

**Table 2-1. Evolution of Tributary Streamflow Technical Committee Purpose and Objectives**

**Summary:** The Committee’s purpose and objectives in the Planning Framework Summary were to 1) define and agree upon criteria that would be used in a prioritization matrix; 2) apply the prioritization matrix to identify source exchange opportunities and longer term opportunities and needs in the tributaries. The final report presented the prioritization criteria and a prioritized list of streams that could benefit from flow restoration. The Tributary Streamflow Committee was not provided a list of source substitution opportunities to match with the stream ranking.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Proposed Charter for Technical Committees Regional Water Supply Plan Prioritization of Tributaries, not dated	Proposed Charter for Tributary Streamflow Technical Committee Regional Water Supply Planning (Revised per Technical Committee Discussion 3/27/06)	Proposal to the Coordinating Committee from the Tributary Streamflow Technical Committee Regional Water Supply Planning	Tributary Streamflow Technical Committee. 2006. Draft Report Tributary Streamflow Technical Committee. October 2, 2006.
Author: Scoping Committee	Author: Coordinating Committee	Author: Tributary Streamflow Technical Committee	Author: Tributary Streamflow Technical Committee	Author: Tributary Streamflow Technical Committee
<p>To initiate the second phase, a broad based group should be formed early to define and agree upon the criteria to be used in the prioritization matrix.</p> <p>A technical subcommittee would then be formed to 1) apply a prioritization matrix which: a) Identifies short-term opportunities to match the tributary instream needs with source substitution and b) Identifies longer-term opportunities and needs in the tributaries, and 2) begin to develop tributary flow enhancement action priority lists.</p>	<p>The purpose of the Stream Prioritization Technical Committee is to identify and rank needs and opportunities to provide instream water quantities at a time and place to protect salmon and restore harvestable runs, including populations that are listed or in decline.</p>	<p>The purpose of this work is to determine the locations and priority ranking of flow-impaired tributary stream areas most in need of flow restoration to help maintain and recover salmon runs.</p>	<p>The Tributary Streamflow Technical Committee has focused their efforts on developing a prioritized list of stream and stream segments that are most likely to benefit from low flow restoration or enhancement to help maintain and recover salmon runs. The overall objective of this prioritization is to eventually improve flows and associated water temperatures for salmon in prioritized streams.</p>	<p>“...create a prioritized list of candidate streams for the purpose of future flow restoration using source exchange (p. 1).” The objective of the prioritization below is to identify streams where source exchange has the potential to improve flows and associated water temperatures, and thereby help increase the abundance and distribution of salmon and steelhead populations (p. 1).”</p>

**Table 2-2. Evolution of Tributary Streamflow Technical Committee Scope over the Course of the Process**

**Summary:** The scope in the Planning Framework Summary, proposed charter, and revised charter are very similar. However, the charters identify the process and factors to consider in ranking tributaries and the geographic scope of the analysis. In addition, the Committee deferred matching tributary needs with source exchange opportunities to the Source Exchange Technical Committee along with the technical investigation on the impact of seasonal groundwater pausing. The Tributary Streamflow Technical Committee developed and applied a prioritization matrix to rank streams in WRIs 8 and 9. The Committee's final report did not address all of the questions identified in the Planning Framework Summary.

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Author: Scoping Committee	Author: Coordinating Committee	Author: Tributary Streamflow Technical Committee	Author: Tributary Streamflow Technical Committee	Author: Tributary Streamflow Technical Committee	
Develop a prioritization matrix which: a) Identifies short-term opportunities to match the tributary instream needs with source substitution b) Identifies longer-term opportunities and needs in the tributaries.	Develop...a stream prioritization matrix and ranking criteria based on fish habitat, hydrology, salmonid species, and opportunity for salmon production improvement in streams or stream segments identified as flow and/or temperature-impaired; (Step 1)  Prioritization will be based on criteria including biological need, hydrologic impact, opportunity for source substitution or other flow restoration methods, and the likelihood of improvement in habitat conditions for salmon production. The list will include short and longer term opportunities to match tributary needs with source substitution or other actions.  • Identify short and long term opportunities to match priority needs	Develop...a stream prioritization matrix and ranking criteria based on fish habitat, hydrology, salmonid species, and opportunity for improved salmon production in streams or stream segments identified as flow and/or temperature-impaired;  Prioritization will be based on biological need, hydrologic impact, and the likelihood of improvement in habitat conditions for salmon production.	--	Ranking Criteria section, p. 5 - 6, Draft Report, 10/02/2006; p. 8 - 13, Draft Report, 10/02/2006  Deferred matching tributary needs with source exchange opportunities to source exchange committee.	Yes  No
...apply the matrix and develop tributary flow enhancement action priority lists.	...apply a stream prioritization matrix and ranking criteria based on fish habitat, hydrology, salmonid species, and opportunity for salmon production improvement in streams or stream segments identified as flow and/or temperature-impaired; (Step 1)  A prioritization matrix will be applied to a list of flow-impaired streams or stream segments to develop a stream flow restoration action priority list.	...apply a stream prioritization matrix and ranking criteria based on fish habitat, hydrology, salmonid species, and opportunity for improved salmon production in streams or stream segments identified as flow and/or temperature-impaired;  A prioritized stream flow restoration list for flow-impaired tributary streams or stream segments. The list will be accompanied by a short description of the process and rationale used to generate the list of streams.	--	Applied the matrix and developed a priority list: p. 6-8, Draft Report, 10/02/2006.	Yes
In which subbasins are opportunities for stream enhancement from source exchange most likely to exist?	In which subbasins are opportunities for stream enhancement from source exchange most likely to exist?	In which subbasins are opportunities for stream enhancement from source exchange most likely to exist?	--	Analysis focused on the streams identified in the Central Puget Sound Low Flow Survey report (Somers and Lombard 2004) as being flow impaired.	Yes
What are the selection criteria to be included in the action prioritization matrix?	What are the selection criteria to be included in the action prioritization matrix?	What are the selection criteria to be included in the action prioritization matrix?	--	Ranking Criteria section, p. 5 - 6, Draft Report, 10/02/2006	Yes

**Table 2-2. Evolution of Tributary Streamflow Technical Committee Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Proposed Charter for Technical Committees Regional Water Supply Plan Prioritization of Tributaries, not dated	Proposed Charter for Tributary Streamflow Technical Committee Regional Water Supply Planning (Revised per Technical Committee Discussion 3/27/06)	Proposal to the Coordinating Committee from the Tributary Streamflow Technical Committee Regional Water Supply Planning	Tributary Streamflow Technical Committee. 2006. Draft Report Tributary Streamflow Technical Committee. October 2, 2006.	Addressed Planning Framework Summary Scope in Final Product(s)?
What specific tributaries would benefit from management strategies?	What specific tributaries would benefit from management strategies?  The Committee will focus on meeting streamflow restoration needs in a limited number of prioritized tributary streams in King County drainage basins within WRIsAs 8, 9, and 10.	The Committee will focus on listing streamflow restoration needs for a limited number of tributary streams in King County drainage basins within WRIsAs 8 and 9. This does not preclude the need for similar work by others in additional WRIsAs.	--	"The geographic scope of the Committee's work was purposely limited to the Water Resource Inventory Areas (WRIsAs) 8 and 9, the Cedar-Sammamish-Lake Washington and Green-Duwamish watersheds, respectively." p. 1 Draft Report  "The tributary ranking process began with a list of 20 candidate streams in WRIsAs 8 and 9 (Table 1). These streams were identified in the Central Puget Sound Low Flow Survey report (Somers and Lombard 2004) as being flow impaired. The list was modified and some streams were added or deleted based on Committee insight and concurrence. A map of the candidate streams is provided in Appendix A" (p. 4, Draft Report, 10/02/2006).	Yes
What strategies in addition to source substitution offer reasonable prospects for the hydrating of tributaries?	What strategies in addition to source substitution offer reasonable prospects for the hydrating of tributaries?	--	--	Discussion/recommendation of other habitat improvement actions that can be pursued by other entities (p. 3)	Yes
What metrics can be developed to assure that water which is substituted actually becomes instream flow and isn't diverted to support another water right?	What metrics can be developed to assure that water which is substituted actually becomes instream flow and isn't diverted to support another water right?	What metrics can be developed to assure that water which is substituted actually becomes instream flow and isn't diverted to support another water right?	--	Not addressed in report.	No
Articulation of a credible analytic connection between particular flow regimes and fish abundance, productivity, diversity and distribution.	Articulation of a credible analytic connection between particular flow regimes and fish abundance, productivity, diversity and distribution.  • Assess the likelihood of success of achieving measurable improvement in habitat conditions and salmon production in targeted stream segments from flow enhancement actions;	• Assess the likelihood of success of achieving measurable improvement in habitat conditions and salmon production in targeted stream segments from flow enhancement actions;	--	Likelihood of achieving success addressed in category 3 of the ranking criteria.	Yes
--	• Identify monitoring required to measure or confirm benefits;	• Identify monitoring required to measure or confirm benefits.	--	Not addressed in report.	New, Un-answered Question
--	• Identify lead entity or potential parties to do or fund the work;	--	--	Not addressed in report.	New, Un-answered Question
--	• Identify and recommend land use prescriptions to safeguard the benefits of actions taken (e.g., insure sustainable groundwater recharge and base flow support through critical area ordinances, low impact development standards for new development, and potential retrofit strategies for existing development, including the potential for improved infiltration and aquifer recharge.	--	--	Not addressed in report.	New, Un-answered Question

**Table 2-2. Evolution of Tributary Streamflow Technical Committee Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Proposed Charter for Technical Committees Regional Water Supply Plan Prioritization of Tributaries, not dated	Proposed Charter for Tributary Streamflow Technical Committee Regional Water Supply Planning (Revised per Technical Committee Discussion 3/27/06)	Proposal to the Coordinating Committee from the Tributary Streamflow Technical Committee Regional Water Supply Planning	Tributary Streamflow Technical Committee. 2006. Draft Report Tributary Streamflow Technical Committee. October 2, 2006.	Addressed Planning Framework Summary Scope in Final Product(s)?
--	<ul style="list-style-type: none"> <li>Achieve and maintain where feasible increased flows for improved habitat conditions and salmon production including improving thermal characteristics in target streams.</li> </ul>	--	--	Not addressed in report.	New, Unanswered Question
--	<ul style="list-style-type: none"> <li>Prioritize opportunities for source substitution that are neutral in effect. Avoid imposing a negative effect on source Stream A to improve conditions in Stream B.</li> </ul>	--	--	Not addressed in report.	New, Unanswered Question
--	<p>...a second step to work with others to identify opportunities and apply actions to restore flows to address the priorities (Step 2).</p> <ul style="list-style-type: none"> <li>Develop and apply potential actions to alleviate impaired flow in priority streams or stream segments identified in Step 1 by working with the Source Exchange Strategies Committee, Reclaimed Water Committee, affected utilities, or others that can effectuate a project to improve flow in target streams; (Step 2)</li> </ul>	<p>...a second step by the Source Exchange Strategies Committee and Reclaimed Water Committee will be to work with others to identify opportunities and apply actions to restore flows to address the priority streams (Step 2).</p>	<p>The scope of work described below is aimed at demonstrating potential improvements in-stream flow and temperature conditions through seasonal pausing of groundwater extraction from wells that have been identified by utilities or individuals as candidates for source exchange/substitution.</p>	Deferred to Source Exchange and Reclaimed Water Technical Committees	Deferred
--	<p>Work with the Source Exchange Strategies Committee, Reclaimed Water Committee, affected utilities, or others that can effectuate a project to improve flow in target streams; (Step 2)</p>	<p>Work with the Source Exchange Strategies Committee, Reclaimed Water Committee, affected utilities, or others that can effectuate a project to improve flow in target streams;</p> <p>Deferred to Source Exchange and Reclaimed Water Technical Committees</p>	<p>Task 1 will involve compiling and integrating recent studies and reports that describe or relate to benefits derived from resting or pausing groundwater extraction. Both generic studies and studies specific to the Puget Sound region will be included in this compilation and integration. Available studies that consider both the hydraulic and thermal benefits of resting or pausing groundwater extraction will be reviewed and compiled.</p>	Deferred to Source Exchange and Reclaimed Water Technical Committees	Deferred
--			<p>Task 2 will involve characterizing a select number of groundwater wells in WRIA's 8 and 9. This task will identify site-specific characteristics that are important for quantifying the magnitude, timing, and distribution of stream flow impacts from groundwater extraction. Characteristics will include well construction and operation information (e.g., length and depth of well screen and well pumping rates), hydrogeological parameters that control stream impact (e.g., storage coefficients, hydraulic conductivity values, aquifer and confining unit thicknesses), distances from impaired stream channels, and characteristics of impaired stream channels (e.g., base flow and peak temperatures). The wells that will be considered in this task will be identified by owners of municipal water supply wells who are interested in having their wells evaluated for source substitution or source exchange purposes.</p>	Deferred to Source Exchange and Reclaimed Water Technical Committees	Deferred
--			<p>Task 3 will involve modifying the USGS steady-state groundwater model developed for simulating aquifer systems in the Puget Sound lowlands (Morgan and Jones, 1999) so that it can be used to simulate transient or time-varying effects of groundwater extraction. The transient model will then be used to identify well characteristics and hydrogeologic conditions necessary to obtain significant flow improvements from seasonal resting.</p>	Deferred to Source Exchange and Reclaimed Water Technical Committees	Deferred

