete these three tasks. More information is available in Appendix H.

To allow for more accurate assessment of the number of recent exempt wells and their potential impacts in King County, KCDNRP staff created a GIS database that can relate the locations of
wells to other information or in relation to other features of concern identified in the charter for the Small Systems Committee. The basic source material for the database was information on drillers’ logs for water wells, obtained from Ecology’s Well Log Viewer Internet site. Two selections were made:

- Initial selection of logs for all water wells installed in King County (11,464 wells)
- Logs for the subset of water wells completed since January 1, 2000 (1,540 wells)

The first set was used for overall analyses (mainly regarding the rate at which wells were installed over the years). The second set—a subset of the first—was enhanced to obtain better information about location (to a parcel centroid). County staff used this dataset for more detailed analyses. No attempt was made to use logs for monitoring wells (“resource protection wells”) or reports of well abandonment (“decommissioning”). Many monitoring wells have been installed, especially in recent years, but this category was excluded from consideration in the database because these wells should not be used for water withdrawals.

For the enhanced (location) data set (2000–2006), staff compiled data on the proposed category of use of each well, as identified on the well log. The largest numeric category (70 percent) was wells for individual domestic supply. The second most common category (14 percent) was dewatering wells, usually considered only temporary during construction activities, but occasionally reported anecdotally as remaining in use for longer periods of time or permanently. The third most frequent category (10 percent) was for irrigation, including irrigation in residential areas and utility service areas. Municipal and group domestic public water system wells comprise about 4 percent of the database, although there were probably a few more that could not be correctly identified. Small numbers of industrial, test, or other uses were also reported. (Figure 3-3 shows the locations of individual, municipal, and group domestic water wells; Figure 3-4 shows the locations of irrigation, industrial, test, and other wells.)

The enhanced location data, which could be analyzed to address a number of questions, provided a quick snapshot, including the following pieces of information, that may be useful to the Committee:

- In 2000 and 2001, the number of new domestic wells was over 200 per year; for the past four years, the annual drilling of these exempt wells has been at a somewhat steady rate of 150 wells per year. For 2006, the estimated total (based on an incomplete set of data for the year) was likely the lowest annual number. (See Figure 3-5.)
- Since January 2000, a large proportion of both domestic and irrigation wells were drilled inside existing water utility service areas. The five water utilities with the largest number drilled in their service areas are Covington Water District (168 domestic, 37 irrigation); Cedar River Water and Sewer District (92 domestic, 7 irrigation); King County Water District 119 (70 domestic, 4 irrigation); Sammamish Plateau Water and Sewer District (53 domestic, 5 irrigation); and Fall City Water District (43 domestic, 3 irrigation). There is currently no mechanism in place to notify water utilities of wells being drilled in their service areas.
- The number of dewatering wells drilled since January 1, 2000, was 212.

The database can also be used for a variety of other investigations. For instance, it can be used to identify the number of wells within a given distance of a stream or to locate clusters of wells.
Figure 3-1. Example of Capabilities of PHSKC’s Envision Database (with focus on sampling status of Group B Water Systems)
Figure 3-2. Example of Capabilities of PHSKC’s Envision Database (with focus on results of Group B Water System Sampling)
The information included on this map has been compiled from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This map is not intended for use as a survey product. King County shall not be liable for any general, special, indirect, incidental, or consequential damages resulting from the use or reliance on the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission from King County.

File Name: Q:\WTD\Projects\RWSP\Projects\fig3_wells.mxd - Shari Cross

Potable Water Wells Drilled in King County
2000 - 2006

FINAL REPORT FOR SMALL WATER SYSTEMS COMMITTEE
Irrigation, Industrial, Test, and Other Wells Drilled in King County, 2000 - 2006

Figure 3 - 4

The information included on this map has been compiled from a variety of sources and is subject to change without notice. King County makes no representation or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to use of such information. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, loss of profits or profits resulting from the use or revision of the information contained on this map. Any sale of this map or use of information on this map is prohibited except by written permission of King County.

File Name: C:\MAPS\Projects\RWSP\Maps\fig6_wells.mxd - Shari Cross
Figure 3-5. Number of Domestic Wells Drilled in King County, 2000–2006
Chapter 4

Issues and Questions Identified by the Committee

This chapter describes the processes used by the Small Water Systems Committee to identify, prioritize, and sequence issues and questions regarding the viability of small water systems in King County. It includes the final prioritized list of issues and questions and a plan to address the top priorities. The chapter then discusses the processes and products of the committee’s efforts to address the priority issues.

4.1 Identifying and Prioritizing Issues and Questions

At the first Small Water Systems Committee meeting on March 13, 2006, members identified a set of issues and questions regarding small water systems in King County (Appendix I). The issues reflected the various perspectives and interests of the groups that members represented. Most of the issues concerned the cost-effective and efficient supply of water to landowners on the periphery of Group A system service areas.

Between the March 13 and April 3 meetings, members refined the issues and questions and staff grouped them into five categories (Appendix I). Members also formulated four “overarching” issues:

- What is the “problem” and what data do we have to help define what that is?
- What is the Committee expecting to produce in the way of work product or other outcomes to address this problem?
- What issues are within/outside our ability to influence/control at the county level?
- What approaches to the problem have been tried in the past and worked/not worked, and why/why not?

During April and May, the Committee redrafted its charter (Appendix B). The charter sets forth the purpose and scope of the Committee. The scope includes a workplan consisting of steps to gather and review data on small water systems; identify which issues to address and set priorities for addressing them; develop final recommendations, options, and strategies for resolving identified problems; and prepare a report. The steps include procedures for identifying, prioritizing, and sequencing issues.

Issues and questions were added to the list as they surfaced during data review and discussions. In addition, the whole committee during the meetings and individual members between meetings worked during the summer to further clarify and define the issues and questions. A revised list was distributed at the August 7 meeting of the full Committee.
Chapter 4. Issues and Questions Identified by the Committee

During the hiatus between the August 7 and October 9 meetings, a subcommittee met to continue to refine the list. The subcommittee consisted of five Committee members representing King County Department of Natural Resources and Parks (KCDNRP), Public Health–Seattle and King County (PHSKC), Seattle Public Utilities, Washington Water Service, and Washington State Department of Health (DOH). The subcommittee met once face-to-face and twice via conference call. Three products emerged from the meetings: (1) a refined list of issues and questions that combines some items and uses key words to summarize the remaining items; (2) a partially completed matrix that attempts to link the issues and questions to subcommittee-generated organizing principles; and (3) the refined list superimposed on the revised fleshed-out list that was distributed at the August 7 meeting. The revised lists are included in Appendix I.

The Committee facilitator conducted a “mid-process check” between August 29 and September 30 in which she interviewed 13 committee members and staff. The purpose of the check was to better understand members’ reasons for participating on the committee and their key issues and to identify options for moving forward. At the October 9 meeting, the four options that emerged from the conversations were discussed in relation to the Committee charter. Members added two more options to the list. (See Appendix J for a summary of the mid-process check.) Members decided to discuss the subcommittee’s products at the next meeting to determine if they could serve as the basis for prioritizing and sequencing the issues.