**Table 2-2. Evolution of Tributary Streamflow Technical Committee Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Proposed Charter for Technical Committees Regional Water Supply Plan Prioritization of Tributaries, not dated	Proposed Charter for Tributary Streamflow Technical Committee Regional Water Supply Planning (Revised per Technical Committee Discussion 3/27/06)	Proposal to the Coordinating Committee from the Tributary Streamflow Technical Committee Regional Water Supply Planning	Tributary Streamflow Technical Committee. 2006. Draft Report Tributary Streamflow Technical Committee. October 2, 2006.	Addressed Planning Framework Summary Scope in Final Product(s)?
--			Task 4 will combine the results of the computer simulations developed in Task 3 with the well characterization data identified in Task 2 to evaluate potential improvements in in-stream flow conditions through seasonal pausing of specific groundwater extraction wells. This task will include an assessment of the percent and timing of in-stream flow restored, the length of stream benefiting from flow restoration, and a recommendation on the period of time to pause withdrawals to maximize benefit to stream flow during the July – October low flow period. Under this task, wells that are characterized under Task 2 will be divided into relatively broad categories that relate to their potential for flow restoration from seasonal pausing. In terms of potential benefits to stream flows during critical months, example categories might include “very unlikely,” “very likely”, and “uncertain based on available data.”	Deferred to Source Exchange and Reclaimed Water Technical Committees	Deferred
--			Task 5 will be used to a compare the results of a site-specific analysis with the more “semi-generic” analysis described under Task 4. This task will be completed in collaboration with a volunteer owner of a municipal water supply well. It is assumed that the owner of this well will have existing site-specific information that could be used to evaluate seasonal impacts on stream flow for different pumping strategies. In an ideal situation, a site-specific computer model would be available. This site-specific model would be modified as needed and applied to consider potential stream flow benefits from seasonal pausing. This task would be completed in close cooperation with the volunteer owner.	Deferred to Source Exchange and Reclaimed Water Technical Committees	Deferred

Notes  
 -- not included

**Table 2-3. Evolution of Source Exchange Technical Committee Purpose and Objectives**

**Summary:** The Committee’s purpose in the Planning Framework Summary was to develop a source exchange plan or program; however, the goal of the final report was to develop an “...array of possible strategies, policies and implementation criteria...”. The goal of the Committee’s final report was not to present a source exchange plan or program but to present information on costs and benefits of source exchange projects, hydrogeologic factors related to source exchange projects, and important considerations for utilities exploring source exchange projects. The purpose changed from developing a source exchange program to exploring how to implement a source exchange project.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	DRAFT Proposed Charter for Technical Committees Regional Water Supply Plan Source Exchange Strategies, dated 1/10/06	Proposed Charter for Technical Committees Regional Water Supply Plan Source Exchange Strategies, not dated	Funding Proposal Scope	Report from the Source Exchange Committee. Prepared for the Regional Water Supply Planning Process. December 2007.
Author: Scoping Committee	Author: Coordinating Committee	Author: Source Exchange Technical Committee	Author: Source Exchange Technical Committee	Author: Source Exchange Technical Committee
The goal is the development of a source exchange plan or program that has as its purpose the temporary or permanent replacement of water supply sources that adversely affect salmon runs with water from supply sources with less impact on salmon runs.	The goal is the development of strategies which can be incorporated into a source exchange plan or program which consists of policies and implementation criteria to assist in determining the manner in which a particular “exchange” of water will be accomplished.	The goal is the development of an array of possible strategies, policies and implementation criteria that would assist in determining the manner in which a particular “exchange” of water might be accomplished.	--	The purpose of the report is to summarize the Committee’s work products concerning costs and benefits of source exchange and hydrogeologic factors related to source exchange projects, summarize the committee’s overall findings, and identify important considerations for utilities that may be interested in exploring source exchange projects.
For utilities on groundwater sources, the primary focus should be on the reduction of use to lessen potential impacts on surface waters. Source exchange options should also include reclaimed water.	For utilities on groundwater sources, the primary focus should be on the reduction of use to lessen potential impacts on surface waters. Source exchange options should also include reclaimed water, where feasible.	Source exchange options will also include reclaimed water and conservation. This committee is recommending that the Reclaimed Water Technical Committee be the lead for examining options related to reclaimed water.  Deferred to Reclaimed Water Technical Committee	--	--
This program requires the identification of streams that would most benefit from additional flows made possible from appropriate source exchange. Development of such a program would necessitate a strong working relationship between water supply utilities and fisheries resource agencies and Tribes.  For purposes of prioritization, the Department of Fish and Wildlife, the various tribes, Department of Ecology, watershed groups, and Shared Strategy have already done much work. These entities will be responsible for developing the prioritized list described elsewhere. How these priorities are incorporated into the source exchange strategy will also involve utilities and King County.	Any program requires the prior identification of streams that would most benefit from additional flows made possible from appropriate source exchange. The technical committee on Prioritization of Tributaries is undertaking this flow-impacted stream identification process. Development of such a program would necessitate a strong working relationship between water supply utilities and fisheries resource agencies and Tribes.  For purposes of prioritization, the Department of Fish and Wildlife, the various tribes, Department of Ecology, watershed groups, and Shared Strategy have already done much work. These entities will be responsible for developing the prioritized list described elsewhere. How these priorities are incorporated into the source exchange strategy will also involve utilities and King County.	This requires the prior identification of streams that would most benefit from additional flows made possible from appropriate source exchange. The technical committee on Tributaries Streamflow is undertaking this flow-impacted stream identification process. This work necessitates a strong working relationship between water supply utilities and fisheries resource agencies and Tribes.  Deferred to Tributary Streamflow Technical Committee	--	--

**Table 2-4. Evolution of Source Exchange Technical Committee Scope over the Course of the Process**

**Summary:** The Source Exchange Technical Committee identified a number of factors to explore including pricing, the potential for source exchange for the Lake Tapps Record of Examination, availability of substitute water, infrastructure for transporting the substitute water, using reclaimed water, and prioritization strategies to improve instream flows. Subsequent development of the Committee’s charter by the Coordinating Committee and the Technical Committee included many of these topics. The charters also included evaluating financial, legal, and managerial strategies that could be used to implement a source exchange project. The funding proposal focused on the development of the strategies and did not specifically identify the other topics or questions identified in the Planning Framework Summary. The final product (a report) by the Technical Committee addressed the scope of the funding proposal and did not specifically address the remaining topics or develop a strategy.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	DRAFT Proposed Charter for Technical Committees Regional Water Supply Plan Source Exchange Strategies, dated 1/10/06	Proposed Charter for Technical Committees Regional Water Supply Plan Source Exchange Strategies, not dated	Funding Proposal Scope	Report from the Source Exchange Committee. Prepared for the Regional Water Supply Planning Process. December 2007.	Addressed Planning Framework Summary Scope in Final Product(s)?
Author: Scoping Committee	Author: Coordinating Committee	Author: Source Exchange Technical Committee	Author: Source Exchange Technical Committee	Author: Source Exchange Technical Committee	
--	The source exchange strategy will include an array of financial, legal and managerial strategies which will be used to implement temporary or permanent replacement of existing water supply sources that adversely affect in-stream flows necessary for the preservation or recovery of salmon runs with water from supply sources with less impact. Once flow-impacted streams are identified and prioritized, the source exchange strategies may be utilized to achieve the “how” of the water transfer process.	The committee will produce a report that identifies possible issues, including possible financial, legal and managerial strategies which may be drawn upon by voluntary participants to implement temporary or permanent replacement of water supply sources that adversely affect salmon runs with water from supply sources with less impact on salmon runs. Once flow-impacted streams are provided by the Tributaries Stream Flow Technical Committee, source exchange strategies will be evaluated for a few of those streams as a way of exploring the issues that might be involved in other possible source exchange projects. The goal is the development of an array of possible strategies, policies and implementation criteria that would assist in determining the manner in which a particular “exchange” of water might be accomplished.	Most of the issues around source exchange are complex and highly technical. For example, there are numerous aspects around the issue of who pays for source exchange and how it can be affordable. Some analysis of approaches would be helpful to enable projects to even be considered. This analysis could be done in concept, or in conjunction with a particular possible project as discussed in the proposal below. Either way, there would need to be expertise from an economist as well as an engineer to provide such an analysis. We anticipate that a consultant will directly take on the “who pays” issue as well as identifying benefits from a source exchange. This work would include searching the literature or contacting other utilities in other areas to see how they have tackled the issue. The results of this would be considered by the Committee so that some recommendations could be made and included in the Committee’s final report.	Technical memo (attachment C) summarizing the results of a literature search of source exchange projects in the western United States. Technical Memo (attachment D) describing the cost benefit analysis and the triple bottom line as approaches for evaluating the social and economic costs of a source exchange project.	Not in Planning Framework Summary
--			The charter for the Source Exchange Committee discusses evaluating possible source exchange options for a few of the streams identified by the Tributaries Committee as a way of exploring the issues involved. Legal, financial and managerial issues may be specific to particular options, but could shed light on approaches for other circumstances as well. This proposal would make funds available to willing participants in a source exchange project to help get the implementation of that project started. The money could be used to work out the legal, financial, and/or managerial issues that would then be documented for use by participants in other projects.	Developed illustrative examples of potential source exchange projects in King County (Section 5).	Not in Planning Framework Summary

**Table 2-4. Evolution of Source Exchange Technical Committee Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	DRAFT Proposed Charter for Technical Committees Regional Water Supply Plan Source Exchange Strategies, dated 1/10/06	Proposed Charter for Technical Committees Regional Water Supply Plan Source Exchange Strategies, not dated	Funding Proposal Scope	Report from the Source Exchange Committee. Prepared for the Regional Water Supply Planning Process, December 2007	Addressed Planning Framework Summary Scope in Final Product(s)?
<p>Identify streams that would most benefit from additional flows made possible from appropriate source exchange.</p> <p>Develop a strong working relationship between water supply utilities and fisheries resource agencies and Tribes.</p> <p>Incorporate prioritization strategies from existing agencies and groups.</p> <p>How will priorities be determined?</p> <p>Criteria must be developed to determine which tributaries may benefit most from source exchange. This will require significant technical work not only in developing the criteria but also in applying it to specific withdrawals.</p>	<p>Any program requires the prior identification of streams that would most benefit from additional flows made possible from appropriate source exchange. The technical committee on Prioritization of Tributaries is undertaking this flow-impacted stream identification process.</p> <p>Development of such a program would necessitate a strong working relationship between water supply utilities and fisheries resource agencies and Tribes.</p> <p>For purposes of prioritization, the Department of Fish and Wildlife, the various tribes, Department of Ecology, watershed groups, and Shared Strategy have already done much work. These entities will be responsible for developing the prioritized list described elsewhere. How these priorities are incorporated into the source exchange strategy will also involve utilities and King County.</p> <p>Deferred to Tributary Streamflow Committee.</p>	<p>This requires the prior identification of streams that would most benefit from additional flows made possible from appropriate source exchange. The technical committee on Tributaries Streamflow is undertaking this flow-impacted stream identification process. This work necessitates a strong working relationship between water supply utilities and fisheries resource agencies and Tribes.</p>	<p>--</p>	<p>Deferred to Tributary Streamflow Committee.</p>	<p>Deferred</p>
<p>Reduce use to lessen potential impacts on surface waters for utilities on groundwater sources.</p>	<p>For utilities on groundwater sources, the primary focus should be on the reduction of use to lessen potential impacts on surface waters.</p>	<p>--</p>	<p>--</p>	<p>Examined hydrogeologic factors related to resting groundwater sources as part of potential source exchange projects (Attachment B).</p>	<p>Deferred to Utilities</p>
<p>Include reclaimed water as an option.</p>	<p>Source exchange options should also include reclaimed water, where feasible.</p>	<p>Source exchange options will also include reclaimed water and conservation. This committee is recommending that the Reclaimed Water Technical Committee be the lead for examining options related to reclaimed water.</p> <p>Deferred to Reclaimed Water Committee.</p>	<p>--</p>	<p>Deferred to Reclaimed Water Committee.</p>	<p>Deferred</p>
<p>--</p>	<p>The strategies to be developed would be available to any utility interested in developing or implementing a source exchange program. The source exchange strategies will be used to determine how to achieve the difficult task of actually providing the replacement water necessary to implement the prioritization results. In practical terms, this means determining whether/how replacement water can physically be moved to the receiving entity as well as establishing the legal and financial foundation for such transfer. This subcommittee will therefore be tasked with analyzing temporary or permanent interties or other connections necessary to make such transfers possible as well as addressing the difficult issue of who will provide compensation and in what amount for such transfer.</p>	<p>The Source Exchange Committee will examine how to achieve the difficult task of actually providing the replacement water necessary to implement the prioritization results. In practical terms, this means determining whether/how replacement water can physically be moved to the receiving entity as well as how to establish the legal and financial foundation for such transfer. This committee will therefore be tasked with analyzing temporary or permanent interties or other connections necessary to make such transfers possible as well as addressing the difficult issue of who will provide compensation and in what amount for such transfer.</p>	<p>--</p>	<p>Not addressed in report.</p>	<p>Not in Planning Framework Summary</p>