To streamline the process outlined in its charter, the Committee decided at the October 30 meeting to use the subcommittee’s simplified list, with a few changes, as the basis for prioritizing and sequencing the issues and questions. Members voted on the items; each member was allowed three votes. The list and number of votes each item received are shown in Table 4-1. The items with the most votes were Item 1.5—“timely and reasonable” and “duty-to-serve” in large Group A service areas—and Items 4.1 and 4.2—water quality and enforcement issues for small water systems. Members agreed to address these issues as follows:

- The full Committee will discuss and report on “timely and reasonable” first and then “duty-to-serve” for large Group A systems.
- A subcommittee will report on water quality and enforcement for Group B and small Group A systems.
- After they have completed the first two issues, the Committee will address receivership for both Group B and small Group A systems.
Table 4-1. Number of Votes for Each Small Water System Issue and Question  
(from October 30, 2006, meeting)

<table>
<thead>
<tr>
<th>Number of Votes</th>
<th>Question/Issue</th>
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<tbody>
<tr>
<td>1</td>
<td>1. How to Cost-Effectively and Efficiently Serve Customers in Group A Service Areas</td>
</tr>
<tr>
<td>3</td>
<td>1.1 Other disincentives</td>
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<tr>
<td>0</td>
<td>1.2 Water rights</td>
</tr>
<tr>
<td>0</td>
<td>1.3 Financial obligation</td>
</tr>
<tr>
<td>1</td>
<td>1.4 Land use policies/design standards</td>
</tr>
<tr>
<td>11</td>
<td>1.5 Legal structure (timely and reasonable; duty-to-serve)</td>
</tr>
<tr>
<td>0</td>
<td>2. How to Cost-Effectively and Efficiently Manage Group B and Small Group A Systems</td>
</tr>
<tr>
<td>0</td>
<td>2.1 Management practices (volunteer; turnover rate)</td>
</tr>
<tr>
<td>2</td>
<td>2.2 Lack of water use data</td>
</tr>
<tr>
<td>1</td>
<td>2.3 Satellite management: standards/best practices</td>
</tr>
<tr>
<td>4</td>
<td>3. How to Better Understand and Address Increase in Exempt Wells and Their Impacts</td>
</tr>
<tr>
<td>1</td>
<td>3.1 Hydrologic continuity/resources (effects on instream flows)</td>
</tr>
<tr>
<td>0</td>
<td>3.2 ESA/other regulations (GMA, land use)</td>
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<tr>
<td>0</td>
<td>3.3 Perceived low cost</td>
</tr>
<tr>
<td>0</td>
<td>3.4 Interference with senior water rights</td>
</tr>
<tr>
<td>6</td>
<td>4. How to Better Understand and Address Enforcement Issues for Small Systems</td>
</tr>
<tr>
<td>6</td>
<td>4.1 Water quality and sampling violations</td>
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<td>6</td>
<td>4.2 Enforcement</td>
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<tr>
<td>3</td>
<td>4.3 Receivership</td>
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<td>1</td>
<td>5. How to Address Lack of Adequate Funding</td>
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<td>0</td>
<td>5.1 Regulatory agencies</td>
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<tr>
<td>2</td>
<td>5.2 Group A absorption of small systems</td>
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<tr>
<td>??a</td>
<td>5.3 Private systems</td>
</tr>
<tr>
<td>1</td>
<td>6. How Small Water System Issues Relate to the Overall Water Delivery System</td>
</tr>
</tbody>
</table>

*This item was inadvertently omitted from the list that members voted from.*

### 4.2 Timely and Reasonable/ Duty-to-Serve

The Small Water Systems Committee began its discussion of timely and reasonable on November 29, 2006, and concluded the discussion on June 11, 2007. The timeline for the discussion was as follows:

November 29—DOH, King County, and utilities presented their perspectives on timely and reasonable to the full Committee.
December 11—Utilities continued to present their perspectives; the Committee decided to pursue the following:

- Specify the time period between a utility’s receipt of a request for service and its written response to the request for service
- Identify the elements that should be included in the response
- Identify the elements that should be included under water service delivery policies in a utility’s water system plan

January 8—The Committee began to discuss and agreed on a preliminary set of revisions to the King County Proposed Elements for Inclusion in Utility Service Policies for Timely and Reasonable Service, prepared by King County and distributed at the meeting.

February 12 through June 11—The Committee refined and finalized the proposed elements document, which was renamed as Elements for Inclusion in Utility Service Policies.

The following sections present the context, various perspectives, highlights of the discussions, and the final Elements for Inclusion in Utility Service Policies on the timely and reasonable issue.

### 4.2.1 Context for Timely and Reasonable Discussion

One provision of the 2003 Municipal Water Law (MWL), which is contained in RCW 43.20.260, provides that municipal water suppliers serve new commercial, industrial, and residential customers within their retail service area. The retail service area establishes where a municipal water supplier has a duty-to-serve. If a request for service from within the retail service area is made, the municipal water supplier is obligated to provide service unless it cannot do so for one of four reasons (threshold factors) described in the law: capacity, water rights, timely and reasonable service, and consistency with local comprehensive plans, land use plans, and development regulations.

The water utility may not need to provide service if it cannot do so in a timely and reasonable manner. The need for a utility to provide service in a timely and reasonable manner within its future service area is also found in the Public Water System Coordination Act (Coordination Act), Chapter 70.116.060 RC. State law defines “timely” as service within 120 days, unless a different standard is adopted by a local government. State law does not define “reasonable.” There are no provisions in DOH rules to define this term. DOH has developed draft guidance for the term, but has never finalized it. For purposes of referrals for new service, the existing utility boundaries adopted by the Coordinated Water System Plans will be used.

The Coordination Act and MWL do not necessarily share a consistent meaning of the phrase “timely and reasonable.” Timely and reasonable under MWL applies to the service areas for which all municipal water suppliers have a duty-to-serve, which DOH has defined in its initial MWL guidance as “retail” service areas. Under the Coordination Act, no new public water systems may be created within an approved “future” service area of an existing water system, unless the existing system is unable to provide timely and reasonable service. The Coordination Act definition applies only to the approximately 20 Coordinated Water System Plan service areas.
Chapter 4. Issues and Questions Identified by the Committee

that exist statewide; 4 of these are in King County. The plans themselves do not define “timely and reasonable.” The term’s use under the Coordination Act also does not apply to the construction of single domestic systems within the future service areas, since those are not defined as “public” water systems under state law and rules. For local governments, including King County, the question of what is “timely and reasonable” service by an existing system can trigger the need for the governments to hear appeals of a utility’s decision on the terms and conditions of providing service if a developer believes that the proposed conditions or schedule do not constitute “timely” or “reasonable” service.

Since 1997, state law has also precluded the creation of new public water systems unless owned and/or operated by a satellite manager, or conditioned for future ownership and/or operation. Only one satellite manager is currently certified by DOH to provide such a service countywide in King County, but some utilities either are or are planning on becoming approved satellite managers for their own service areas. Most recent DOH timely and reasonable guidance indicates that providing satellite management services would meet the timely and reasonable requirement under the MWL.

In its current policy paper on the topic, DOH does not expect to define “timely and reasonable” under the MWL, nor provide a standard that municipal water suppliers must meet. Instead, it has stated that it considers timely and reasonable determinations as a civil matter between the municipal water supplier and the applicant, specific to the parties involved. DOH does not intend to make decisions on timely and reasonable, nor provide oversight. DOH has acknowledged that local governments may provide oversight. The DOH guidance suggests that disputes are to be resolved in court.

DOH does not explicitly require a utility to discuss its understanding of timely and reasonable in a water system plan, although water system plans must continue to include (as they are required to do under pre-MWL DOH rules) the utility’s service policies. DOH will comment, as part of its review of water system plans, on any issues regarding the discussion of service area policies and generally will not approve a plan until those issues are addressed. DOH’s 2006 MWL policy document on duty-to-serve says that utilities will be expected to describe in their water system plans how they meet the threshold factors, including timely and reasonable, and whether any of those factors preclude meeting duty-to-serve obligations.

Changes to King County Code made in 2004 preclude approving portions of water utility service areas in water system plans where the utility states it is unable to provide timely and reasonable service (KC Code 13.24).