**Table 2-4. Evolution of Source Exchange Technical Committee Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	DRAFT Proposed Charter for Technical Committees Regional Water Supply Plan Source Exchange Strategies, dated 1/10/06	Proposed Charter for Technical Committees Regional Water Supply Plan Source Exchange Strategies, not dated	Funding Proposal Scope	Report from the Source Exchange Committee. Prepared for the Regional Water Supply Planning Process, December 2007.	Addressed Planning Framework Summary Scope in Final Product(s)?
Can this strategy be developed much sooner than envisioned in the Lake Tapps ROE so that it can be incorporated into the CWSP update process?	Can this strategy be developed much sooner than envisioned in the Lake Tapps ROE so that it can be incorporated into the CWSP update process?	--	--	Not addressed in report.	No
Should the program be narrow by focusing on the use of water identified in the Lake Tapps ROE and in the reclaimed water analysis? Or should the source exchange program identify and prioritize all opportunities regardless of the source of the substitute water?	Should the program be narrow by focusing on the use of water identified in the Lake Tapps ROE and in the reclaimed water analysis? Or should the source exchange program identify all possible opportunities regardless of the source of the substitute water?	Since the source exchange requirements imposed on Cascade Water Alliance by the soon-to-be re-issued Report of Examination for the Lake Tapps' water right will not be implemented for many years, this effort will look at what possibilities exist now and will examine the issues that will exist when CWA must meet their requirements. The scope of this effort could include most water purveyors in the three-county region, but will focus on streams in WRIA 8 and 9 areas.	--	Not addressed in report.	No
Since substitute water from Lake Tapps isn't projected for decades, should this program be developed at this time or should it be developed closer to the availability of substitute water?	--	--	--	Not addressed in report.	No
In order for source exchange to work, utilities impacting streams must have physical access to a substitute source. Although many interties between utilities are already in place, additional and upgraded connections may be needed.	In order for source exchange to work, utilities impacting streams must have physical access to a substitute source. Although many interties between utilities are already in place, additional and upgraded connections may be needed.	In order for source exchange to work, utilities impacting streams must have physical access to a substitute source. Although many interties between utilities are already in place, additional and upgraded connections may be needed. Who will pay for that infrastructure?	--	Not addressed in report.	No
How should substitute water be priced? Pricing of the substituted water poses a significant problem. The water being replaced is often cheaper water than the source exchange water. How can City X be encouraged to engage in source exchange if the substitute water significantly exceeds the cost of its own supply?	How should substitute water be priced? Pricing of the substituted water poses a significant problem. The water being replaced is often cheaper water than the source exchange water. How can City X be encouraged to engage in source exchange if the substitute water significantly exceeds the cost of its own supply?	How should substitute water be priced? Pricing of the substituted water poses a significant problem. The water being replaced is often cheaper water than the source exchange water. How can City X be encouraged to engage in source exchange if the substitute water significantly exceeds the cost of its own supply?	--	Hypothetical examples included discussion on pricing of water (Appendix D).	Yes
Who should bear the burden of any cost differential? To date these issues have been recognized but not resolved. The Lake Tapps ROE for example says nothing about how Cascade is supposed to go about "selling" its 16 mgd of required source exchange water outside Cascade's membership.	Who should bear the burden of any cost differential? To date these issues have been recognized but not resolved.	Who should bear the burden of any cost differential?	--	Hypothetical examples included discussion on cost-sharing opportunities (Appendix D).	Yes
Is there a way to equitably encourage utilities to participate, given the regional benefits may not seem balanced with the localized impact?	Is there a way to equitably encourage utilities to participate, given the regional benefits may not seem balanced with the localized impact?	Is there a way to equitably encourage utilities to participate, given the regional benefits may not seem balanced with the localized impact?	--	Not addressed in report.	No
--	--	How are environmental and social benefits and costs to be considered?  The committee may also consider social and environmental benefits and costs of source exchange strategies.	--	Table 1 lists potential benefits and costs	Yes

Notes: -- not included

**Table 2-5. Evolution of Reclaimed Water Technical Committee Purpose and Objectives**

**Summary:** The Planning Framework Summary states that the intent of the analysis was to identify reclaimed water opportunities, issues and potential solutions. The final report included planning-level technical information, a framework for the analysis, and two case studies on how to apply the framework, but did not identify specific reclaimed water opportunities.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Reclaimed Water Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Reclaimed Water Proposed Working Draft Charter for Technical Committee , Regional Water Supply Planning Process, Draft 5/5/06	Reclaimed Water Technical Committee Request for Use of State Funds	The Reclaimed Water Technical Committee: A Summary of Activities March 2006 - December 2006
Author: Scoping Committee	Author: Coordinating Committee	Author: Reclaimed Water Technical Committee	Author: Reclaimed Water Technical Committee	Author: Reclaimed Water Technical Committee
The development of a phased reclaimed water analysis that can be used to identify reclaimed water opportunities, issues and potential solutions on a countywide basis for inclusion in new or updated Coordinated Water Supply Plans (CWSPs).	The purpose will be to provide technical information concerning the use of reclaimed water (demands, alternatives, costs of production and conveyance, and environmental benefits).	The purpose will be to provide planning-level technical information concerning the use of reclaimed water. A specific objective of the committee is to identify a uniform framework that may be used by any agency to evaluate the economic, environmental, and social benefits and costs of potential projects.	The committee’s working charter states that “a specific objective of the committee is to identify a uniform framework that may be used by any agency to evaluate the economic, environmental, and social benefits and costs of potential (reclaimed water) projects.” King County and the other committee members want the assistance of Dr. Raucher and his associates to adapt the information and tool for use as the analytical framework to evaluate reclaimed feasibility in this region. The objective of this work item will be to learn the WateReuse Foundation’s economic framework tool with Dr. Raucher’s guidance, adapt it as needed for use in any King County watershed, and apply the framework to local test cases.	The purpose [of the committee] will be to provide planning-level technical information concerning the use of reclaimed water. A specific objective of the committee is to identify a uniform framework that may be used by any agency to evaluate the economic, environmental, and social benefits and costs of potential projects.
The information developed on the availability and cost of reclaimed water as an alternative source will be integrated into new or updated CWSPs.	The information and work products developed will be suitable for inclusion in new or updated Coordinated Water Supply Plans (CWSPs) in King County, as well as for planning and water resource management decisions in areas not covered by CWSPs and in the watersheds of the major WRIAs of King County.	The information and work products developed will be consistent with the “clarifying statement” and the Web site home page of the Coordinating Committee. The committee will also identify policy issues and recommendations to be addressed by appropriate governing and policy-making bodies.	--	The information and work products developed will be consistent with the “clarifying statement” and the Web site home page of the Coordinating Committee. The committee will also identify policy issues and recommendations to be addressed by appropriate governing and policy-making bodies.

**Notes:** -- not included

**Table 2-6. Evolution of Reclaimed Water Technical Committee Scope over the Course of the Process**

**Summary:** The Planning Framework Summary stated that the Committee would recommend (1) potential users of reclaimed water and (2) potential for source exchange using reclaimed water as a source substitute. In addition, the Scoping Committee posed five questions for consideration by the committee. Members of the Technical Committee, however, decided that selection and evaluation of specific projects was premature in the absence of any generally agreed-upon model or tool for analyzing projects and that policy questions should be left to the decision-makers of the various agencies. So the Committee modified its charter and elected to develop planning-level technical information concerning the use of reclaimed water and to identify a framework that could be used to evaluate the full economic, environmental, and social benefits and costs of potential projects.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Reclaimed Water Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Reclaimed Water Proposed Working Draft Charter for Technical Committee, Regional Water Supply Planning Process, Draft 5/5/06	Reclaimed Water Technical Committee Request for Use of State Funds	The Reclaimed Water Technical Committee: A Summary of Activities March 2006 - December 2006	Addressed Planning Framework Summary Scope in Final Product(s)?
Author: Scoping Committee	Author: Coordinating Committee	Author: Reclaimed Water Technical Committee	Author: Reclaimed Water Technical Committee	Author: Reclaimed Water Technical Committee	
Develop a phased reclaimed water analysis that can be used to identify reclaimed water opportunities, issues and potential solutions on a countywide basis for inclusion in new or updated Coordinated Water Supply Plans (CWSPs).	The final report will be a thorough analysis of the costs and benefits of using reclaimed water as an alternative source of supply. It will include a set of reclaimed water projects recommended by the Technical Subcommittee that can occur within the King County Wastewater Treatment Division (KC WTD) service area.	The final report is expected to be a planning-level analysis of the costs and benefits of using reclaimed water as an alternative source of supply in King County. It is expected to include a framework that can be used to uniformly evaluate water projects by an accounting of social, environmental and economic costs and benefits.  Task 3: Review and Discuss Analytical Framework The committee will review a framework developed for the WaterReuse Foundation that can be used to identify, estimate, and communicate costs and benefits associated with water reuse and similar types of projects. This framework will be a social cost accounting-based instrument that includes economic, environmental and social benefits and costs. The committee will evaluate the suitability of the framework for projects in this region. Participants may propose projects from their districts as test cases for applying the evaluation framework.	King County and the other committee members want the assistance of Dr. Raucher and his associates to adapt the information and tool for use as the analytical framework to evaluate reclaimed feasibility in this region. • 2 full-day workshops in Seattle • Consultant team available to committee for consultation between workshops • Identification of all entities who benefit from water reuse or cause impacts. • Technical memorandum summarizing the workshops and modifications to the framework and model • Recommendations for subsequent data collection to improve usefulness of the tool	Members of the technical committee decided that selection and evaluation of specific projects was premature in the absence of any generally agreed upon model or tool for analyzing projects (p. 2).  Identified potential issues and solutions through case studies that applied the framework.	No  Yes
	The report will also include recommendations for actions to remove barriers and constraints to the use of reclaimed water and a plan for introducing the recommendations to various governing bodies including district commissioners, Metropolitan Water Pollution Abatement Advisory Committee, the King County Council and its Regional Water Quality Committee.	The report is expected to outline barriers and constraints to the use of reclaimed water and recommendations or options for responding to those issues that can be used by those agencies that wish to do so.	Identify and bring 2 guest speakers from other utilities to Seattle. They will present their programs to the Reclaimed Water Technical Committee and discuss initial barriers and solutions that are working in their region.	Reclaimed Water Technical Committee (2007, p. 13 - 15)	Yes
Where are the current and future opportunities for the use of reclaimed water?	Other products will be maps showing the current and 2020 reclaimed water availability in the KC WTD service area and areas of potential demand.  a. Where are the current and future opportunities for the use of reclaimed water?	Other expected products will be maps showing the current and 2020 reclaimed water availability in the King County Wastewater Treatment Division (WTD) service area and areas of potential demand.  a. Where are the current and future opportunities for the use of reclaimed water?	--	Maps in Appendix B	Yes
Evaluate revenue sources other than the wastewater rate for distribution of reclaimed water.	an evaluation of revenue sources other than the wastewater rate.	an evaluation of revenue sources other than the wastewater rate.	--	--	No

**Table 2-6. Evolution of Reclaimed Water Technical Committee Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Reclaimed Water Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Reclaimed Water Proposed Working Draft Charter for Technical Committee, Regional Water Supply Planning Process, Draft 5/5/06	Reclaimed Water Technical Committee Request for Use of State Funds	The Reclaimed Water Technical Committee: A Summary of Activities March 2006 - December 2006	Addressed Planning Framework Summary Scope in Final Product(s)?
In evaluating costs and pricing policies for reclaimed water, how should costs be allocated between wastewater and water utilities?	The cost of reclaimed water from the WTD system will also be provided...c. In evaluating costs and pricing policies for reclaimed water, how should costs be allocated between wastewater and water utilities?	The cost of reclaimed water from the WTD system is also expected to be provided... c. In evaluating costs and pricing policies for reclaimed water, how should costs be allocated between wastewater and water utilities and others?	--	--	No
Where are the opportunities to use reclaimed water as part of source exchange to benefit vulnerable tributaries?	d. Where are the opportunities to use reclaimed water as part of source exchange to benefit vulnerable tributaries?	d. Where are the opportunities to use reclaimed water as part of source exchange to benefit vulnerable tributaries?	--	--	No
Are there opportunities to use reclaimed water for ground application to help augment flows in streams and tributaries identified as vulnerable?	e. Are there opportunities to use reclaimed water for ground application to help augment flows in streams and tributaries identified as vulnerable?	e. Are there opportunities to use reclaimed water for ground application to help augment flows in streams and tributaries identified as vulnerable?	--	--	No
An analysis of the volumes of reclaimed water that could be produced from key components (Regional Treatment Plants, Major Conveyance Lines, and Pump Stations) of King County's wastewater system provided by King County Wastewater Treatment Division (WTD).	Phase 1: KC WTD will provide an analysis of the volumes of reclaimed water that could be produced from key components of its system: its regional treatment plants, major conveyance lines and pump stations.	Task 1: Estimate Cost of Production KC WTD will provide a planning-level analysis of the volumes of reclaimed water that could be produced from key components of its system: its regional treatment plants, major conveyance lines and pump stations.	--	--	No
Project the cost of producing this water and time frames for making the water available.	In addition to an analysis of the potential volume of reclaimed water available from these locations, King County will calculate the cost of producing this water and time frames for making the water available. Parties interested in the approach for this analysis are encouraged to participate. Phase 2: Analysis of the demand for reclaimed water will be a collaborative effort, with members of the subcommittee providing information on potential users and demand. These users are likely to be golf courses, cemeteries, and parks that have large irrigation areas, as well as agricultural, horticultural, or industrial water users. The subcommittee will use existing information already developed on potential customers and will explore other opportunities that participants identify. This will be accomplished by a series of workshops with purveyors, potential users, and reclaimed water suppliers.	In addition to the analysis of the potential volume of reclaimed water available from these locations, King County will calculate the potential range of the cost for producing this water and time frames for making the water available. Task 2: Identify Potential Users Analysis of the demand for reclaimed water will be a collaborative effort, with members of the committee providing information on potential users and demand. These users are likely to be golf courses, cemeteries, and parks that have large irrigation areas, as well as agricultural, horticultural, or industrial water users. The committee will use existing information already developed on potential customers and will explore other opportunities that participants identify. Agencies interested in reclaimed water projects in their area are encouraged to provide the projects to the committee for consideration and potential analysis by the committee. General categories of reclaimed water projects will be defined and potential reclaimed water projects may be inventoried and classified.	--	--	No
Obtain information on potential users and demand for reclaimed water from interested purveyors. These users are likely to be golf courses, cemeteries, and parks that have large irrigation areas, as well as agricultural, horticultural, or industrial water users.			--	--	No
Use existing information already developed on potential customers, and hold a series of workshops with purveyors, self suppliers, potential users, and reclaimed water suppliers to explore other opportunities that participants identify.			--	--	No
King County will be doing individual outreach to customers to develop a robust market for reclaimed water.				--	No