For “timely and reasonable” issues under the Coordination Act, it is clear that local governments have the authority to hear appeals. For disputes over “timely and reasonable” service under the MWL, there may be administrative and appeal routes for a developer, short of going to court. The elected boards of public districts (cities, special purpose districts) can hear appeals of proposed terms/conditions of service by their water utilities. There is not a clear process (if any) for privately owned systems including homeowners associations. The state Utilities and Transportation Commission (UTC) has jurisdiction over rates/charges/conditions of service for investor-owned systems that are subject to the UTC’s jurisdiction.
The King County Utilities Technical Review Committee (UTRC) hears timely and reasonable appeals and makes determinations on a case-by-case basis when applicants appeal a utility’s proposed conditions of service. The UTRC has made only two “final” decisions on timely and reasonable in the past 15 years or so. A number of appeals filed in the past year and a half were resolved in other ways. For the most part, appeals have centered around both timely provision of service and reasonableness of conditions of service (usually cost/price). The majority of timely and reasonable appeals are generated by small systems with five or fewer connections.

4.2.2 Perspectives on Timely and Reasonable

At the November 29 and December 11, 2006, meetings, King County (KCDNRP and PHSKC), DOH, and utilities presented their perspectives on the issue, and King County presented some suggested working definitions of timely and reasonable for applications for new water service. In its presentation, DOH reiterated the agency’s role in timely and reasonable determinations, as summarized in the context discussion above. The following paragraphs summarize King County and utility interests.

4.2.2.1 King County Interests

King County’s “interests” are as follows:

- Assuring delivery of water utility service to meet land use/concurrency requirements under Growth Management Act (GMA). That is, water will be available when/where growth occurs.
- Implementing water utility service priorities and approach as laid out in King County Code and the King County Comprehensive Plan with preference for delivery from existing systems but also protection and preservation of rural areas.
- Clarifying how timely and reasonable provisions under the MWL relate to approvals of water system plans under King County Code and delivery of service within “approved” service areas of municipal water suppliers.
- Providing criteria to be understood by all—planners, developers, water utilities—as to what timely and reasonable service is/is not under the Coordination Act in order to streamline and reduce the number of appeals to the UTRC under the Coordination Act.
- Avoiding unnecessary proliferation of Group B water systems.
- Treating developers across King County fairly and consistently with regard to acquiring water utility service in unincorporated King County and ensuring some avenue of appeal.

The county also posed the following questions:

- Should King County simply defer to water utilities to make determinations within their service areas? If so, what level of detail should be provided in a water system plan as to rates/charges in order for the plan to be approved and in order to meet King County interests? Should DOH guidance address plan content for this issue?
- Should King County adopt administrative rules that define timely and reasonable, at least for Coordination Act purposes?
- Would a countywide approach to financing like the one suggested in the East King County Coordinated Water System Plan be worth pursuing?
• Should all water utilities provide remote/satellite management (including via contract) for service within their jurisdictions if they cannot provide direct connection in a “timely” way?

4.2.2.2 Utility Interests

From the utility perspective, the timeliness and reasonableness of provision of service depend on factors outside a utility’s control, such as regulatory and permit requirements, applicant schedules, and land use growth.

In terms of determining timely provision of service, utilities suggested that it may be possible to develop guidelines on when to respond in writing to a request for service but that it would be difficult to provide guidance on when water should be supplied. Each situation requires a different level of analysis, complexity, and cost. The most problematic situation is the extension of a water main for a considerable distance to serve a new parcel with no intervening parcels receiving service.

In terms of determining reasonable provision of service, utilities believe that it cannot be defined solely in terms of costs. It is important to include within the reasonable requirement that all service requests be treated fairly. Large utilities feel that it is unfair to compare their costs to provide service with the costs of creation of exempt shallow wells or small water systems. The larger utilities provide a higher level of service, such as fire flows and emergency flows, and thus incur higher costs than do exempt wells and smaller systems. Costs to create exempt wells and smaller systems do not include their environmental and social costs, such as opening up another aquifer and creating another point of contamination.

Utilities said that they may be willing to operate and, possibly, own new Group B systems in their service areas—but not to build them. Some utilities also would like the county to formulate land use policy that prohibits the drilling of exempt wells in places where utility service is available.

4.2.3 Highlights of Timely and Reasonable Discussion

During the discussions, KCDNRP indicated that DOH should require that water system plans include a discussion of the utility’s understanding of timely and reasonable within the service policy and duty-to-serve components of the plans.

Utility representatives on the Committee expressed a desire to work with the county on identifying topics that utilities should cover in their water service policies. In doing so, the utilities felt that it was important to ensure that they are allowed flexibility in making decisions and providing service. The Committee agreed that flexibility can be incorporated into utility policies.

Although the costs for construction and installation of exempt wells are inherently less than for delivery of water from a water system, members thought that a simple comparison of costs between these two options for service delivery is not an adequate or complete basis for making timely and reasonable determinations. KCDNRP offered that the discussion of cost as part of a determination of providing reasonable service could be simplified if water system plans describe
rates and connection charges, including how they are set and how they comply with regulations, and as long as the rates and charges are fair. If there is such a discussion in the water system plan and the plan is approved by both King County and DOH, one approach would be to view the provisions in the plan as akin to a “rebuttable presumption” that the rates are reasonable.

DOH said that the water system plans must include policies for providing remote service. Establishing satellite systems within a utility’s service area could serve as a way of assuring service within the retail service area. If a utility declined to satellite manage and a new water system is established, the area served by the new system could be removed from the utility’s service area.

KCDNRP advised that the Growth Management Act (GMA) and the King County Comprehensive Plan require “urban levels of service” (service at urban densities and fire flow) inside an Urban Growth Area (UGA). Water system plans need to describe how the utilities will meet this requirement. Exempt wells may be allowed in a UGA if no other service is available, on an interim basis, and only if failure to allow the well would prohibit any reasonable use of the property.

The Committee decided to table the discussion on whether there is a higher expectation of direct connection within UGA boundaries—whether the provision of timely and reasonable service may be different inside and outside UGA boundaries. Discussion of another question, raised by DOH, was also postponed: How to disseminate information to the public on utility policies and plans. Is it enough to simply hold a public meeting and publish the updated (or new) plan on the Web during the review process?

### 4.2.4 Elements for Inclusion in Utility Service Policies—Timely and Reasonable Service

The Small Water Systems Committee has considered the issues related to and the definition of “timely and reasonable” to provide a recommendation to King County for adoption of a definition of timely and reasonable as provided for in the Water System Coordination Act (WAC 70.116). By adopting a definition and establishing an associated set of planning requirements, both water systems and their customers and potential customers will have a better understanding and expectations of how water may be provided by the local water utility. In addition the definition along with planning documents prepared in response to the definition will provide a basis for review of questions raised regarding timely and reasonable service before the UTRC and other regulatory forums.

A. Each water system plan should include information that describes and defines how it will deliver water in a timely and reasonable manner in coordination with current system planning requirements.

1. Basic principles
   a. All potential customers are treated fairly.
   b. Projects to provide water service to potential customers will vary in complexity. Consequently, customers cannot expect that all service projects will have the same timeframe or costs.
c. The timeframe to deliver water to the applicant can vary depending on what is involved in getting piped water to the sites. There are two major timeframes for timely and reasonable consideration: the time to respond to a service request and the time to deliver water.

d. Satellite management of remote systems within the water service area may be a means of meeting timely and reasonable service under Municipal Water Law, depending on the established service policies of the water system, provided it can be done in compliance with applicable regulations.

e. Utilities have limited or no control over processes/time/costs that relate to meeting regulatory requirements of other agencies (e.g., King County right-of-way permit requirements or road construction standards). When addressing a utility’s potential customer’s appeal under the timely and reasonable requirements, the UTRC should look first at the application of the timely and reasonable program instituted by the water utility and described in its water supply plan. The UTRC should not base a timely and reasonable decision which is adverse to a water utility solely on items outside the control of the water utility unless the actions of the water utility have jeopardized the integrity of the permitting, regulatory, or environmental process or impacted the costs of these programs by the actions or proposed actions by the water utility.

f. The county must preserve the integrity of the timely and reasonable appeal process and ensure that any such appeal provides a meaningful opportunity for both the appellant and the utility to fully present and argue their position under relevant laws, rules, and policies.