**Table 2-6. Evolution of Reclaimed Water Technical Committee Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Reclaimed Water Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Reclaimed Water Proposed Working Draft Charter for Technical Committee , Regional Water Supply Planning Process, Draft 5/5/06	Reclaimed Water Technical Committee Request for Use of State Funds	The Reclaimed Water Technical Committee: A Summary of Activities March 2006 - December 2006	Addressed Planning Framework Summary Scope in Final Product(s)?
Identify the most likely points of use (based on flows available and customer locations), fine-tuning of costs of technology and conveyance, and further discussion of other issues associated with reclaimed water use (e.g., liability, reliability, wholesale-retail relationships, pricing).	Phase 3: Subcommittee members will use production and demand data to develop the most likely points of use and the costs of conveyance and technology needed to develop projects. The subcommittee will also discuss and propose solutions to various issues associated with use of reclaimed water, such as wholesale-retail relationships and pricing. The subcommittee will identify early action projects with interested and willing partners.  For the most effective evaluation of reclaimed water opportunities, this subcommittee will need to work in conjunction with subcommittees on Source Exchange Strategies and Prioritization of Tributaries.	Task 4: Identify Opportunities and Costs Committee members will use production and user data to identify the most likely points of use and the costs of conveyance and technology needed to develop projects. The committee will also discuss and propose solutions to various issues associated with use of reclaimed water, such as wholesale-retail relationships and pricing. The committee may identify early action projects with interested and willing partners.  For effective evaluation of reclaimed water opportunities, this committee will need to work in conjunction with committees on Source Exchange Strategies and Prioritization of Tributaries.	--	--	No
Joint recommendations from the technical committee addressing: (1) potential users of reclaimed water and (2) potential for source exchange using reclaimed water as a source substitute.	--	--	--	--	No
The group may also focus discussions on early action projects with interested and willing partners.	--	--	--	--	No
Is the proposal by King County cost-effective?	b. Is the proposal by King County cost-effective? [What are the costs to produce reclaimed water and what are the costs to utilities to deliver reclaimed water?]	b. How can the cost-effectiveness of projects be determined? [What are the costs to produce reclaimed water and what are the costs to utilities to deliver reclaimed water?]	--	--	No

**Notes:** -- not included

**Table 2-6. Evolution of Reclaimed Water Technical Committee Scope over the Course of the Process**

**Summary:** The Planning Framework Summary stated that the Committee would recommend (1) potential users of reclaimed water and (2) potential for source exchange using reclaimed water as a source substitute. In addition, the Scoping Committee posed five questions for consideration by the committee. Members of the Technical Committee, however, decided that selection and evaluation of specific projects was premature in the absence of any generally agreed-upon model or tool for analyzing projects and that policy questions should be left to the decision-makers of the various agencies. So the Committee modified its charter and elected to develop planning-level technical information concerning the use of reclaimed water and to identify a framework that could be used to evaluate the full economic, environmental, and social benefits and costs of potential projects.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Reclaimed Water Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Reclaimed Water Proposed Working Draft Charter for Technical Committee, Regional Water Supply Planning Process, Draft 5/5/06	Reclaimed Water Technical Committee Request for Use of State Funds	The Reclaimed Water Technical Committee: A Summary of Activities March 2006 - December 2006	Addressed Planning Framework Summary Scope in Final Product(s)?
Author: Scoping Committee	Author: Coordinating Committee	Author: Reclaimed Water Technical Committee	Author: Reclaimed Water Technical Committee	Author: Reclaimed Water Technical Committee	
Develop a phased reclaimed water analysis that can be used to identify reclaimed water opportunities, issues and potential solutions on a countywide basis for inclusion in new or updated Coordinated Water Supply Plans (CWSPs).	The final report will be a thorough analysis of the costs and benefits of using reclaimed water as an alternative source of supply. It will include a set of reclaimed water projects recommended by the Technical Subcommittee that can occur within the King County Wastewater Treatment Division (KC WTD) service area.	The final report is expected to be a planning-level analysis of the costs and benefits of using reclaimed water as an alternative source of supply in King County. It is expected to include a framework that can be used to uniformly evaluate water projects by an accounting of social, environmental and economic costs and benefits.  Task 3: Review and Discuss Analytical Framework The committee will review a framework developed for the WaterReuse Foundation that can be used to identify, estimate, and communicate costs and benefits associated with water reuse and similar types of projects. This framework will be a social cost accounting-based instrument that includes economic, environmental and social benefits and costs. The committee will evaluate the suitability of the framework for projects in this region. Participants may propose projects from their districts as test cases for applying the evaluation framework.	King County and the other committee members want the assistance of Dr. Raucher and his associates to adapt the information and tool for use as the analytical framework to evaluate reclaimed feasibility in this region.  • 2 full-day workshops in Seattle • Consultant team available to committee for consultation between workshops • Identification of all entities who benefit from water reuse or cause impacts. • Technical memorandum summarizing the workshops and modifications to the framework and model • Recommendations for subsequent data collection to improve usefulness of the tool	Members of the technical committee decided that selection and evaluation of specific projects was premature in the absence of any generally agreed upon model or tool for analyzing projects (p. 2).  Identified potential issues and solutions through case studies that applied the framework.	No  Yes
	The report will also include recommendations for actions to remove barriers and constraints to the use of reclaimed water and a plan for introducing the recommendations to various governing bodies including district commissioners, Metropolitan Water Pollution Abatement Advisory Committee, the King County Council and its Regional Water Quality Committee.	The report is expected to outline barriers and constraints to the use of reclaimed water and recommendations or options for responding to those issues that can be used by those agencies that wish to do so.	Identify and bring 2 guest speakers from other utilities to Seattle. They will present their programs to the Reclaimed Water Technical Committee and discuss initial barriers and solutions that are working in their region.	Reclaimed Water Technical Committee (2007, p. 13 - 15)	Yes
Where are the current and future opportunities for the use of reclaimed water?	Other products will be maps showing the current and 2020 reclaimed water availability in the KC WTD service area and areas of potential demand.  a. Where are the current and future opportunities for the use of reclaimed water?	Other expected products will be maps showing the current and 2020 reclaimed water availability in the King County Wastewater Treatment Division (WTD) service area and areas of potential demand.  a. Where are the current and future opportunities for the use of reclaimed water?	--	Maps in Appendix B	Yes
Evaluate revenue sources other than the wastewater rate for distribution of reclaimed water.	an evaluation of revenue sources other than the wastewater rate.	an evaluation of revenue sources other than the wastewater rate.	--	--	No
In evaluating costs and pricing policies for reclaimed water, how should costs be allocated between wastewater and water utilities?	The cost of reclaimed water from the WTD system will also be provided.  c. In evaluating costs and pricing policies for reclaimed water, how should costs be allocated between wastewater and water utilities?	The cost of reclaimed water from the WTD system is also expected to be provided.  c. In evaluating costs and pricing policies for reclaimed water, how should costs be allocated between wastewater and water utilities and others?	--	--	No
Where are the opportunities to use reclaimed water as part of source exchange to benefit vulnerable tributaries?	d. Where are the opportunities to use reclaimed water as part of source exchange to benefit vulnerable tributaries?	d. Where are the opportunities to use reclaimed water as part of source exchange to benefit vulnerable tributaries?	--	--	No
Are there opportunities to use reclaimed water for ground application to help augment flows in streams and tributaries identified as vulnerable?	e. Are there opportunities to use reclaimed water for ground application to help augment flows in streams and tributaries identified as vulnerable?	e. Are there opportunities to use reclaimed water for ground application to help augment flows in streams and tributaries identified as vulnerable?	--	--	No

**Table 2-6. Evolution of Reclaimed Water Technical Committee Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Reclaimed Water Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Reclaimed Water Proposed Working Draft Charter for Technical Committee, Regional Water Supply Planning Process, Draft 5/5/06	Reclaimed Water Technical Committee Request for Use of State Funds	The Reclaimed Water Technical Committee: A Summary of Activities March 2006 - December 2006	Addressed Planning Framework Summary Scope in Final Product(s)?
An analysis of the volumes of reclaimed water that could be produced from key components (Regional Treatment Plants, Major Conveyance Lines, and Pump Stations) of King County's wastewater system provided by King County Wastewater Treatment Division (WTD).	Phase 1: KC WTD will provide an analysis of the volumes of reclaimed water that could be produced from key components of its system: its regional treatment plants, major conveyance lines and pump stations.	Task 1: Estimate Cost of Production KC WTD will provide a planning-level analysis of the volumes of reclaimed water that could be produced from key components of its system: its regional treatment plants, major conveyance lines and pump stations.	--	--	No
Project the cost of producing this water and time frames for making the water available.	In addition to an analysis of the potential volume of reclaimed water available from these locations, King County will calculate the cost of producing this water and time frames for making the water available. Parties interested in the approach for this analysis are encouraged to participate.	In addition to the analysis of the potential volume of reclaimed water available from these locations, King County will calculate the potential range of the cost for producing this water and time frames for making the water available.	-- --	--	No
Obtain information on potential users and demand for reclaimed water from interested purveyors. These users are likely to be golf courses, cemeteries, and parks that have large irrigation areas, as well as agricultural, horticultural, or industrial water users.	Phase 2: Analysis of the demand for reclaimed water will be a collaborative effort, with members of the subcommittee providing information on potential users and demand. These users are likely to be golf courses, cemeteries, and parks that have large irrigation areas, as well as agricultural, horticultural, or industrial water users. The subcommittee will use existing information already developed on potential customers and will explore other opportunities that participants identify. This will be accomplished by a series of workshops with purveyors, potential users, and reclaimed water suppliers.	Task 2: Identify Potential Users Analysis of the demand for reclaimed water will be a collaborative effort, with members of the committee providing information on potential users and demand. These users are likely to be golf courses, cemeteries, and parks that have large irrigation areas, as well as agricultural, horticultural, or industrial water users. The committee will use existing information already developed on potential customers and will explore other opportunities that participants identify. Agencies interested in reclaimed water projects in their area are encouraged to provide the projects to the committee for consideration and potential analysis by the committee. General categories of reclaimed water projects will be		--	No
Use existing information already developed on potential customers, and hold a series of workshops with purveyors, self suppliers, potential users, and reclaimed water suppliers to explore other opportunities that participants identify.				--	No
King County will be doing individual outreach to customers to develop a robust market for reclaimed water.				--	No
Identify the most likely points of use (based on flows available and customer locations), fine-tuning of costs of technology and conveyance, and further discussion of other issues associated with reclaimed water use (e.g., liability, reliability, wholesale-retail relationships, pricing).	Phase 3: Subcommittee members will use production and demand data to develop the most likely points of use and the costs of conveyance and technology needed to develop projects. The subcommittee will also discuss and propose solutions to various issues associated with use of reclaimed water, such as wholesale-retail relationships and pricing. The subcommittee will identify early action projects with interested and willing partners.  For the most effective evaluation of reclaimed water opportunities, this subcommittee will need to work in conjunction with subcommittees on Source Exchange Strategies and Prioritization of Tributaries.	Task 4: Identify Opportunities and Costs Committee members will use production and user data to identify the most likely points of use and the costs of conveyance and technology needed to develop projects. The committee will also discuss and propose solutions to various issues associated with use of reclaimed water, such as wholesale-retail relationships and pricing. The committee may identify early action projects with interested and willing partners.  For effective evaluation of reclaimed water opportunities, this committee will need to work in conjunction with committees on Source Exchange Strategies and Prioritization of Tributaries.	--	--	No
Joint recommendations from the technical committee addressing: (1) potential users of reclaimed water and (2) potential for source exchange using reclaimed water as a source substitute.	--	--	--	--	No
The group may also focus discussions on early action projects with interested and willing partners.	--	--	--	--	No
Is the proposal by King County cost-effective?	b. Is the proposal by King County cost-effective? [What are the costs to produce reclaimed water and what are the costs to utilities to deliver reclaimed water?]	b. How can the cost-effectiveness of projects be determined? [What are the costs to produce reclaimed water and what are the costs to utilities to deliver reclaimed water?]	--	--	No