2. Specific Requirements
   a. All utilities should be able to respond to requests for service within 60 days of receiving a fully completed service request or application. The response by the utility will include whether service will be direct connection, or an estimate of the time necessary for developing the specific service engineering, and any costs for providing the response to conditions of service.
   
b. All new or updated water system plans developed by Municipal Water Utilities should include a definition/map of its service area, “retail service area,” and the UGA and other relevant boundaries. The plan may include a description of the utility’s general strategy, such as “growth pays for growth,” for expanding its system. The new or updated plan should include all service policies established by the water system in both its service area and its retail service area if one exists.
   
c. For the water system service area outside a utility’s retail service area, the water system plan shall describe its policy on service in the “future planning areas” or remote parts of its system. This should include whether it will consider new Group B water systems as an interim system and address how interim systems will be managed. Management options may include satellite management by the utility or some other satellite management agency. The plan should include the utility’s policies concerning when and how interim systems will be replaced by direct service.
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4. Water system plans should address the utility’s policies concerning easements, special studies, and other supporting technical requirements for water system delivery.

5. Water system plans should contain a discussion of funding options available to design and construct the necessary facilities to provide water service to potential customers.

6. Water system plans should include a finding by the water system that provisions of water service in accordance with the written policies and procedures of the water system constitute “timely and reasonable” service within the water system service area.

7. Water system plans should include a description of the current water system general facility charges or system development charges, and a description of the process used to review or establish the charges. The current general facility charges shall be provided to potential customers upon application or service request.

8. Water system plans should include the water system’s policies regarding satellite management if direct connection is not currently feasible. Such policies may include but are not limited to the following:
   i. Types of costs for developing a new small water system
   ii. Fees or charges into a capital account for future main extensions
   iii. Covenants or “no protest agreements” for future main extensions through ULIDs, developer extensions, etc.

B. Other Factors to Consider in Providing “Reasonable” Service

There are several other factors that may have a bearing on whether water service delivery is timely and reasonable. The costs of extending water service compared to developing a new small water system can be significant. A direct comparison of costs may not be appropriate because there are direct benefits such as fire flow, water quality testing, and better water resource management when serviced by a larger water utility.

Current county policy has addressed the creation of new public water systems within utility service areas but has allowed the creation of individual wells provided that the lots meet public health standards for a well and septic. Individual well creation has occurred under King County Comprehensive Plan policies (F227 and F229) and King County Board of Health Title 12 and 13. A future item which may be addressed by other groups is whether the construction of private individual wells for domestic water service should be made a part of the utility referral procedure on a King County level (as per adopted King County Coordinated Water System Plans).

4.3 Water Quality Sampling Violations and Enforcement—Group B and Small Group A Systems

For violations and enforcement issues, a subcommittee was convened in October 2006. The subcommittee consisted of representatives from PHSKC, KCDNRP, DOH, and a small water system designer/operator. It met a total of four times and developed a document for evaluation by the full Small Water Systems Committee (see Appendix G). On July 23, 2007, the Committee
approved the document and the following summary of the document. The summary focuses on specific issues regarding sampling violations and enforcement and on recommendations for the full Committee to consider.

### 4.3.1 Current Programs and Regulations Governing Small Water Systems

The DOH Office of Drinking Water (ODW) has a formal agreement with the Environmental Protection Agency (EPA) to implement the requirements of the federal Safe Drinking Water Act (SDWA), which was passed in 1974 and amended in 1986 and 1996. In general, the federal law applies to public water systems with 15 or more connections, or those regularly serving 25 or more people daily, 60 or more days per year—these are called “Group A” systems in Washington. There are currently 216 Group A water systems in King County and over 4,000 statewide. The SDWA and implementing regulations adopted by EPA contain fairly comprehensive regulatory provisions covering short-term and long-term operational requirements, including standards and criteria for water quality, sampling, treatment, source protection, operator certification, public notification, and annual consumer reporting. Through its agreement with EPA, ODW has “primacy,” or full authority and responsibility for implementation and enforcement of the federal SDWA regulations in Washington State. As the primacy agency, ODW also is required to have in place a strategy to ensure that Group A systems have the long-term technical, financial, and managerial capacity to operate in compliance with the SDWA requirements.

In addition to the federal requirements, the state has developed a separate set of state requirements for both Group A systems and Group B systems. Group B systems are generally those systems with between 2 and 14 connections, not subject to federal regulation. The state’s requirements include comprehensive water system planning, as well as other design and construction provisions. The Group B requirements tend to mirror the federal water quality standards under the SDWA, but have scaled-back requirements for design, construction, operation, and planning to reflect the very small size of these systems.

ODW has agreements with local health jurisdictions (LHJs) describing roles and responsibilities of ODW and each LHJ for carrying out state laws regarding the regulation of drinking water systems, particularly very small systems not subject to the SDWA.

### 4.3.1.1 State Statutory Authority

The authority for the activities of ODW comes from several Washington State statutes, including the following:

- Chapter RCW 43.20—State Board of Health (SBOH) authority to adopt rules protecting public water supplies (43.20.050), DOH authority to require water use efficiency and conservation (43.20.230 and .235), DOH and county responsibility for customer complaint process (RCW 43.20.240)
- Chapter 43.70 RCW—Overall DOH authority to protect public health and safety, including authority to initiate receivership actions for failing systems (RCW 43.70.195)
- Chapter 70.119A RCW—Washington’s Safe Drinking Water Act
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- Chapter 70.119 RCW—Water Works Operator Certification
- Chapter 70.116 RCW—Public Water System Coordination Act
- Chapter 70.142 RCW—ODW authority to set standards for organic chemicals
- RCW 19.27.097—State building code requirement for potable supplies

Chapter 246-290 WAC, Group A Public Water Supplies (latest revision July 3, 2004; new revisions proposed June 12, 2007)

The purpose of this chapter is to define basic regulatory requirements and to protect the health of consumers using public drinking water supplies. The rules of the chapter are designed to ensure adequate design, construction, sampling, management, maintenance, and operation practices, and the provision of safe and high quality drinking water in a reliable manner and in a quantity suitable for intended use. They include both rules adopted as part of ODW’s delegation of authority under the SDWA, as well as rules for implementing separate state requirements for water systems.

Chapter 246-291 WAC, Group B Public Water Systems (latest revision 1995)

The first Group B regulations, Chapter 246-291 WAC, were developed in 1993. The purpose of this chapter is to define basic regulatory requirements to protect the health of consumers using Group B public drinking water supplies. This chapter is specifically designed to ensure the provision of safe drinking water in a reliable manner and in a quantity suitable for intended use by these systems.

_A Group B water system is defined as a public water system constructed to serve less than fifteen services and constructed to serve an average nonresidential population of less than twenty-five per day for at least 259 days per calendar year._

4.3.1.2 Local Regulation of Group B Water Systems

The authority for the activities of PHSKC can be found in the following statutes:

- Chapter 70.05 RCW—Statutory authority for Local Boards of Health (BOH)
- RCW 43.20.050, RCW 70.05.060, and RCW 70.05.070—Obligation of LHJs to enforce SBOH rules
- RCW 70.05.060—LHJ authority to adopt its own rules
- RCW 70.05.070—LHJ authority specifically over public water systems
- RCW 70.05.160—Local BOH authority to impose moratoria on public water systems

PHSKC has developed its own set of local regulations for Group B water systems under Title 12 of the King County Board of Health Code.

PHSKC regulates approximately 1,500 operating Group B water systems with up to nine service connections. Per the agreement between DOH and PHSKC, ODW regulates Group B systems with 10 or more connections (of which there are 24 in King County) and all Group A systems, including those with fewer than 100 connections. Data for all Group A systems are maintained
Chapter 4. Issues and Questions Identified by the Committee

by ODW in its Sentry database. PHSKC maintains basic information about the Group B systems database called “Envision.” Envision data, along with direct experience of PHSKC staff, were the primary source of data used for addressing sampling and water quality violation issues for Group B systems.

4.3.2 Group B Water Systems - Water Quality Sampling and Enforcement

The Small Water Systems Committee identified a number of issues related to the problems associated with Group B and small Group A water systems. The Committee agreed to address two of the issues in more detail:

- The compliance status of small systems in meeting water sampling requirements and the frequency at which water quality violations occur both for small Group A (under 100 connections) systems and Group B systems, but primarily for Group B systems
- The general approach that ODW and PHSKC use to assure compliance with water quality and sampling requirements.

4.3.2.1 Group B System Background

The Envision database includes substantial information on 1,441 Group B systems in King County with up to nine service connections. There are a number of systems identified in the database as having one or fewer connections. These may include small businesses, such as bed and breakfast businesses or adult/child day care centers, that have one connection or approved systems for which there are currently no active service connections. The number of “one-connection” Group B systems may be increasing with the additional statewide focus on oversight of this group of public water systems and the water they provide to potentially vulnerable populations.

Of the 1,441 systems that PHSKC regulates, over half (887) have between two and four service connections.

Of the 24 Group B systems with 10 or more connections that ODW regulates, PHSKC performs no approval or regulatory oversight, nor are data maintained in the Envision database.

4.3.2.2 Group B System Sampling Compliance

PHSKC staff reviewed sampling reports for bacterial quality and nitrate concentration to determine how many Group B systems are current with sampling requirements. Group B systems are required to conduct bacterial sampling every year and nitrate sampling every three years. Approximately 24 percent of all systems are current with the bacterial sampling requirement, and approximately 20 percent are current for nitrate sampling. Only twelve percent are current for both.
4.3.2.3  Group B System Water Quality

PHSKC staff reviewed the most recent water quality results reported by all water systems to identify how frequently Group B systems that have sampled have also exceeded water quality standards. The results are as follows:

- Nitrates—Only three systems exceeded the nitrate Maximum Contaminant Level (MCL) with their most recent water sample. Unlike Group A systems, there is no “action level” for nitrates for Group B systems. (For Group A systems, any nitrate test results that exceed half the MCL trigger actions for the water system.)
- Bacteria—Of the 1,441 systems in the Envision data base, 819 had reportable bacteria results. Of these, 107 were unsatisfactory (roughly 16 percent). The rest were satisfactory. The systems that did not have reportable results were negative for e. coli and fecal coliform presence in the water. However, there is no code entry in Envision for total coliform (which is the regulatory standard for Group A systems).

4.3.2.4  General Conclusions and Discussion about Group B System Sampling

It is evident that most small water systems in King County are not routinely sampling as required under both state and county regulations. There are probably a number of reasons for this.

Most Group B water systems have four or fewer connections. Many have only two services. For the most part, these are operated through a cooperative agreement among the property owners. There is no requirement—unlike for Group A systems—that Group B system operators be trained or certified. Responsible operators are volunteers for the most part, and responsibility may change as property changes hands. Many people getting water from these very small systems are not aware of the sampling requirements. Problems tend be taken care of when they arise rather than in a preventive fashion. Mostly, when they occur, users consult with PHSKC, then get together and solve them.

PHSKC does not routinely run reports to identify sampling compliance. This is largely a staffing issue. DOH has estimated that a fully implemented Group B program needs a staff-to-water-system ratio of about 1:100. King County’s ratio is currently about 1:450. The low staffing level means that activities are prioritized to those that respond to specific service requests or to meet contract requirements. With regard to sampling compliance, the “hands off” approach has two significant repercussions:

- Data entry errors are not caught early on, as evidenced by the nearly 40 percent of the bacteria sample results that were not recorded in a manner that would allow generation of a report indicating satisfactory or unsatisfactory results. PHSKC is currently correcting this problem.
- PHSKC does not know at any particular time which systems are current with their sampling and which are not. On the other hand, the status of many systems is regularly reviewed when there is a service request (e.g., a review of the system’s status associated with a property sale or building permit application).
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The current fee structure includes a substantial “data base” fee that must be submitted along with test results. The intent of the fee was to create a revenue source that would help support staffing necessary to manage small water system data and to assure that those systems with frequent sampling (e.g., many repeat samples) pay more than those that do not need much follow up. However, one effect of the creation of the fee is that systems do not always report results—even though samples have been collected and analyzed—in order to avoid paying the fee.

There is no system in place for water testing labs to report data electronically or directly to PHSKC (unlike with Group A water system testing).

The failure to sample does not necessarily mean that users and customers of small systems are exposed to significant health threats. The data suggest that when samples are collected, they are satisfactory for the most part, particularly for nitrates. The health effects from water quality (e.g., bacterial) problems are also frequently not severe (e.g., gastrointestinal upset for a short period of time).

The total population served by Group B systems is small compared to Group A systems and individual wells. There are 438 systems with two service connections and 494 with three to four connections. If one assumed that the latter are evenly split between three and four services, that means there are about 2,600 service connections on these systems and a population of about 6,500. By comparison, between 12,000 and 20,000 households receive their drinking water from unregulated individual water supplies for which no routine sampling and testing is done.

4.3.2.5 Group B System Compliance Approach

Title 12 of the King County Board of Health Code establishes local standards for the construction and operation of Group B systems in King County. The regulation also includes specific procedures for enforcing provisions of the code:

- Notice and order to correct, including the following corrective actions:
  - Connection to an approved system
  - Increased monitoring requirements
  - Increased inspection requirements
  - Required professional management
  - Required oversight by division staff (sampling and/or inspection)
- Compliance may be gained through the following:
  - Administrative hearings
  - Imposition of civil fines
  - Denial of new connections or building permits

In practice most compliance has been achieved through motivated self-interest of the operators or users of Group B systems. Systems must be brought into compliance with sampling and testing requirements before PHSKC will approve building permits or system status letters or other applications. This approach has been effective in changing the status of a number of systems from “inadequate” to “adequate”; however, systems where there are no current applications in process may remain out of compliance for extended periods of time.
4.3.2.6 General Conclusion About Group B Systems

- The great majority of Group B systems are not regularly conducting required sampling. However, when systems do sample, the great majority have satisfactory test results.
- The current fee system is a deterrent to reporting sample results.
- Systems tend to be operated on a casual basis by owners and or users, resulting in high levels of non compliance. Very few systems are satellite managed or operated by trained operators.
- The number of identified systems with one service connection expected to be regulated by PHSKC will likely be going up as the state and county begin to place emphasis on “non-community” Group B systems (bed and breakfasts, child and adult care facilities).
- There are no available data to suggest that the health outcomes for people provided water by small Group B water systems are any better or worse than the overall population.

4.3.2.7 Group B System Issues for Committee Consideration and Recommendation

Issue 1: Should the current fee system be changed?

One recommendation is to drop the database fee and adopt an annual operating permit fee for Group B water systems. This database fee has been used in the past but dropped because of very vocal opposition from some system owners/users. Because there was only one fee for all sizes of systems, there was a perception that service should be funded by the county and/or there was a perception that county oversight was not needed.

The following are some considerations regarding adopting such a fee:

- Pierce County is currently using this approach successfully.
- An option could be a graduated user-based fee plus a per-active-connection charge.
- The annual fee would provide a predictable funding source that would enable staffing to better address operations oversight and provide better data management.
- Services funded by the fee should emphasize education. PHSKC could consider exempting from the fee very small systems (e.g., two-connection systems or systems with four and fewer connections).

Committee response to Issue 1. The committee suggested that the issue be titled “Underfunding,” and that it should state: “Based on PHSKC information, PHSKC is under-funded and needs additional funds. PHSKC should impose an effective user-based fee, including an annual operating permit fee, based on required time and effort.”