Notes -- not included

**Table 2-7. Evolution of Small Water Systems Technical Committee Purpose and Objectives**

**Summary:** The Planning Framework Summary identified the Committee’s goals as developing an approach or strategy to control the number of new systems and provide an orderly approach to putting failing systems into receivership. The goals of the final report were to develop technical information and to evaluate the current and future success of small water systems to reliably supply water. The final report did not include the goal of recommending an approach for dealing with irrigation wells, which was stated in the Planning Framework Summary.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 200	Small Water Systems Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, Draft 1/13/06 Revised to reflect Executive Committee changes	Regional Water Supply Planning Process Small Water Systems Technical Committee Charter and Workplan Draft 5/24/06	Regional Water Supply Planning, Small Water Systems Technical Committee Funding Request	Report on Small Water Systems in King County - October 2007.
Author: Scoping Committee	Author: Coordinating Committee	Author: Small Water Systems Technical Committee	Author: Small Water Systems Technical Committee	Author: Small Water Systems Technical Committee
In order to control the number of new small systems, and to provide for an orderly approach to failing systems that may be placed into receivership, the County would like a consistent countywide approach or strategy to be developed that can be incorporated into updated or new CWSPs.	<ul style="list-style-type: none"> <li>To examine factors leading to the creation of new small systems</li> </ul>	To evaluate the creation, management and operation of small water systems within the current social, regulatory and economic context and the current and projected viability of those systems. The committee will focus on the primary goal of ensuring that small systems will reliably provide their customers/users with a safe and adequate domestic water supply. Based on the evaluation, the Technical Committee will identify and develop options and recommendations for the Coordinating Committee to consider on small water systems in King County.	This technical committee is tasked with evaluating the creation, management and operation of small water systems within the current social, regulatory and economic context and the current and projected viability of those systems. The committee's focus is on the primary goal of ensuring that small systems reliably provide their customers/users with safe and adequate supplies of domestic water. This includes existing systems and new ones that may be created in the future.	...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.
...recommended approach for dealing with the proliferation of irrigation wells within purveyors’ service areas.	<ul style="list-style-type: none"> <li>To minimize and manage creation of new systems, or installation of single-domestic exempt wells, or other exempt wells—such as irrigation wells—affecting existing water utility service, within existing utility service areas</li> </ul>	--	--	--
--	<ul style="list-style-type: none"> <li>To protect public health and safety of King County residents</li> <li>To meet requirement of WA Public Water System Coordination Act to include in Coordinated Water Supply Plans policies and procedures that address small and failing systems for which King County may become a receiver</li> <li>To meet long-term requirements under WA Growth Management Act to assure adequate utility service to meet forecasted growth, consistent with countywide planning policies and adopted comprehensive plans</li> <li>To assure that small Group A systems meet technical, financial, and managerial standards for long-term viability under federal Safe Drinking Water Act</li> <li>To identify overall condition of small water systems and common threads concerning reliability, safety, and compliance.</li> <li>To be proactive re substandard and failing systems, and avoid investment of resources ad hoc by WA Department of Health, Seattle-King County Public Health, and King County into individual failing systems, including receivership actions in court</li> <li>To take better advantage of existing tools (e.g., satellite management, water system plans, operating permits) to address existing and new small system problems and issues</li> <li>To address relevant issues under the Municipal Water Law (e.g., duty to serve)</li> <li>To provide recommendations to the King County Board of Health concerning possible amendments/updates to Title 12 of the Board of Health Code.</li> </ul>	--	--	--

Notes: -- not included

**Table 2-8. Evolution of Small Water Systems Technical Committee Scope over the Course of the Process**

**Summary:** The Committee’s initial scope was to develop an approach or strategy to deal with small water systems and review the magnitude of the problem of failing water systems. 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 system water quality sampling and enforcement; and (3) receivership of failing small water systems. These issues focused on reviewing the magnitude of the problem of failing small water systems. The Committee did not develop the approach or strategy and did not include the questions generated in the Planning Framework Summary in its revised charter.

King County Water Supply Planning Process Planning Framework Summary, Dated October 31, 2005	Small Water Systems Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, Draft 1/13/06 Revised to Reflect Executive Committee Changes	Regional Water Supply Planning Process Small Water Systems Technical Committee Charter and Workplan Draft 5/24/06	Regional Water Supply Planning, Small Water Systems Technical Committee Funding Request	Report on Small Water Systems in King County, October 2007.	Addressed Planning Framework Summary Scope in Final Product(s)?
Author: Scoping Committee	Author: Coordinating Committee	Author: Small Water Systems Technical Committee	Author: Small Water Systems Technical Committee	Author: Small Water Systems Technical Committee	
In order to control the number of new small systems, and to provide for an orderly approach to failing systems that may be placed into receivership, the County would like a consistent countywide approach or strategy to be developed that can be incorporated into updated or new CWSPs. This strategy should also include a review of the magnitude of the problem and recommended approach for dealing with the proliferation of irrigation wells within purveyors’ service areas.	...strategies for (a) assuring long-term capacity of such systems, and (b) addressing and resolving problems with inadequate systems. The...strategy development will be King County-wide. It will include small Group A systems (at a minimum those with fewer than 100 connections), Group B systems, and single-domestic and exempt wells including irrigation wells.	The...strategy development will be King County-wide. It will include small Group A systems (fewer than 100 connections), Group B systems, and single-domestic and exempt wells, including irrigation wells.  6. Recommendations a. Develop final recommendations, options, and strategies for resolving identified problems, including next steps, who might do them, and timing.	--	Did not include a consistent countywide approach or strategy.  Included recommendations for possible actions to address the issue of receivership in King County (section 4.4.3)	No
...recommended approach for dealing with the proliferation of irrigation wells within purveyors’ service areas.	• To minimize and manage creation of new systems, or installation of single-domestic exempt wells, or other exempt wells—such as irrigation wells--affecting existing water utility service, within existing utility service areas.	--	--	--	--
--	<ul style="list-style-type: none"> <li>• To protect public health and safety of King County residents</li> <li>• To meet requirement of WA Public Water System Coordination Act to include in Coordinated Water Supply Plans policies and procedures that address small and failing systems for which King County may become a receiver</li> <li>• To meet long-term requirements under WA Growth Management Act to assure adequate utility service to meet forecasted growth, consistent with countywide planning policies and adopted comprehensive plans</li> <li>• To assure that small Group A systems meet technical, financial, and managerial standards for long-term viability under federal Safe Drinking Water Act</li> <li>• To identify overall condition of small water systems and common threads concerning reliability, safety, and compliance.</li> <li>• To be proactive re substandard and failing systems, and avoid investment of resources ad hoc by WA Department of Health, Seattle-King County Public Health, and King County into individual failing systems, including receivership actions in court</li> <li>• To take better advantage of existing tools (e.g., satellite management, water system plans, operating permits) to address existing and new small system problems and issues</li> <li>• To address relevant issues under the Municipal Water Law (e.g., duty to serve)</li> <li>• To provide recommendations to the King County Board of Health concerning possible amendments/updates to Title 12 of the Board of Health Code.</li> </ul>	--	--	--	--

Notes: -- not included

**Table 2-9. Evolution of Climate Change Technical Committee Purpose and Objectives**

Summary: The goals identified in the Planning Framework Summary were to pool existing studies and information and then identify how the information could be integrated into the planning process. The goals listed in the final report included pooling existing information, but also expanded this goal to identify where more information would be useful. The Committee's goals in the final report are to document the findings in order to provide the information for other groups to use in the planning process and to communicate what is known to other committees.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Climate Change Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Climate Change Charter Revised to Reflect Technical Committee's Workplan, Final draft dated 4/12/06	Proposal to the Coordinating Committee from the Climate Change Technical Committee (presented at 6/15/06 Coordinating Committee meeting)	Proposal for Additional Resources from Dept. of Ecology Grant from Climate Change Technical Committee, draft dated 3/13/07	Final Product(s) <sup>1</sup>
Author: Scoping Committee	Author: Coordinating Committee	Author: Climate Change Technical Committee	Author: Climate Change Technical Committee	Author: Climate Change Technical Committee	Author: See list under Note 1
<p>...to pool existing and currently planned studies across the array of water resource-related impacts. This technical group will develop both preliminary information as to what we know and can use as planning scenarios, and how this information can best be integrated into the water supply analysis. It will be important that a public peer-review process be a critical component of building reliable information. Once compiled, this information can be incorporated into the supply analysis and into any planning for major long-term water supplies and facilities, and for other water-related local government management responsibilities.</p>	<p>The primary purpose of the Technical Subcommittee is to determine the extent to which climate impacts should be considered in evaluating regional water supply and forecasting water demands. If climate change is determined to be significant factor, then the Subcommittee will also provide a framework for consistently evaluating the impacts of climate change for the region.</p>	<p>The technical committee has agreed that climate change should be explicitly considered in evaluating regional water supply, related instream flows, and forecasting water demands and is developing a report that will make recommendations to be considered by others.</p>	<p>The Climate Change Technical Committee has agreed that climate change should be explicitly considered in evaluating regional water supply, related instream flows, and forecasting water demands. To facilitate this consideration, the Committee has identified fourteen questions and concerns that should be addressed, to the extent possible, during the regional planning process. In addition, the Committee has developed an evolving number of "Climate Change Building Blocks," which are short, factual statements about our knowledge of climate change and its impacts. In addition, the Committee will identify knowledge and/or information that will lead to better decision-making and will share this information with the other technical committees and professionals, stakeholders, and other interested parties in the region.</p>	<p>A primary goal of the Climate Change Technical Committee is to determine the impacts of climate change on the water resources of the Puget Sound.</p>	<p>The Committee's goals are to: 1) Identify the basic building blocks of our understanding of climate change, 2) Identify what is known about climate change in the Puget Sound and its potential impacts, 3) Identify where more information would be useful, 4) Communicate what is known to other committees in this process, and 5) Document the Committee's findings.</p>

**Table 2-10. Evolution of Climate Change Technical Committee Scope over the Course of the Process**

Summary: The Committee's general scope did not change significantly during the process. However, the Committee identified specific topics of interest within the broad scope, identified other topics related to how to incorporate climate change impacts as part of water resource planning, and examined the topics in memoranda prepared by the University of Washington Climate Impacts Group.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Climate Change Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Climate Change Charter Revised to Reflect Technical Committee's Workplan, Final draft dated 4/12/06	Proposal to the Coordinating Committee from the Climate Change Technical Committee (presented at 6/15/06 Coordinating Committee meeting)	Proposal for Additional Resources from Dept. of Ecology Grant from Climate Change Technical Committee, draft dated 3/13/07	Final Product(s) 1	Addressed Planning Framework Summary Scope in Final Product(s)?
Author: Scoping Committee	Author: Coordinating Committee	Author: Climate Change Technical Committee	Author: Climate Change Technical Committee	Author: Climate Change Technical Committee	Author: See list under Note 1	
Once compiled, this information can be incorporated into the supply analysis and into any planning for major long-term water supplies and facilities, and for other water-related local government management responsibilities.	The work product for this Technical Subcommittee will be a series of three technical reports on the topics of: 1) Impacts of Climate Change on Regional Hydrology, 2) Impacts of Climate Change on Water Supply, and 3) Impacts of Climate Change on Water Demands. Each of these technical reports will summarize the impacts that climate change will have relative to other planning factors and the potential risk of not including climate change in the regional water plan. This work will be coordinated and shared with other technical subcommittees, particularly on regional demand forecast and water supply alternatives.	A report that documents the key technical building blocks and information gaps identified under the scope (#3 below). The technical committee has proposed a list of questions (see #7); the report will include documented answers where known or direction for future research where answers are not yet known. The report is expected to consider impacts of climate change on hydrology, water supply, and water demands. This work will be coordinated and shared with other technical committees, particularly on regional demand forecast and water supply alternatives.	--	--	Palmer (2007b)	Yes
Pool existing and currently planned studies across an array of water resource related impacts	a. A panel of technical experts will be convened to review the previous studies that have been performed in the Pacific Northwest and in other areas that may be applicable. It is anticipated that the members of the expert panel will draw heavily from the two primary centers on climate study, the Climate Impacts Group at the University of Washington and the Battelle Pacific Northwest Laboratories. This group will generate preliminary information on what is currently known and how it can be best incorporated into the evaluation of water supplies and water demands. The group will produce a framework for evaluating the impacts of climate change to the region.	Compile studies across the array of water resource-related impacts to develop preliminary information as to what we know and can use as planning scenarios, and recommend ways that this information can be integrated into the water planning processes.	--	--	Alexander et al. (2007); Palmer (2007b)	Yes
		14. Additional topics related to climate change will be considered as requested by the other Technical Committees.	B. Support to Municipal Water Demand Forecast and Water Supply Assessment Advisory Committees.	1. Evaluating Macro-scale Impacts of Climate Change on Groundwater Resources in the Puget Sound	--	Yes
				Literature Review to determine the extent of literature that exists on the impacts of climate change on groundwater.	Alexander and Palmer (2007)	Yes
				Simple Hydrologic Balance of Selected Puget Sound Watersheds	Not addressed in report.	Yes
				Simple Framework for Bracketing the Range of Impacts to Groundwater	Not addressed in report.	Yes
				Summary Report	Not addressed in report.	Yes
				2. Evaluating the Potential Impacts of Climate Change on Cloud Cover in the Puget Sound Region	Alemu and Palmer (2007)	Yes
				An examination of a number of weather stations in the Puget Sound.	Alemu and Palmer (2007, p. 2)	Yes
		An evaluation of the number of cloudy days and the extent of cloud cover will be performed during the periods of traditional high water demands (the summer months) to determine whether there is a statistically significant trend over the past half century.	Alemu and Palmer (2007) - looked at the relationship between cloud cover and temperature.	Yes		
		An evaluation of the number of cloudy days and the extent of cloud cover as a function of regional temperature during those periods in the past that are likely to be similar to those forecasted for the future. Specifically, a number of summers in which temperatures were above average for a series of weeks will be investigated to determine if those periods have a higher number of cloudy days and increased cloud extent than average summers.	Alemu and Palmer (2007) - looked at the relationship between cloud cover and temperature. High temp to average temp comparison on p. 3	Yes		
Develop preliminary information on what is known.		A. Identify the basic building blocks of our understanding of climate change. These building blocks will represent what is broadly known and agreed upon, using the Intergovernmental Panel on Climate Change's Third Assessment Report as a foundation. Other peer-reviewed information will be used.	--	--	Palmer et al. (2006)	Yes
		B. Identify what is known about climate change in the Puget Sound region and the potential impacts of climate change on water resources.	--	--	Alexander et al. (2007); Palmer (2007b); Alexander and Palmer (2007)	Yes