Issue 2: Deregulate or reduce regulations for two-party systems

- State Board of Health regulations authorize LHJs to eliminate any and all regulations for two-connection systems.
- In King County, this deregulation would reduce the total number of PHSKC-regulated systems by about 25 percent.
- These systems serve very small populations.
- Two-connection systems are a significant driver of timely and reasonable appeals to UTRC.
• A key question could be whether two-connection systems should receive the same development benefit as connecting to an approved Group A system. (Title 13 requires five acres for a well and septic. Under current rules an approved two-connection system and two houses with septic systems could be built on two acres.) Are the systems well enough managed to provide sufficient protection to offset much higher septic system density?
• Deregulating two-connection systems will make it more difficult to obtain onsite sewage system approval. This could be a significant factor against deregulating them.
• DOH and the SBOH are currently looking at deregulating systems with four or fewer connections, which could drive changes in King County.

Committee response to Issue 2. Eight members of the Committee voted to table this discussion for a later date; three members voted to take no further action but to keep the discussion of the issue in the longer report (see Appendix G).

Issue 3: Should the county survey all systems on a regular basis?

• What kind of funding mechanism would support this?

Committee response to Issue 3. The Committee made no recommendations.

Issue 4: How should PHSKC prioritize enforcement?

• What kinds of violations should be actively addressed?
• What kinds of risk factors should be considered?

Committee response to Issue 4. The Committee made no recommendations.

Issue 5: Should the County be doing something to address the 10 percent or so of the county population that uses individual water systems?

• Small Group B systems and individual water wells probably have more in common with each other than they do with larger water utilities. Should reduced regulation of certain Group B systems be coupled with expanded capacity to educate users about system maintenance and protection?
• A potential funding source is a water adequacy fee paid when a septic or building application is submitted.

Committee response to Issue 5. The committee voted (eight votes for; six against) to make no recommendation regarding this issue.

4.3.3 Group A Water Systems – Water Quality Sampling and Enforcement

The mission of the Office of Drinking Water (ODW) is to protect the health of the people of Washington by assuring safe and reliable drinking water. ODW helps to ensure that drinking water is safe and reliable through programs that rely on prevention as the first line of defense, with a goal of particularly avoiding potentially health-threatening and costly problems.
Chapter 4. Issues and Questions Identified by the Committee

There are 214 Group A public water systems in King County. Table 4-2 identifies the number of systems by the type of system and the number of connections. No new Group A water systems are being developed in King County. This is in part due to Ecology not issuing new water rights in the county and to the development of Coordinated Water System Plans (CWSPs) for most of King County that preclude development of new water systems within already established service areas.

Table 4-2. Number and Type of Group A Water Systems in King County

<table>
<thead>
<tr>
<th>Connections</th>
<th>Community</th>
<th>Nontransient Noncommunity (NTNC)</th>
<th>Transient Noncommunity (TNC)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
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<td>7</td>
<td>31</td>
<td>46</td>
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<td>103</td>
</tr>
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</tr>
<tr>
<td>Total</td>
<td>156</td>
<td>9</td>
<td>49</td>
<td>214</td>
</tr>
</tbody>
</table>

ODW routinely checks water quality sampling and enforcement of small Group A public water systems; therefore, this portion of the report discusses current compliance strategies including program elements that help systems stay in compliance.

4.3.3.1 Water System Capacity Development Strategy

The SDWA Amendments of 1996 require states to develop and implement a strategy to ensure all federally regulated water systems acquire and maintain capacity. The ODW uses the following measures to achieve its overall capacity goal and to succeed in its mission:

- Implements prioritized compliance strategy
- Issues annual operating permit
- Administers operator certification program
- Reviews water system plan and other relevant documents
- Conducts sanitary surveys (inspections)
- Uses new data system (Sentry)
- Administers source water assessment program
- Provides comprehensive training and outreach
- Jointly manages the drinking water state revolving fund (SRF) and water system acquisition and rehabilitation program with the Public Works Board
- Implements security and emergency response program
- Establishes partnerships

DOH reports to the Governor and to EPA on a triennial basis on the status of Group A water systems statewide relative to the criteria and measures developed by ODW under the “system capacity” program. The most recent report was in September 2005 and is available online at [http://www.doh.wa.gov/ehp/dw/Publications/331-330_water_system_capacity_report_10-10-05.pdf](http://www.doh.wa.gov/ehp/dw/Publications/331-330_water_system_capacity_report_10-10-05.pdf). The report includes statewide data, but does not break it down by county.
4.3.3.2 Measures for Success of Small Group A Systems

The following are key measures that promote the success of small Group A water systems.

**Partnerships**

ODW collaborates with others, such as local health jurisdictions and third-party technical assistance and training providers, to assure safe and reliable drinking water supplies in Washington.

**Training and Education**

ODW is committed to providing training to public water system operators and owners. The training incorporates all aspects of owning and operating a water system to help water system operators meet the requirements of state and federal drinking water laws and protect the health of their customers. With the federally mandated operator certification requirements, there is a minimum amount of continuing education that those operators must complete on an ongoing basis to maintain their certification.

**Planning**

All federally regulated water systems in Washington must develop one of two types of planning documents: (1) a water system plan (WSP), or (2) a small water system management program (SWSMP). The plans are used both to describe the system’s intentions to operate in compliance with regulatory requirements and to document compliance with some of those requirements. In an effort toward efficient use of resources, ODW has prioritized which systems must develop and submit their updated plans based on public health criteria (e.g., systems with vulnerable surface water sources such as lakes or rivers that are experiencing compliance issues are placed ahead of systems on less vulnerable groundwater sources such as wells that do not have any compliance issues). All other federally regulated water systems (approximately 3,200 in the state) are required to develop but not submit their SWSMP unless they are experiencing problems or requesting Drinking Water State Revolving Funds. ODW checks to determine if purveyors have developed their SWSMP when conducting sanitary surveys; however, this information is not tracked.

**Enforcement**

A critical step in meeting the mission of ODW is the effort to ensure that water systems comply with state and federal drinking water regulations that protect public health. In general, regulations are enforced in a step-by-step manner. In order of severity, the steps are as follows:

1. Notifying the water system of a violation and offering technical assistance
2. Coming to an informal compliance agreement
3. Operating permit program
4. Issuing a departmental order
5. Issuing fines
6. Receivership
To support these informal and formal enforcement efforts, the office uses the less punitive methods of compelling water systems to meet requirements whenever possible. One of the most powerful of these tools is the operating permit program, which requires all Group A water systems in the state to obtain an annual operating permit. The color-coded operating permit system provides an easy method for water consumers to understand the status of the system providing their drinking water. The operating permit categories are as follows:

**Green:** Systems are in substantial compliance with all requirements. ODW recommends these systems be viewed as adequate for existing uses and additional connections up to the approved number of connections unless they are already at capacity.

**Yellow:** Systems are substantially in compliance with all requirements except they (1) have been notified to submit a water system plan but have not satisfied the planning requirement; or (2) are under a compliance agreement for a state significant non-complier violation. ODW recommends these systems be viewed as adequate for existing uses and additional connections up to the approved number unless otherwise limited by a compliance agreement.

**Blue:** Systems are substantially in compliance with requirements except the system does not meet design approval requirements or has exceeded the number of approved connections established by the department. ODW recommends these systems be viewed as adequate for existing uses, but not adequate for adding new connections.

**Red:** Systems are in substantial non-compliance with requirements. ODW recommends these systems be viewed as inadequate for existing uses and no additional connections be allowed. This may result in denial of home loans, building permits, on-site sewage disposal permits, food service permits, liquor licenses, and other permits or licenses for properties served by the system.

Table 4-3 shows the number of small Group A water systems in King County by operating permit color and type of system.