**Table 2-10. Evolution of Climate Change Technical Committee Scope over the Course of the Process**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Climate Change Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Climate Change Charter Revised to Reflect Technical Committee's Workplan, Final draft dated 4/12/06	Proposal to the Coordinating Committee from the Climate Change Technical Committee (presented at 6/15/06 Coordinating Committee meeting)	Proposal for Additional Resources from Dept. of Ecology Grant from Climate Change Technical Committee, draft dated 3/13/07	Final Product(s) 1	Addressed Planning Framework Summary Scope in Final Product(s)?
Develop preliminary information on what can be used as a planning scenario.	b. Using the framework generated by the panel of experts, a study of the impacts of each of the major water supplies in the region will be made. It is anticipated that these will include at least the Seattle Public Utilities system (Tolt/Cedar/Lake Washington), the Tacoma Water Department system (Green River/Howard Hanson), and components of the proposed Cascade Water Alliance system (Lake Tapps/White River). The Technical Subcommittee will determine the appropriate geography for the analysis. These evaluations may include the impacts of being able to meet the respective systems' requirements for fish flows.	--	--	--	Polebitski et al. (2007c)	Yes
	c. Using information generated in part (a) of this scope, the impacts of the climate change on future water demands will also be evaluated, specifically the changes forecasted for temperature and precipitation in the region. This task will need to be carefully coordinated with the Technical Subcommittee on regional demand forecast.	--	The approach would be watershed specific, and include portions of WRIAs 7, 8, 9, and 10 in which major municipal water supplies exist. WRIA 5, which does not have any major municipal water supplies, will be evaluated if requested and if resources exist.	--	O'Neill and Palmer (2007, p. 1); WRIA 5 not evaluated	Yes
		--	Develop a database of climate variables to represent a range of projected climate change conditions. Three scenarios will be used in the forecast to provide a range of impacts.	3. Enhancing the Delivery of Climate Impact Data: The website can be updated, modified, and enhanced as needed in the future and that it serves as a clearinghouse for information related to climate change in the Puget Sound.	O'Neill and Palmer (2007, p. 2 - 5). Database website: <a href="http://www.climate.tag.washington.edu/">http://www.climate.tag.washington.edu/</a>	Yes
		--	Database of climate variables for defined scenarios and future years for specific sites.	--	O'Neill and Palmer (2007, p. 2 - 5). Database website: <a href="http://www.climate.tag.washington.edu/">http://www.climate.tag.washington.edu/</a>	Yes
		--	Technical memorandum - for each portion of the WRIAs, documenting the methods used, key assumptions, model calibration and validation, QA/QC efforts and results.	--	Polebitski et al. (2007c)	Yes
		--	For each of the climate change scenarios, database of projected streamflows into local reservoirs.	--	Polebitski et al. (2007c). O'Neill and Palmer (2007) discusses the database of information.	Yes
		--	For each of the climate change scenarios, database of projected streamflows associated with environmental flows or other operational components.	--	Polebitski et al. (2007c). O'Neill and Palmer (2007) discusses the database of information.	Yes
		--	Using the three scenarios and time periods, future temperature and precipitation data will be developed using statistical downscaling techniques for selected sites (associated with Weather Service observation stations) as daily time series. For each of these scenarios (9 or 12), a seventy-five year sequence of daily climate variables will be generated that will provide information about projected average conditions and seasonal and inter-annual variability.	--	Polebitski et al. (2007b, p. 15 - 22)	Yes
Develop preliminary information on how this information can be integrated into the water supply planning analysis.	--	--	A. Framework for estimating potential future climate change impacts on municipal water demand and supply.	--	Palmer (2007a)	Yes
What is the time horizon for planning?	a. What is an appropriate time horizon when considering climate change?	2. What is the planning horizon for this discussion? Should we be looking at 20 and 40 years into the future or to 2100? If we investigate to 2100, how we will address the inherent uncertainties?	Three periods in the future will be investigated: 2025, 2050, and 2075. The 2100 period may also be investigated depending upon the final recommendations of the Climate Change Technical Committee and the availability of funds, with the understanding that emissions projections in 2100 will be less certain than those made for the other periods.	--	Polebitski et al. (2007b, p. 15 - 22)	Yes

**Table 2-10. Evolution of Climate Change Technical Committee Scope over the Course of the Process**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Climate Change Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Climate Change Charter Revised to Reflect Technical Committee's Workplan, Final draft dated 4/12/06	Proposal to the Coordinating Committee from the Climate Change Technical Committee (presented at 6/15/06 Coordinating Committee meeting)	Proposal for Additional Resources from Dept. of Ecology Grant from Climate Change Technical Committee, draft dated 3/13/07	Final Product(s) 1	Addressed Planning Framework Summary Scope in Final Product(s)?
How reliable are the climate change scenarios and predictions?	--	--	--	--	Alexander et al. (2007) (addressed uncertainty in modeling)	Yes
If the scenarios and predictions cover a wide range of risk or outcomes, how should such a range be modeled in predicting future water demand and supply?	--	--	--	--	Palmer (2007b, P. 3) - Use multiple GCM models	Yes
How should utilities plan for or model uncertainty?	--	--	--	--	Alexander et al. (2007) (addressed uncertainty in modeling); Palmer (2007f) (general principles for incorporating climate change into water system evaluations)	Yes
How and when, if at all, should these scenarios and predictions be incorporated into decisions about future new source development and other modeling?	--	--	--	--	Palmer (2007a): p. 9 - 12	Yes
--	b. What are the risks of not including climate change in regional planning?	--	--	--	Palmer (2007b, p. 9)	Not in Planning Framework Summary
--	c. What is an appropriate framework for including the costs and reliability of planning for climate change?	--	--	--	Not addressed in report.	Not in Planning Framework Summary
--	d. How can adaptive management be used to minimize the impacts of climate change?	--	--	--	Palmer (2007a): The climate change scenarios and water supply models can be used by each utility to explore different operational strategies to adapt to climate change. Such analyses would allow each utility to better understand its vulnerability to climate change and develop plans for adaptation (p. 11).	Not in Planning Framework Summary
--	e. How can the impacts of climate change be best communicated to elected officials and to the citizens of the region?	13. How can the potential impacts of climate change be best communicated to the general public and decision makers?	--	--	Palmer (2007a, p. 14)--use of the internet to provide information to the public	Not in Planning Framework Summary
--	--	C. Identify where more relevant knowledge or information would lead to better decision-making (gaps). This effort will recognize that science evolves over time, is rarely static, and that decisions are often required before all scientific uncertainty can be removed.	--	--	Palmer (2007b)	Not in Planning Framework Summary
--	--	D. Represent this topic on other committees and communicate findings.	--	--	Palmer (2007b): All documents and data generated were made accessible via the Committee's webpage.	Not in Planning Framework Summary
--	--	E. Develop a report that documents the key technical building blocks and information gaps identified above, as well as the technical committee's discussions and their conclusions.	--	--	Palmer (2007b)	Not in Planning Framework Summary
--	--	1. What is the geographic scope for this discussion? This question has impacts on the level of effort, schedule, and the cost of completing the technical committee's workplan.	--	--	O'Neill and Palmer (2007, p. 1): WRIAs 7, 8, 9, and 10	Not in Planning Framework Summary
--	--	3. What are the most likely impacts of climate change on temperatures and precipitation in the region? What is the range of potential changes to temperature and precipitation in the region associated with climate change? Should unlikely changes be considered explicitly?	--	--	Polebitski et al. (2007b)	Not in Planning Framework Summary

**Table 2-10. Evolution of Climate Change Technical Committee Scope over the Course of the Process**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Climate Change Proposed Charter for Technical Subcommittee Regional Water Supply Planning Process, dated 1/13/06	Climate Change Charter Revised to Reflect Technical Committee's Workplan, Final draft dated 4/12/06	Proposal to the Coordinating Committee from the Climate Change Technical Committee (presented at 6/15/06 Coordinating Committee meeting)	Proposal for Additional Resources from Dept. of Ecology Grant from Climate Change Technical Committee, draft dated 3/13/07	Final Product(s) 1	Addressed Planning Framework Summary Scope in Final Product(s)?
--	--	4. What are the potential impacts to the region's hydrology and hydrogeology?	--	--	Polebitski et al. (2007c) - streamflow. Alexander and Palmer (2007) - groundwater, but did not evaluate impacts, just identified potential impacts evaluated in other parts of the country	Not in Planning Framework Summary
--	--	5. What are the potential impacts of climate change on surface and ground water supplies in the region in terms of the quantity available, its quality, and its temperature?	--	--	Polebitski et al. (2007c) - surface water quantity. The tech memo only looked at changes in streamflow quantity and did not evaluate changes in water quality or temperature. There was also no modeling of the potential impacts to groundwater supplies in the region; however, Alexander and Palmer (2007) suggested modeling approaches.	Not in Planning Framework Summary
--	--	6. What is the potential impact of climate change on water demand in the region?	--	--	Palmer (2007a): discussed how to evaluate impact to water demand	Not in Planning Framework Summary
--	--	7. What is the potential impact of climate change on our ability to maintain instream flows for fish, to manage floods, and meet other water resource objectives in the region?	--	--	Palmer (2007a): discussed how to evaluate	Not in Planning Framework Summary
--	--	8. How are climate forecasts used to estimate potential impacts?	--	--	Alexander et al. (2007)	Not in Planning Framework Summary
--	--	9. How do climate scientists incorporate uncertainty in their projections?	--	--	Alexander et al. (2007); Polebitski et al. (2007a)	Not in Planning Framework Summary
--	--	10. How does climate variability (e.g., El Nino Southern Oscillation/Pacific Decadal Oscillation) affect the potential impact of climate change in this region? How do these phenomena impact trend analysis of climate and observed weather?	--	--	Palmer et al. (2006): one statement about changes from climate variability	Not in Planning Framework Summary
--	--	11. What are the potential climate change impacts on the region's the hydrologic cycle, i.e. the timing of streamflow runoff?	--	--	Polebitski et al. (2007c)	Not in Planning Framework Summary
--	--	12. What are the potential climate change impacts on extreme hydrological events (floods and droughts)?	--	--	Palmer et al. (2006)	Not in Planning Framework Summary

Notes

-- not included

1. The final products of the Climate Change Technical Committee include eight technical memos and one final report. The documents are referenced as follows:

- Alemu, E., and R.N. Palmer. 2007. "Technical Memorandum #7: Impacts of Climate Change on Cloud Cover in the Puget Sound Region." A report prepared by the Climate Change Technical Subcommittee of the Regional Water Supply Planning Process, Seattle, WA.
- Alexander, D., and R.N. Palmer. 2007. "Technical Memorandum #8: Impacts of Climate Change on Groundwater Resources- A Literature Review." A report prepared by the Climate Change Technical Subcommittee of the Regional Water Supply Planning Process, Seattle, WA.
- Alexander, D., R.N. Palmer, and A. Polebitski. 2007. "Technical Memorandum #1: Literature Review of Research Incorporating Climate Change into Water Resources Planning." A report prepared by the Climate Change Technical Subcommittee of the Regional Water Supply Planning Process, Seattle, WA.
- O'Neill, C., and R.N. Palmer. 2007. "Technical Memorandum #3: Online Database Functionality and Design for Climate Impacted Data." A report prepared by the Climate Change Technical Subcommittee of the Regional Water Supply Planning Process, Seattle, WA.
- Palmer, R.N.. 2007a. "Technical Memorandum #6: Framework for Incorporating Climate Change into Water Resources Planning." A report prepared by the Climate Change Technical Subcommittee of the Regional Water Supply Planning Process, Seattle, WA.
- Palmer, R.N. 2007b. "Final Report of the Climate Change Technical Committee." A report prepared by the Climate Change Technical Subcommittee of the Regional Water Supply Planning Process, Seattle, WA.
- Palmer, R.N., M.W. Wiley, A. Polebitski, B. Enfield, K. King, C. O'Neill, and L. Traynham. 2006. "Climate Change Building Blocks." A report prepared by the Climate Change Technical Subcommittee of the Regional Water Supply Planning Process, Seattle, WA.
- Polebitski, A., M.W. Wiley, and R.N. Palmer. 2007a. "Technical Memorandum #2: Methodology for Downscaling Meteorological Data for Evaluating Climate Change." A report prepared by the Climate Change Technical Subcommittee of the Regional Water Supply Planning Process, Seattle, WA.
- Polebitski, A., L. Traynham, and R.N. Palmer. 2007b. "Technical Memorandum #4: Approach for Developing Climate Impacted Meteorological Data and its Quality Assurance/Quality Control." A report prepared by the Climate Change Technical Subcommittee of the Regional Water Supply Planning Process, Seattle, WA.
- Polebitski, A., L. Traynham, and R.N. Palmer. 2007c. "Technical Memorandum #5: Approach for Developing Climate Impacted Streamflow Data and its Quality Assurance/Quality Control." A report prepared by the Climate Change Technical Subcommittee of the Regional Water Supply Planning Process, Seattle, WA.

**Table 2-11. Evolution of Regional Water Demand Forecast Purpose and Objectives**

Summary: Although the Forum’s final product has not been completed, its goal of developing a regional demand forecast through a transparent and involved process has remained the same.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Demand Forecast Work Plan Water Suppliers’ Forum Steering Committee Proposal Working Draft Version 3.4	Municipal Water Demand Forecast Features ( <a href="http://cpswatersuppliersforum.org/Home/default.asp?ID=23">http://cpswatersuppliersforum.org/Home/default.asp?ID=23</a> )	Central Puget Sound Water Suppliers’ Forum Municipal Water Demand Forecast and Supply Assessment (Funding Request)	Final Product(s) <sup>1</sup>
Author: Scoping Committee	Author: Central Puget Sound Water Suppliers’ Forum, Steering Committee	Author: Forum	Author: Forum	Author: Forum
Development of an updated three county (King, Pierce and Snohomish) demand forecast in which various stakeholders would have a high degree of confidence. A broad based technical subcommittee will be formed to oversee this work. Previous technical subcommittees have primarily been composed of utility and county staff. The technical subcommittee for the updated demand forecast should also include tribal staff and representatives of the environmental and science community.	The Central Puget Sound Water Suppliers’ Forum (Forum) will develop an updated municipal water supply demand forecast for King, Pierce, and Snohomish counties and for each of the three counties. The Forum is committed to providing a credible and transparent demand forecast and meaningful participation to interested stakeholders (see public review and transparency below). The goal is to develop the best available information on future municipal water demands to assist in making more informed decisions on future water supplies.	The Forum will develop an updated average annual municipal water supply demand forecast for King, Pierce, and Snohomish counties. This work will provide forecasts for each county, as well as the region. The goal is to develop the best available information on future municipal water demands to assist in making more informed decisions on future water supplies.	...tasks necessary to produce a demand forecast...	NA
A valuable outcome would be a rigorous, transparent analysis that matches up the demand forecast with supply options available to individual purveyors in different parts of the county. Although the goal is to develop a demand forecast in which the various stakeholders have a high degree of confidence, each water utility will retain the discretion on whether and how to use the demand forecast in its planning or decision-making processes.			The members of the Demand Forecast Advisory have requested that a peer review be done of the model to confirm that the underlying theory and approach are appropriate for a regional municipal water demand forecast.  The Forum has included an element in the project consultant contract that will provide stakeholders the ability to make requests for additional demand forecast modeling directly to the consultant, without going through the Forum or any “screening” process.	NA

Notes:

NA = not available

1. The regional average annual municipal water demand forecast is expected to be included in the Forum’s 2008 Outlook, which should be available by mid-2009.

**Table 2-12. Evolution of Regional Water Demand Forecast Scope over the Course of the Process**

**Summary:** The scope of the Regional Water Demand Forecast has generally been consistent throughout the process with the addition of statements about what will and will not be included in the forecast. The final water demand forecast is expected to be included in the Forum's 2008 Outlook, which is due by mid-2009. The technical memoranda that have been developed as of September 2008 indicate that the Forum is generally following its scope.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Demand Forecast Work Plan Water Suppliers' Forum Steering Committee Proposal Working Draft Version 3.4	Municipal Water Demand Forecast Features ( <a href="http://cpswatersuppliersforum.org/Home/default.asp?ID=23">http://cpswatersuppliersforum.org/Home/default.asp?ID=23</a> )	Central Puget Sound Water Suppliers' Forum Municipal Water Demand Forecast and Supply Assessment (Funding Request)	Final Product(s)1	Addressed Planning Framework Summary Scope in Final Product(s)?
Author: Scoping Committee	Author: Central Puget Sound Water Suppliers' Forum, Steering Committee	Author: Regional Water Demand Forecast	Author: Forum	Author: Forum	
Development of an updated three-county (King, Pierce and Snohomish) demand forecast in which various stakeholders would have a high degree of confidence.	The Central Puget Sound Water Suppliers' Forum (Forum) will develop an updated municipal water supply demand forecast for King, Pierce, and Snohomish counties. The Forum is committed to provide a creditable and transparent demand forecast and meaningful participation to interested stakeholders (see public review and transparency below). The goal is to develop the best available information on future municipal water demands to assist in making more informed decisions on future water supplies.	The Central Puget Sound Water Suppliers' Forum (Forum) will develop an updated municipal water supply demand forecast for King, Pierce, and Snohomish Counties. This work will provide forecasts for each county, as well as the region. The goal is to develop the best available information on future municipal water demands to assist in making more informed decisions on future water supplies. It is anticipated that the findings of the Forum's work will be useful to other regional water resource planning activities.	Demand Forecast Model – Stakeholder Modeling	NA	NA
	<ul style="list-style-type: none"> <li>A clear narrative that describes the three-county municipal water supply demand forecast (Regional Demand Forecast) including its development and uses and the differences between regional forecasts and utility-specific water demand forecasts that are done as part of the water system planning process. The narrative should also provide an overview of changes in regional use that occurred in the past 30 years to provide a basic understanding of the dynamic nature of water use by municipal water customers.</li> </ul>	<p>A narrative that describes the three-county municipal water supply demand forecast (Regional Demand Forecast) including its development and uses and the differences between regional demand forecast and utility specific water demand forecasts that are done as part of the water system planning process.</p> <p>The Municipal Water Demand Forecast will conclude with the development of a report documenting the work, including a suite of future municipal water demand scenarios.</p>	--	NA	NA
Use the Puget Sound Regional Council's most current demographic and economic forecasts.	The municipal water supply demand forecast will be based on Growth Management Act-compliant data provided by the Puget Sound Regional Council (PSRC). The data includes both historic demographic data (single and multi-family households, employment, and population) at the Transportation Analysis Zone (TAZ) level as well as projected future forecasts to be used for planning by all local governments. The PSRC forecasts account for land uses as established by local land use authorities and has been "approved" by a local and state government review process.	--	--	CDM (2007a): CDM has collected historical, current and projected demographics from the PSRC by county and designated Forecast Analysis Zones (FAZs)	NA
Provide opportunities to review the demographic forecast.	--	--	Demand Forecast Model – Stakeholder Modeling	NA	NA
Match the demand forecast with supply options available to individual purveyors in different parts of the county.	--	--	--	NA	NA
How should public review and transparency be built into the process and at what stages?	It is the intent of the Forum to provide any interested stakeholders the opportunity to participate in the development of the Municipal Water Supply Demand Forecast. To achieve process transparency and opportunity for meaningful participation and input, the Forum will establish a municipal water supply Demand Forecasting Review and Oversight Committee (Committee). The committee will provide both technical review and oversight functions. The committee will be made up of interested persons: self-selected, stakeholder selected, or selected by or through other planning processes, such as planning process underway in King County.	--	Demand Forecast Model – Peer Review	NA	NA
Should the demand forecast integrate elements of the supply analysis, including but not limited to: alternative sources, conservation standards, reliability standards, and other key management constraints?	--	--	--	NA	NA

**Table 2-12. Evolution of Regional Water Demand Forecast Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Demand Forecast Work Plan Water Suppliers' Forum Steering Committee Proposal Working Draft Version 3.4	Municipal Water Demand Forecast Features ( <a href="http://cpswatersuppliersforum.org/Home/default.asp?ID=23">http://cpswatersuppliersforum.org/Home/default.asp?ID=23</a> )	Central Puget Sound Water Suppliers' Forum Municipal Water Demand Forecast and Supply Assessment (Funding Request)	Final Product(s) <sup>1</sup>	Addressed Planning Framework Summary Scope in Final Product(s)?
What methodologies are there for doing regional forecasting and is there one that is sufficiently transparent and reflective of the needs of the region? Is it possible to get agreement on a single methodology?	--	--	--	CDM (2007a): CDM has reviewed several different water demand forecasting methods and presented these to the Forum's Water Demand Forecast Advisory Committee on March 1, 2007.	NA
What is the best way to match predicted population growth with geographical areas so that the purveyors who will actually get new customers are modeled as such?	--	--	--	CDM (2007c): This GIS overlay methodology was used to process all the PSRC demographic projections from FAZ to provider. The provider level data were then combined to the demand sub-regions.	NA
In matching supply with demand, what should the reliability standard be?	--	--	--	NA	NA
In matching supply with demand, what should the conservation standards be? What is the potential for additional demand reduction within geographic and purveyor service areas, including an analysis based on a countywide comparison of peak daily and average daily usage?	<p>The Demand Forecast should include the following:</p> <ul style="list-style-type: none"> <li>• Conservation and Effects of Future Water Efficiency and Conservation</li> <li>- The work will include a reevaluation of how to best include the historic affects of water conservation programs and recommendations of how to include projected future water conservation effects on the municipal water demand forecast. The intent is to have the Committee play an important role in deciding how conservation and future conservation be handled in the demand forecast. Initially it seems it might be done through a series of conservation levels that result in different demand scenarios, but there are likely other useful approaches.</li> </ul>	--	--	Water use among individual large water-using customers was included in the water demand forecast for those sub-regions for which data were available. It should be noted that water use of large users was removed from the calculations for nonresidential water use. Instead, water use of large users was held constant through the forecast years and added as a line item to individual sector forecasts.	NA
What time horizon should be used for the demand forecast?	<p>The municipal water supply demand forecast will include the following features:</p> <ul style="list-style-type: none"> <li>• Forecast periods – 6 and 20 years (or as close as possible from available data) and a long-range forecast estimate of 50 years. Forecast periods of 6 and 20 years are selected to match Department of Health Water System Planning Requirements.</li> </ul>	Forecast periods – through 2060.	--	NA	NA
What, how, and can climate change uncertainties be incorporated into demand forecasting?	<ul style="list-style-type: none"> <li>• A discussion of the effects of weather and climate change on municipal water demand will be included. Historically water suppliers have experienced significant changes in year to year water use based on current weather patterns (damp spring, cool summer, hot summer, etc.). The work will include identification of any important metrics associated with weather and the associated effects on demand.</li> </ul>	A discussion of the effects of weather and climate change on municipal water demand will be included. Historically water suppliers have experienced significant changes in year to year water use based on annual variation in weather patterns (damp spring, cool summer, hot summer, etc.).	--	CDM (2007a): CDM collected weather data (maximum monthly temperature and monthly precipitation) from approximately five weather stations in the region (Task 2.3). CDM used data analysis from the Climate Change Technical Committee's final report.	NA
Should the demand forecast be for annual average demands, or are finer timeframes necessary in order to assess any treatment and transmission capacity or water right constraints?	--	--	--	NA	NA

**Table 2-12. Evolution of Regional Water Demand Forecast Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Demand Forecast Work Plan Water Suppliers' Forum Steering Committee Proposal Working Draft Version 3.4	Municipal Water Demand Forecast Features ( <a href="http://cpswatersuppliersforum.org/Home/default.asp?ID=23">http://cpswatersuppliersforum.org/Home/default.asp?ID=23</a> )	Central Puget Sound Water Suppliers' Forum Municipal Water Demand Forecast and Supply Assessment (Funding Request)	Final Product(s) <sup>1</sup>	Addressed Planning Framework Summary Scope in Final Product(s)?
--	<ul style="list-style-type: none"> <li>A discussion of seasonal variations in water use and estimates of appropriate seasonal water use factors for a regional demand forecast.</li> </ul>	A discussion of seasonal variations in water use and estimates of appropriate seasonal water use factors for a regional demand forecast.	--	CDM (2007a): CDM is recommending that weather, price and income be incorporated into the demand models as adjustments to the per unit water use.	NA
--	<ul style="list-style-type: none"> <li>The Municipal Demand Forecast is being prepared to assess the future water needs for municipal water suppliers and other domestic water users. It will not include agricultural water use, industrial water use or irrigation water uses not provided by municipal water suppliers. (The demand forecast will estimate future water needs of households not currently served by water suppliers, both inside and outside water service areas, but will not include extraordinary irrigation uses beyond those normally provided by public water systems.)</li> </ul>	The Municipal Demand Forecast will assess the future water needs for municipal water suppliers and other domestic water users. It will not include agricultural water use, industrial water use or irrigation water uses not provided by municipal water suppliers.	--	NA	NA
--	<ul style="list-style-type: none"> <li>Water utilities do not maintain information on self supplied water users inside or outside their water service areas. Consequently any identification of self supplied users is beyond the scope of a Municipal Water Supply Demand Forecast, and will be separately identified.</li> </ul>	--	--	CDM (2007b): This memorandum summarizes the information collected under Task 2.5 on significant self-supplied water users within the three-county area, as well as large individual municipal water users served by the water purveyors.	NA
--	<ul style="list-style-type: none"> <li>A discussion of the effects of regional economic conditions and household income on municipal water demand will be included. The objective would be to develop an estimate of how water demand may change from these factors. The result could be a "range of effects" that could be used to modify base demand projections.</li> </ul>	--	--	CDM (2007a): CDM is recommending that weather, price and income be incorporated into the demand models as adjustments to the per unit water use.	NA