**Table 4-3. Number of small Group A water systems in King County by operating permit color and type**

| System Type                      | Operating Permit Color
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Green</td>
</tr>
<tr>
<td>Community</td>
<td>70</td>
</tr>
<tr>
<td>Nontransient Noncommunity (NTNC)</td>
<td>1</td>
</tr>
<tr>
<td>Transient Noncommunity (TNC)</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
</tr>
</tbody>
</table>

Note: Data as of December 2006.
ODW refers to its Compliance Manual, which contains basic information necessary to implement the compliance portion of the state’s Drinking Water Program. The manual includes a description of each of the available compliance tools, including when they should be used most effectively; specific procedures and boilerplate documents necessary to conduct formal enforcement as well as some informal enforcement activities; and detailed information about related activities, such as adjudicative proceeding and public notification.

Informal compliance tools are used in situations where there is no immediate threat to consumer health. Informal compliance efforts could be as simple as a phone call, letter, or site visit, or could include more sophisticated approaches such as technical assistance, incentive grants or loans, Notices of Violation (NOVs), or Bilateral Compliance Agreements (BCAs). Use of specific tools depend on the nature of violation incurred. When compliance is not achieved in a reasonable timeframe using informal tools, more formal tools are employed.

Formal compliance tools are used when ODW determines that consumer health is directly threatened and in situations where informal tools have been used without success. Formal tools are specific legal devices used to enforce particular violations. They range from issuing Departmental Orders (DOs) and penalties to moratoriums and receivership. ODW also has the option of referring situations to EPA for resolution. Generally, this would occur only after DOH has exhausted its remedies.

In most cases, water systems eventually comply with requirements. The main reasons for non-compliance are as follows:

- Lack of funding
- Lack of education
- Aging systems
- Community owned—not organized, neighborhood/community politics
- Investor owned—different priorities

If the water system fails to achieve compliance with the regulations after receiving a departmental order and penalties, then, as a last resort, the ODW may consider asking the court to appoint a receiver. A receiver is an entity appointed by the court to manage a water system. DOH is to develop and maintain a list of potential receivers for failing systems in each county. If there are no other qualified or willing receivers available, the court is required by the law to appoint the county in which the water system is located as the receiver (RCW 43.70.195). The county must then figure out how to run the water system—which could include use of county staff or could include contracting with another entity or person to do it. The receiver is to develop a report on the ultimate disposition of the system and present it to the Court within one year. Generally, the law intends receivership to be temporary until a permanent solution for the water system is found.

The 1996 SDWA amendments also require each Group A system to provide its customers with an annual Consumer Confidence Report, detailing its compliance with federal regulatory requirements. An underlying assumption of this provision is that customers who are informed of violations of federal requirements and who are dissatisfied with how the system is being run, can
take things into their own hands and pressure the system owners/operators to bring it back into compliance.

**Water Quality Monitoring**

Group A public water systems are required to perform routine water quality monitoring during established compliance periods in accordance with the type of system, number of people served, facilities in place, and source of supply. Every year, ODW sends each Group A Community and Nontransient Noncommunity water systems with independent sources of supply a water quality monitoring report that identifies monitoring requirements for the upcoming year.

ODW tracks violations in the high-risk categories of coliform monitoring, surface water treatment reporting, nitrate monitoring, operator certification, and sanitary surveys with a high degree of accuracy using the Sentry database. The tracking of additional categories of violations can occur in the ODW database, but most water quality violations are tracked manually because of difficulties in defining violations and coding the definitions into the ODW database. For example, an arsenic MCL violation requires the calculation of a running annual average, which has not been coded into the ODW database. Table 4-4 identifies the number of violations among all King County Group A public water systems currently tracked by the ODW database and compares King County data to Pierce County data.

![Table 4-4. Number of Violations Currently Tracked by ODW Database for King and Pierce Counties](image)

<table>
<thead>
<tr>
<th>County</th>
<th>Coliform Monitoring Violations</th>
<th>Non-Acute Coliform MCL Violations</th>
<th>Acute Coliform MCL Violations</th>
<th>Other Violations</th>
<th>Total All Violations</th>
</tr>
</thead>
<tbody>
<tr>
<td>King</td>
<td>36</td>
<td>25</td>
<td>26</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td>Pierce</td>
<td>25</td>
<td>70</td>
<td>50</td>
<td>39</td>
<td>56</td>
</tr>
</tbody>
</table>

NOTES:
1. Number of violations are for total number of Group A water systems in King and Pierce Counties.
2. Other violations include any violations other than coliform-related such as nitrate monitoring, operator certification, sanitary surveys, and GWI.
3. The total number of Group A systems in Pierce County is 369.

**Data System Development**

Sentry, initiated in May 2002, is ODW’s primary data system supporting implementation of the federal Safe Drinking Water Act. It provides an inventory of Washington’s more than 17,000 (Group A and Group B) public drinking water systems and the results of their water quality samples for regulated inorganic, synthetic, and volatile organic compounds; bacteriological contaminants; and radionuclides. The system tracks current and historical public water system compliance with state and federal regulations and is used to report compliance information to EPA. The data may be accessed by local health jurisdictions and other public agencies.
Certified Operator Requirement

Water systems classified as Group A Community, Nontransient Noncommunity (NTNC), Transient Noncommunity (TNC) with surface water or groundwater under the influence of surface water (GWI) as their source, and TNCs classified as significant noncompliers (SNCs) are required under Chapter 246-292 WAC - Water Works Operator Certification (rev. 12/28/05) to employ certified operators to carry out various operational functions. Prior to the 1996 amendments to the SDWA, small systems (under 100 connections) were exempt from this requirement. As of July 2007, only 4 out of 99 small Group A systems in King County did not have certified operators.

Sanitary Survey Program

A sanitary survey is a periodic inspection of water system facilities, operations, and records that is used to identify conditions that may present a sanitary or public health risk. State drinking water rules require all Group A public drinking water systems to have a routine sanitary survey once every three to five years. In King County, only 3 out of 32 small Group A water systems that were scheduled for sanitary surveys in 2006 did not receive the surveys.

Funding Options for Public Water Systems

Funding options available include the following: Drinking Water State Revolving Fund (DWSRF), Water System Acquisition and Rehabilitation Program (WSARP), Washington State Public Works Trust Fund, Rural Community Assistance Corporation, U.S. Department of Agriculture Rural Development, and Washington State Community Development Block Grant Program.

4.3.3.3 Summary-Small Group A Water Quality Sampling and Enforcement

For small Group A water systems, ODW tracks and pursues water quality and sampling requirements and is finding success with its active compliance strategy. In King County, as of March 2007, there are 18 out of 149 small Group A water systems currently in some stage of formal enforcement. Five of the 18 are high risk violations.

There are many measures that ODW uses to encourage the success of small public water systems, such as the following:

- Partnerships
- Training, education, and technical support
- Planning
- Enforcement
- Operating permits
- Water quality monitoring
- Data system
- Certified operator
- Sanitary survey
- Funding options
- Publicly available data
Sixty-eight out of 149 small Group A water systems in King County have blue operating permits indicating that the systems have not received ODW design approval; however, these systems are adequate for the existing number of connections. Some with available resources are able to improve and document their facilities and improve their permits to green status.

The Small Water Systems Committee expects ODW to continue to develop new and to modify existing measures as experience dictates what efforts lead to positive results.

The Committee also expects ODW to continue to develop its compliance strategy. Passive enforcement tools are used to encourage systems to comply with regulations. The operating permit was intended to be a compliance tool and has operated that way. Once exhausted, there are formal enforcement tools that ODW can use. Prioritizing compliance by public health risk allows for a more efficient use of limited ODW resources.

4.4 Receivership

At the April 2007 meeting of the Small Water Systems Committee, KCDNRP submitted a draft document that provided background, King County’s interests, and possible actions on receivership of failing small water systems in King County. Over the course of several meetings, the Committee reviewed the document and then approved it at the July meeting. The following sections present the Committee-approved text.