**Notes:**

- The average annual regional municipal water demand forecast is expected to be included in the Forum's 2008 Outlook, which should be available by mid-2009; however, the Forum has posted consultant work products and meeting materials on its website. This evaluation is preliminary and may change once the Outlook has been completed. The following consultant work products were used to evaluate changes in scope and whether the Forum has addressed the scope of the Planning Framework Summary.
  - CDM, 2007a. Memorandum: Central Puget Sound Regional Water Supply Outlook: Task 4.1 - Water Demand Forecast Model. To: Don Wright, Forum Project Manager From: Dan Rodrigo, CDM Technical Director and Bill Davis, CDM Water Demand Forecast Task Lead. May 22, 2007.
  - CDM, 2007b. Memorandum To: Don Wright, Forum Project Manager. From: Dan Rodrigo, CDM Project Manager and Scott Coffey, CDM Data Management Task Lead. Date: July 30, 2007. Subject: Central Puget Sound Regional Water Supply Outlook: Task 2.5 Self-Supplied and Large Water Users.
  - CDM, 2007c. Memorandum To: Don Wright, Forum Project Manager. From: Dan Rodrigo, CDM Project Manager, Scott Coffey, CDM Data Management Task Lead and Bill Davis, CDM Water Demand Forecast Task Lead. Date: August 9, 2007. Subject: Central Puget Sound Regional Water Supply Outlook: Task 2 - Data Collection and Processing.

**Table 2-13. Evolution of Regional Water Supply Assessment Purpose and Objectives**

**Summary:** The goals listed in the Planning Framework Summary include updating and re-evaluating water supply sources, looking at other alternatives, and developing criteria to evaluate the environmental impact of projects. Although the Forum has not completed its final report, the modification of its goals in subsequent planning documents indicates that the Forum’s focus is on developing a water supply inventory. In addition, the Forum developed criteria to review the source options to provide a relative understanding of how supply portfolios may be used to meet demand.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Water Supply Source Work Plan, Water Suppliers’ Forum, Steering Committee Proposal, Working Draft 4.4	Municipal Water Supply Forecast Features ( <a href="http://cpswatersuppliersforum.org/Home/default.asp?ID=24">http://cpswatersuppliersforum.org/Home/default.asp?ID=24</a> )	Central Puget Sound Water Suppliers’ Forum Municipal Water Demand Forecast and Supply Assessment (Funding Request)	Final Product(s) <sup>1</sup>
Author: Scoping Committee	Author: Central Puget Sound Water Suppliers’ Forum, Steering Committee	Author: Forum	Author: Forum	Author: Forum
<p>The information contained in existing CWSPs and the Outlook needs to be updated to include additional new sources as well as to re-evaluate sources already discussed. Much more in-depth analysis needs to be done for some of the potential alternatives, including Lake Tapps, regional conservation and demand management strategies, and the role reclaimed water should play as a future water supply alternatives. In addition, the impact of climate change on existing or potential sources needs to be evaluated.</p>	<p>The Water Suppliers’ Forum (Forum) will develop an inventory and assessment of municipal water supply sources which might be used to meet future water supply needs within King, Pierce, and Snohomish counties. It is intended that the work will also address the concurrent need for this information by those planning through the process underway within King County. The Forum is committed to providing a creditable and transparent process and meaningful participation to interested stakeholders. (See Stakeholder Input and Process Transparency below).</p> <p>It is now felt that an updated analysis would be useful for identification and analysis of potential water supply projects. The Water Supply Source work will be prepared to identify potential municipal water supply sources that may be available to supply municipal water supply shortfalls between projected demand and existing supply.</p>	<p>The Forum will develop an inventory of existing municipal water supply sources and identify and assess municipal water sources which might be used to meet future regional municipal water supply needs within King, Pierce, and Snohomish counties. It is anticipated that the Forum’s work will be useful to other regional water resource planning activities.</p> <p>The Municipal Water Supply Assessment (Assessment) will be prepared to identify potential water sources that may be available to fulfill municipal water supply shortfalls identified as a result of the Forum’s water demand forecast work. The Assessment will summarize the water available from existing sources, compare it to the estimated future demand, and identify a suite of potential regional supplies to meet any identified shortfall.</p> <p>Water supply needs will include enough supply assets to provide sufficient reliability for an essential service. Given the inherent uncertainty related to developing water resource projects, identification of a single regional supply solution is not practical. Consequently, the potential regional sources of supply will be included and/or combined in a variety of scenarios that would demonstrate how the region’s water suppliers could meet or significantly address the identified water needs.</p>	<p>...tasks necessary to produce a...supply assessment</p>	<p>To date, the preliminary technical memos from CDM, the consultant, follow the Forum’s workplan as modified by the Advisory Committee. It is not expected that the assessment will match supplies to identified shortfalls at the local level.</p>
A key component of this element will be the development of new criteria to be applied when analyzing the environmental impact of such projects.	--	--	--	NA

**Notes:**

NA = not available

-- = not included

1. The regional municipal water supply assessment is expected to be included in the Forum’s 2008 Outlook, which should be available by mid-2009.

**Table 2-14: Evolution of Regional Water Supply Assessment Scope over the Course of the Process**

**Summary:** The scope of the Regional Water Supply Assessment has generally been consistent throughout the process and has become more refined as to what is to be included in the water supply assessment. However, many of the questions raised in the Planning Framework Summary were not carried through with the development of the Committee's charter. The Forum's 2008 Outlook will include the supply assessment; it is expected to be available by mid-2009.

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Water Supply Source Work Plan, Water Suppliers' Forum, Steering Committee Proposal, Working Draft 4.4	Municipal Water Supply Forecast Features ( <a href="http://cpswatersuppliersforum.org/Home/default.asp?ID=24">http://cpswatersuppliersforum.org/Home/default.asp?ID=24</a> )	Central Puget Sound Water Suppliers' Forum Municipal Water Demand Forecast and Supply Assessment (Funding Request)	Final Product(s) <sup>1</sup>	Addressed Planning Framework Summary Scope in Final Product(s)?
Author: Scoping Committee	Author: Central Puget Sound Water Suppliers' Forum, Steering Committee	Author: Forum	Author: Forum	Author: Forum	
The information contained in existing CWSPs and the Outlook needs to be updated to include additional new sources as well as to re-evaluate sources already discussed. Much more in-depth analysis needs to be done for some of the potential alternatives, including Lake Tapps, regional conservation and demand management strategies, and the role reclaimed water should play as a future water supply alternatives. In addition, the impact of climate change on existing or potential sources needs to be evaluated.	The Water Suppliers' Forum (Forum) will develop an inventory and assessment of municipal water supply sources which might be used to meet future water supply needs within King, Pierce, and Snohomish counties. It is intended that the work will also address the concurrent need for this information by those planning through the process underway within King County. The Forum is committed to providing a creditable and transparent process and meaningful participation to interested stakeholders. (See Stakeholder Input and Process Transparency below).	The Forum will develop an inventory of existing municipal water supply sources and identify and assess municipal water sources which might be used to meet future regional municipal water supply needs within King, Pierce, and Snohomish counties. It is anticipated that the Forum's work will be useful to other regional water resource planning activities.	--	Criterion Decision Plus, an assessment tool, has been used to evaluate supply portfolios at a qualitative or gross scale.	NA
	The Water Supply Source work will be prepared to identify potential municipal water supply sources that may be available to supply municipal water supply shortfalls between projected demand and existing supply. An inventory of municipal water supply sources will be done as part of the water supply source work. (The Municipal Water Supply Demand Forecast is described in a separate proposal.) Water supply should include enough supply assets to provide sufficient reliability for an essential service. Given the inherent uncertainty related to developing water resource projects, identification of a single regional supply solution is not practical. Consequently, the potential sources of supply will be included and/or combined in a variety of scenarios that would demonstrate how the region's water suppliers could meet or significantly address the identified water needs.	The Municipal Water Supply Assessment (Assessment) will be prepared to identify potential water sources that may be available to fulfill any municipal water supply shortfalls identified as a result of the Forum's water demand forecast work. The Assessment will summarize the water available from existing sources, compare it to the estimated future demand, and identify a suite of potential regional supplies to meet any identified shortfall.	--	Criterion Decision Plus could be used to compare supply portfolios that could be used to meet forecasted demands.	NA
	The municipal water supply source alternative analysis will include the following features: • Supply options to address forecasted needs for horizons of 6 and 20 years (or as close as possible from available data) and a long-range horizon of 50 years. Planning horizons of 6 and 20 years are selected to match the Department of Health water planning requirements.	The Municipal Water Supply Assessment will include the following features: Supply source options to address forecasted needs through 2060.	--	Not expected to address forecasted demand through 2060. Rather a tool was created that any utility may apply if it chooses.	NA
	• A clear narrative that describes the role of a regional water supply identification process and the role of specific water utilities to identify and select for implementation those supply alternatives that best meet the needs of that utility. The regional water supply identification process should provide focus and guidance to individual utilities as they identify how to address their future needs. The water supply source work should include a narrative description of the relationship between future municipal water source needs and the following: • Effects of varying levels of conservation • Effects of weather variability and climate change	A clear narrative that describes the role of a regional water supply identification process and the role of specific water utilities to identify and select for implementation those supply sources that best meet the needs of that utility. The regional water supply assessment should provide focus and guidance to individual utilities as they identify how to address their future needs. The Assessment will include a narrative description of the relationship between future municipal water source needs and the • Effects of varying levels of conservation. • Effects of weather variability and climate change.	--	Expected to match what the Advisory Committee described as features (column 3), although not expected to address additional conservation options.	NA
Evaluate the impact of climate change on existing or potential sources. This should be based on the work from the climate change technical committee.			--	Expected to discuss impacts of climate change on large surface water sources.	NA
A more in-depth analysis of the role of reclaimed water should play as a future water supply alternative. This should be based on the work from the reclaimed water technical committee.	--	--	--	Not expected to be addressed.	NA

**Table 2-14: Evolution of Regional Water Supply Assessment Scope over the Course of the Process, Continued**

King County Water Supply Planning Process Planning Framework Summary, dated October 31, 2005	Water Supply Source Work Plan, Water Suppliers' Forum, Steering Committee Proposal, Working Draft 4.4	Municipal Water Supply Forecast Features ( <a href="http://cpswatersuppliersforum.org/Home/default.asp?ID=24">http://cpswatersuppliersforum.org/Home/default.asp?ID=24</a> )	Central Puget Sound Water Suppliers' Forum Municipal Water Demand Forecast and Supply Assessment (Funding Request)	Final Product(s) <sup>1</sup>	Addressed Planning Framework Summary Scope in Final Product(s)?
Perform a more rigorous environmental assessment of the proposed projects. Develop new criteria to be applied when analyzing the environmental impact of a project.	--  • A set of criteria to be used to evaluate source options where multiple options may be available	--  A set of criteria that may be used to evaluate supply sources where multiple source options may be available.	--	NA  Criterion Decision Plus, as assessment tool, has been used to evaluate supply portfolios but not to evaluate environmental impacts of a project.	NA  NA
	• Guidelines for applying the criteria in reviewing source options	Guidelines for applying the criteria in reviewing source options.	--	Criterion Decision Plus can be used to compare supply portfolios for a given demand.	NA
What is the best way to integrate the alternatives analysis with the demand forecast?	--	--	--	--	--
What role should the updated new source alternatives analysis play in determining future new source development?	--	--	--	--	--
How or will a priority system be established to rank potential new sources?	--	--	--	--	--
How can water be moved or managed so that utilities with surplus share with utilities with projected deficits?	The municipal water supply source work will end with identification of a suite of potential municipal water supply scenarios that might be used to meet identified municipal water supply shortfalls.	The Assessment will conclude with the development of a report that documents the work including identification of a suite of potential regional municipal water supply scenarios that might be used to meet identified municipal water supply shortfalls.	--	Expected to match the Advisory Committee's description of features (column 3). Not expected to address how utilities can transfer supplies.	--
Should this information be used by Ecology in reviewing applications for new or transferred water rights?	--	--	--	--	--
How should this information be used by DOH in reviewing WSP's?	--	--	--	--	--
What is the relative impact of the different supply options on fish and fish recovery?	--	--	--	--	--

**Notes:**

-- not included

NA = not available

1. The regional water supply assessment will be included in the Forum's 2008 Outlook, which is expected to be available by mid-2009. However, the Forum has posted meeting materials on its website. As of the original drafting of these tables, no consultant work products were available to use as a preliminary evaluation of the changes in scope and whether the Forum has addressed the scope of the Planning Framework Summary.