4.4.1 Background on Receivership

Public water systems in Washington are subject to ongoing regulation by both DOH and local health jurisdictions (in King County, this is PHSKC). Systems that fail to comply with regulatory requirements are subjected to a variety of potential compliance actions that range from informal to formal enforcement actions. (See the discussion in Section 4.3 of this chapter on the compliance and enforcement process.) When the failure to comply is extreme, particularly when it is jeopardizing the health and safety of its customers, and the owner or operator does not appear to be willing to remedy the deficiencies, state law authorizes either DOH or a local health officer to go to court and ask for an order appointing another person or entity to operate the system under court supervision. This proceeding is known as a “receivership” of the system.

The Legislature enacted a provision in 1990 that established a process for failing public water systems to be placed into receivership via court action. There does not appear to be any definition in either statute or DOH rule defining “failing public water system,” nor is that phrase used in the legislation. There may be many reasons for a system to “fail.” It has been assumed that some very small systems, simply because of their size, sometimes lack the requisite financial and managerial capacity to successfully operate in compliance with complex regulatory requirements.

Revisions to the federal Safe Drinking Water Act (SDWA) in 1996 adopted this approach and required each state to develop a strategy to ensure that water systems subject to the SDWA had the “technical, financial, and managerial capacity” to maintain themselves in compliance with federal requirements. Part of that requirement is being met with the expansion of the requirement for state-certified operators for most small water systems that are subject to federal regulation (as
small as 15 connections). However, the causes of “failure” for small systems are not just structural and financial. They sometimes simply reflect “failed communities” that need policies, procedures, and bylaws to function more effectively.

There are also differences between Group A (federally regulated) and Group B (state and locally regulated) water systems. The regulations on Group A systems are much more stringent than on Group B systems. A system in either group could “fail,” and either could be subject legally to a receivership action being filed. However, Group B systems, because of their very small size (under 15 connections), tend to be true “neighborhood” systems where responsibilities for operating the system properly are frequently handled informally. As PHSKC data show, a large proportion of such systems in King County do not meet their routine public health regulatory requirements (e.g., routinely sampling and testing water quality), yet when they do test their water, the majority have water quality that meets regulatory requirements. Similarly, when PHSKC has done field inspections of such systems, they frequently find violations of basic sanitary requirements (e.g., inadequate protection of wellheads or wells), but most systems appear to be willing to correct such violations when notified. (See the discussion in Section 4.3 of this chapter for more information on Group B system compliance.)

The receivership legislation enacted in 1990 (RCW 43.70.195) directs DOH to maintain a list of suitable parties to be named as receivers in each county. When an action is filed and there is no other person willing and able to be a receiver, the Court is to appoint the county where the system is located. A receiver is required to provide a report to the Court within 12 months on alternatives for ultimate disposition of the system, with the Court making the decision. The system may not be returned to the owners unless DOH approves. The statute provides some authorities for the receiver in terms of operating the system and collecting revenues, and provides some limited protection against liability for the receiver during operation of the system. For details on the elements of the statutory process, see the DOH informational sheet at http://www.doh.wa.gov/ehp/dw/Publications/331-299_receivership_q_and_a_4-28-05_web.pdf.

Most counties, including King County, do not operate water utilities and are not structured to do so. Managing and operating systems may be costly to the receiver; if the system is a very small one, it may not generate very substantial revenues. Some counties have entered into agreements with utilities to be appointed as receivers (for instance, the Washington Public Utilities Districts Association has on file seven such agreements between counties and Public Utility Districts), but there is no such agreement in King County.

The Court has the authority to order a county to be named as receiver, even if the county objects, as happened recently in the Rimrock system case in Snohomish County. In the Rimrock case, the county set aside $50,000 to operate the system for a year and identified staff within its public works department to manage the system. Fortunately for the county, a “champion” emerged among the system’s customers who was willing to take on the responsibility for much of the management of the system. Ultimately, the remaining customers formed a new homeowners association and were able to have the ownership of the system transferred by the Court to them. They succeeded in making capital investments to the system’s facilities, transferred to a different source of water, and were able to get the DOH health order lifted. According to the Snohomish County Public Works Director, the work of this single invididual was a major factor in the
county’s avoiding significant costs and investment of staff time in acting as receiver of the system.

Only one receivership has been filed under this state law in King County since 1990, and in that case (the JBA system case), the county was not named as a receiver. There have been two other situations in King County where the filing of a receivership action was seriously considered, including one (the Ravensdale Mobile Home Park system) within the past two years. In both cases, the situation was resolved through the cooperative work of DOH, PHSKC, and a local water utility. In the JBA case, the system that was willing to operate the JBA system was initially greeted as a “hero” by the system’s customers, but later lost its popularity when it became apparent how much the customers would have to pay to upgrade the system to meet regulatory requirements.

In response to two failing systems in 1993, King County developed a draft Action Plan for Receivership in 1994 for dealing with potential receiverships. In 1995, the Legislature amended the Coordination Act to require that CWSPs include policies and procedures to generally address failing water systems for which counties may become responsible under the receivership statute. In 1998, the update to the East King County CWSP recommended that King County adopt or refine the 1994 draft Action Plan. None of the three other CWSPs in King County have made recommendations on receiverships.

4.4.2 King County Interests Regarding Receivership

King County has asked that the Small Systems Committee include receivership in the issues it addresses. From the county’s perspective, its interests are to (1) protect public health and ensure delivery of adequate and safe supplies of drinking water, and (2) avert King County’s ever being named as receiver of a failing system.

4.4.3 Possible Actions to Avoid Receiverships in King County

Because the county perceives a threat of being appointed the receiver of a failing system, it suggested some actions to improve communications with DOH. In addition, it provided its 1994 draft Action Plan for Receivership to address its concerns.

Recommendations for possible action to address this issue include (1) KCDNRP, PHSKC, and DOH sit down routinely (quarterly; semi-annually) to discuss status of systems in King County, including compliance problems and public health problems, and discuss strategies to avoid failure of systems that could trigger receivership action being filed; (2) in the event that a CWSP process is initiated, include receivership per 1995 legislation; (3) King County review the draft Action Plan for Receivership and consider updating and finalizing it; and (4) King County sit down with willing utilities and discuss entering into formal agreements with regard to failing systems.

The Small Water Systems Committee supported the county in taking these actions, but did not take up the issue further.
4.4.4 Other Resources on Receivership

DOH, Receivership Q & A: http://www.doh.wa.gov/ehp/dw/Publications/331-299_receivership_q_and_a_4-28-05_web.pdf


RCW 43.70.195: http://apps.leg.wa.gov/RCW/default.aspx?cite=43.70.195

King County, Action Plan for Receivership (Draft 1994, see Appendix K).

DOH, How Reliable Are Our Water Systems? What Happens When Systems Fail—The Rimrock Case Study (November 18, 2006).

Chapter 5

Concluding Observations and Possible Future Work

The Small Water Systems Committee accomplished much during its almost year-and-a-half tenure. Issues were identified, existing information was shared and discussed, and new information was generated.

As agreed to in the Coordinating Committee’s May 3, 2006, clarifying statement, members may choose whether or how to use the Committee’s products and other products of the regional water planning process. The clarifying statement reads as follows:

Multiple agencies and organizations are voluntarily participating in a regional water supply planning process for the purpose of identifying, compiling information on, and discussing many of the key issues that relate to or may affect water resources of the region. The goal is to develop the best available data, information, and pragmatic tools that the participants may use, at their discretion, to assist in the management of their respective water systems and resources, and in their water supply planning activities. Information developed by each technical committee is advisory only and development of that information in no way expands or limits the authority of any entity. All information generated will be shared among all those interested in receiving it. The planning process is not required by statute, but is expected to provide useful data that may support other processes that any participant may use to address water resource and water supply issues. Each of the participants is free to accept or reject the results of this process.

Although addressing the three priority issues represents a substantial body of work, there may be the need to address other potential issues identified and noted in Table 4-1 in Chapter 4 of this report.